

MARKETING VALUE OF EXISTING CORRELATION BETWEEN EMOTIONAL INTELLIGENCE AND RISK-TAKING AMONG ADULTS AGED 18 TO 25

1. Introduction - 2. Method - 3. Results of the research - 4. Discussion - 5. Conclusion

Abstract

Questo articolo è volto alla definizione della relazione che intercorre tra intelligenza emotionale, i suoi componenti e l'assunzione di rischi. Questa analisi è stata effettuata su un campione di 53 intervistati, attraverso la compilazione di un questionario online, che includeva sia un test per l'intelligenza emotiva sia un test per valutare la disponibilità all'assunzione di rischi. I dati sono stati analizzati utilizzando i metodi statistici e l'analisi quantitativa di correlazione. Da un lato, questa ricerca ha mostrato una debole correlazione tra l'intelligenza emotiva e la disponibilità all'assunzione di rischi, dall'altro una media correlazione tra la disponibilità all'assunzione di rischi e l'autoregolazione. Questi risultati possono essere utilizzati nel marketing per definire in maniera più accurata dei gruppi di consumatori così come i metodi e i canali di promozione.

This article is dedicated to defining the relationship between emotional intelligence, its components, and risk-taking. To do this, 53 respondents completed an online questionnaire, which included a test for emotional intelligence and a test for risk-taking. The data were analyzed using statistical methods, as well as using correlation analysis. On the one hand, this research showed a weak connection between emotional intelligence and risk-taking. On the other hand, it showed a medium correlation between risk-taking and self-regulation. These results can be used in marketing in order to define more accurate consumer segments as well as to define promotion methods and channels.

Keywords: adults, emotional intelligence, risk-taking, correlation, marketing.

1. Introduction

Emotional intelligence is the ability to perceive a person's emotions, their control, as well as for the identification and management of other person's emotions. Thus, this psychological mechanism can affect the daily life of a person¹. From a marketing point of view, emotional intelligence can influence the selection of a specific list of goods and services. Also, knowing the emotional intelligence of the target consumer, we can determine the promotion methods of a product². In management, this factor is considered to choose the style of personnel management

¹ J. D. MAYER, *Perceiving affective content in ambiguous visual stimuli: a component of emotional intelligence*, in *Journal of Personality Assessment*, 1990, pp. 772-781.

² S. HUSAIN, *Emotional Intelligence for Emerging Leaders and Entrepreneurs - Illustrating the Fortune Giants*, in *Partridge Publishing*, 2014, 16 July, p. 126.

because depending on the level of understanding by the manager of the staff's motives and emotions, a decision on a particular issue can be different³. Moreover, it should be noted that the level of emotional intelligence affects the productivity of an employee of the company since emotional intelligence is responsible for self-motivation⁴.

There are five components of emotional intelligence: knowing one's emotions, managing emotions, motivating oneself, recognizing emotions in others, handling relationships⁵. Knowing one's emotions or self-awareness is the awareness and understanding of self-emotions. People with high self-awareness are more aware than others of their internal state. Managing emotions or self-regulation is arbitrary control of a person's emotions. Motivating oneself or self-motivation is the management of a person's behavior by controlling emotions. Recognizing the emotions in others or empathy is an understanding of other people's emotions, the ability to empathize with the current emotional state of another person, as well as the willingness to provide support. This is the ability to understand a person's condition by facial expressions, gestures, the way of speech, and posture. Handling relationships is the ability to influence the emotional state of other people.

According to the described components, we can assume that there is a correlation between emotional intelligence and risk-taking. The central hypothesis is that the more advanced emotional intelligence a person has, the more risk this person can take. Because, basically, the more information a person has about a particular object, in this case about another person and himself or herself, the more a person is inclined to take risks⁶. Based on this fact, this research does not exclude the relationship of emotional intelligence individual components to risk-taking. Since there is likely to be a relationship between self-regulation and risk-taking, this can be explained by the fact that emotions and logic guide a person's decision. The better the person controls his emotions, the more conscious he or she makes a choice⁷.

If there is a correlation between emotional intelligence and risk-taking, companies can better conduct the segmentation of their consumers. This is especially true for attracting new consumers

³ S. GURIEVA, I. KUZNETSOVA, E. YUMKINA, *Emotional intelligence and styles of behavior in business communication of middle managers*, 2018 (<https://www.revistaespacios.com/a18v39n08/a18v39n08p19.pdf>).

⁴ M. BASSEM, M. JOELLE, *Emotional intelligence, leadership style & organizational climate*, in *International Journal of Organizational Analysis*, 2017, 25. 10.1108/IJOA-04-2016-1010.

⁵ D. GOLEMAN, *Emotional intelligence why it can matter more than iq*, Bloomsbury Publishing Plc, 2009.

⁶ B. KIDWELL, *Consumer Emotional Intelligence: Conceptualization, Measurement, and the Prediction of Consumer Decision Making*, in *Journal of Consumer Research*, 2008, pp. 154-166.

⁷ N. AYADI, *Consumer Risk-Taking Experience: The Role of Positive Anticipated Emotions*, in *Recherche et Applications en Marketing*, 1 June 2010 (<https://doi.org/10.1177%2F205157071002500202>).

since a change in consumer preferences is a risk for them⁸. Furthermore, this also applies to specific groups of goods and services that are popular among people with high risk-taking. Therefore, the article has a goal of investigation of the relationship between emotional intelligence and risk-taking. If the dependency is detected, identify potential economic implementation for this interdependence.

Considering that the topic of this article has a narrow specialization, there are not so many researches that are related to this topic. Moreover, the results and methodologies given in these articles differ dramatically. To write this article, all articles were considered separately.

In the first article⁹, the research was conducted among 20 healthcare workers, with an average age of 25-30 years. Two tests were taken to indicate correlation: the Schubert test¹⁰ and the test by J.M. Bear¹¹, where a computer encephalogram was used to determine the level of emotional intelligence. According to the results of research, healthcare workers with high emotional intelligence have a high level of risk-taking, which is higher by 29.8% than other respondents. The use of this technique gives a positive correlation between emotional intelligence and risk-taking. However, this method has controversial points: the difficulty of conducting such tests and a small number of respondents. Due to this, it is rather difficult to consider this research reliable to determine the interdependence. Therefore, other articles and methods for studying this issue were considered.

The second article¹² examined 100 students of Iranian linguistic universities, aged 16 to 25 years. Respondents passed two separate tests for emotional intelligence and risk-taking, which were adapted to Iranian culture. According to the results of the research, there is no significant relationship between these two categories. Therefore, with an increase in respondents' number but with a decrease in the accuracy of the research, the result becomes utterly opposite to the previous article.

⁸ N. MANDEL, *Shifting Selves and Decision Making: The Effects of Self-Construal Priming on Consumer Risk-Taking*, February 2003, (https://www.researchgate.net/publication/24099199_Shifting_Selves_and_Decision_Making_The_Effects_of_Self-Construal_Priming_on_Consumer_Risk-Taking).

⁹ R. A. KUDRIN, *Typological features of intellect and bioelectrical*, in *Bulletin of Volgograd State Medical University*, 2014, pp. 62-65.

¹⁰ R. B. SCHUBERT, *Financial Decision Making: Are Women Really More Risk Averse?*, in *The American Economic Review*, 1999, pp. 381-385.

¹¹ J.M. BEAR, *Two tests: find out your IQ and EQ*, *Psychologies*, 2007, pp. 24-33.

¹² M. R. EBRAHIMI, *Does Emotional Intelligence Have Anything to Do with Risk-taking among Iranian EFL Learners?*, in *Theory and Practice in Language Studies*, 2015, October, pp. 2029-2036.

In another article¹³, 94 teenagers were examined. These teenagers attend high school in a suburb of a city in Italy. In this research, the author used the TEIQue-ASF test¹⁴ and the Cold Columbia Card Task¹⁵ to determine the level of emotional intelligence and risk-taking, respectively. Each test was conducted separately from each other. According to the results of the research, the author claims that there is a significant relationship between emotional intelligence and risk-taking. However, it is not entirely clear why a correlation of 0.51 can be considered significant. In this case, this is precisely the mid-level connection¹⁶. More interesting in this study is that the author found almost the same relationship between self-motivation and risk-taking.

Thus, we can say that the initial method, the encephalogram, and the Schubert test, gives a positive result by correlation. Since the use of these resources is limited, it was decided to conduct research with the Schubert test, but to replace the second test with a simpler one for the respondent. Also, the main age group of these researches is 18-25 years old, and in order to replicate previous researches, we took the same age group.

2. Method

To determine the relationship between emotional intelligence and risk-taking, we conducted an online survey among Ukrainian adults aged 18-25. The primary information collection form was chosen due to the following reasons: ease of obtaining information, restriction on the movement of citizens due to quarantine restrictions, and the ability to reach a more significant number of respondents.

For the questionnaire, two standard tests were chosen to determine the level of emotional intelligence and determine the level of risk-taking. These tests were the Hall test for Emotional

¹³ A. PANNO, *Trait Emotional Intelligence Is Related to Risk Taking when Adolescents Make Deliberative Decisions*, in *Games*, 2016, August 31, pp. 1-8.

¹⁴ K. PETRIDES, *Technical Manual for the Trait Emotional Intelligence Questionnaires (TEIQue)*, London Psychom, London, 2009.

¹⁵ B. FIGNER, R. MACKINLAY, F. WEBER, *Affective and deliberative processes in risky choice: Age differences in risk taking in the Columbia Card Task*, in *J Exp Psychol Learn Mem Cogn*, 2009, May, pp. 709-730.

¹⁶ J.M. WOOLDRIDGE, *Introductory Econometrics A Modern Approach*, 2012 (https://economics.ut.ac.ir/documents/3030266/14100645/Jeffrey_M._Wooldridge_Introductory_Econometrics_A_Modern_Approach_2012.pdf).

Intelligence¹⁷ and Schubert's risk-taking test¹⁸. Both tests are voluminous enough to conduct them online, the risk-taking test has 25 questions, and the emotional intelligence test has 30 questions. Therefore, we decided to remove some of the questions from the test in order to reduce their total number to 30 questions: 15 questions from the group of emotional intelligence, 15 questions from the group of risk-taking. Exclusion of questions has such principles: the question has the same context; the question has a low interconnection to the primary indicator. Two qualification questions were also added that determined the person's age and gender. This information was collected in order to determine the relationship between age and gender with emotional intelligence or risk-taking.

The first test is the Hall test, which in the modified version consists of 15 questions and 3 questions for each component group. In it, the respondent was offered statements that somehow reflect the various aspects of his or her life. The respondent must choose the degree of agreement with the statement, which is expressed in points. Points and corresponding answers are presented in table 1.

Table 1. Points and corresponding answers in the Hall test

Degree of agreement	Number of points
Strongly disagree	-3
Mostly disagree	-2
Partly disagree	-1
Partly agree	+1
Mostly agree	+2
Totally agree	+3

*Source: compiled by the author based on*¹⁹

The calculation of the results of the emotional intelligence test is conducted in such a way: on each scale, the sum of the points is calculated considering the sign of the answer (+ or -). The higher is the positive score, the more advanced emotional intelligence is. The levels of partial, separately on each scale, emotional intelligence in accordance with the sign of the results: 7 or more

¹⁷ N. HALL, *Emotional Intelligence Test Methodology*, 2005 (<http://insunrise.ru/booklets/n.hall-eq%20questionary.pdf>).

¹⁸ R.B. SCHUBERT, *Financial Decision Making: Are Women Really More Risk Averse?*, in *The American Economic Review*, 1999, pp. 381-385.

¹⁹ N. HALL, *Emotional intelligence: a primer*, 2007, November 10.

- high; 6-4 - medium; 3 or less - low. Integrative, the sum on all scales, level of emotional intelligence, considering the dominant sign, is determined by the following quantitative indicators: 35 or more - high; 34 - 20 - average; 19 and less - low.

The second test is Schubert's risk-taking test; in the modified version, this test has 15 statements. Depending on the consent with the statement, the respondent matches the degree of his consent with the action described in the statement. Positive answers indicate a higher level of risk-taking. Points and corresponding answers are shown in Table 2.

Table 2. Points and corresponding answers in the Schubert test

Answer	Points
No	-2
More no than yes	-1
Probably	0
More yes than no	+1
Yes	+2

Source: compiled by the author based on²⁰

Depending on the answers, test values can range from -30 to +30 points. The number of points will indicate a risk-taking level: less than -18 points - too careful; from -6 to +6 points - average level; over +18 points – high level of risk-taking.

High risk-taking is accompanied with low motivation to avoid failure. Risk preparedness is reliably directly proportional to the number of mistakes made. In standard form, this test gives only an integral score, which shows the general picture of risk-taking. According to this, we decided to divide the test into two sub-parts, where the first sub-part deals with reasonable risk-taking and the second sub-part with unreasonable risk-taking.

3. Results of the research

During the survey, we received 53 answers, which include 70% women and 30% men, the main age of respondents was from 18 to 25 years old, all respondents were citizens of Ukraine. For statistical analysis, we analyzed firstly mathematical expectation, as well as the dispersion and

²⁰ R.B. SCHUBERT, *Financial Decision Making: Are Women Really More Risk Averse?*, in *The American Economic Review*, 1999, pp. 381-385.

standard deviation for each component of emotional intelligence and risk-taking. Using this, we can define the average on each group of factors. The results are listed in Table 3.

Table 3. Statistical analysis of the survey

Factor	Mathematical expectation	Dispersion	Standard deviation
Risk-taking	-2,7	67,8	8,2
Reasonable risk-taking	2,6	22,9	4,8
Unreasonable risk-taking	-5,6	18,7	4,3
Emotional intelligence	16,0	160,5	12,7
Self-awareness	5,3	10,5	3,2
Self-regulation	-0,8	19,5	4,4
Self-motivation	3,6	10,0	3,2
Empathy	4,3	10,2	3,2
Handling relationships	3,5	10,0	3,2

Source: compiled by the author based on initial research

Based on mathematical expectations, most respondents have a mid-low level of risk-taking. In general, respondents have a higher level of reasonable risk-taking than unreasonable. However, despite this, the gap in average scores between these categories is 7 points, which is not enough to move to a category higher or lower. Also, the average emotional intelligence is at a low level, but it has a variance of 160.5, this mathematical expectation can be considered as non-significant²¹. Among components of emotional intelligence, only self-regulation has a low average level, which can be explained by cultural characteristics²², but other options are not excluded. Next, we calculated the covariances of all the components. All data are listed in table 4.

Table 4. Covariance between components of risk-taking and components of emotional intelligence

Factor	Emotional intelligence	Self-awareness	Self-regulation	Self-motivation	Empathy	Handling relationships
Risk-taking	24,11	2,80	12,64	5,43	0,25	2,98
Reasonable risk-taking	11,77	1,41	6,03	2,71	0,31	1,31
Unreasonable risk-taking	8,28	0,20	6,15	2,34	-0,41	0,00

²¹ V.S. DONCHENKO, M.V-S. SIDOROV, *Probability theory and mathematical statistics for the social sciences*, 2015 (https://sociology.knu.ua/sites/default/files/course/materials/donchenko_vse.pdf).

²² E.M. POTAPCHUK, N.D. POTAPCHUK, *Personal self-control in extreme and crisis situations as an important condition of self-saving*, *Problems of extreme and crisis psychology*, 2015.

According to the analysis, the strongest linear relationship exists between emotional intelligence and risk-taking. Also, self-regulation and risk-taking have high values, which may be evidence that there is a directly proportional linear relationship between these two factors. There is no relationship between unreasonable risk-taking and handling relationships. The same result is valid for such pairs of factors: empathy - risk-taking, as well as risk-taking components, Self-awareness - unreasonable risk-taking. If we compare the dispersion of the factors and their covariance, we can see that the highest values of the dispersion correspond to the highest values of the covariance, so the data should be normalized. Thus, the Pearson linear correlation²³ coefficients were calculated (Table 5).

Table 5. The coefficient of linear correlation between the components of risk-taking and the components of emotional intelligence

Factor	Emotional intelligence	Self-regulation	Self-regulation	Self-motivation	Empathy	Handling relationships
Risk-taking Reasonable	0,231	0,105	0,35	0,208	0,01	0,11
risk-taking Unreasonable	0,194	0,091	0,29	0,179	0,02	0,09
risk-taking	0,151	0,014	0,32	0,171	-0,03	0,00

Source: compiled by the author based on Table 3, 4

The strongest linear relationship is between controlling emotions and risk-taking, which corresponds to a moderate connection on the Chaddock scale²⁴. All other values in this scale are in the area of weak correlation or its absence, which partially confirms the statement about covariance.

4. Discussion

As suggested, there is a low correlation between emotional intelligence and risk-taking. This connection is weak enough to draw definite conclusions. Despite this, there is a moderate

²³ P. SCHOBBER, *Correlation Coefficients: Appropriate Use and Interpretation*, in *Anesthesia & Analgesia*, 2018, May, Vol. 126, Issue 5, pp. 1763-1768, (https://journals.lww.com/anesthesia-analgesia/fulltext/2018/05000/correlation_coefficients_appropriate_use_and.50.aspx).

²⁴ R. HILL, G.W. CARTER, *Principles of Econometrics*, WILEY, 2017, (http://dl.boektollearn.com/ebooks2/science/economy/9781118452271_Principles_of_Econometrics_5th_f9b6.pdf).

relationship between self-regulation and risk-taking. This correlation is linear and directly proportional, which means that persons with high abilities to manage emotions could have a high level of risk-taking.

This analysis is counter to the article of R.A. Kudrin²⁵ because there is no clear, strong connection between emotional intelligence and risk-taking. Such result can be explained by a relative lower accuracy in determining the level of emotional intelligence in the Hall test and similar tests used in other articles. The Schubert test in this context provides correct information because it was used in this article and the R.A. Kudrin's article. In this case, research with more accurate equipment does not make much sense, and there are reasons for this:

- It is quite difficult to get an affordable amount of information from different respondents, at least more than 50 respondents.

- If the simpler existing methods do not show reliable information about emotional intelligence, then companies cannot determine the level of development of the emotional intelligence of the client and, consequently, the risk-taking of the same client.

- This research provides an opportunity to determine the level of emotional intelligence for managers by their level of risk-taking. However, to do this, we need to more accurately examine how effective leadership and management are related to emotional intelligence.

Moreover, the analysis confirms the ideas of two other articles about the absence of strong connection between emotional intelligence and risk-taking. However, there is a moderate connection with self-regulation and risk-taking.

The second goal was to determine if there is a connection between emotional intelligence and risk-taking, the practical use of this research in the economy. Since mainly the Hall test has trivial questions, it is logical to assume that we can use this knowledge in direct sales. This can be in two ways. The first is the offer of new services or products of a company to people with a high level of control of their own emotions since the purchase of a new product or service is associated with risk.²⁶ The second is to offer services or products of a company to people with a high level of self-regulation, who are clients of competitors' campaigns.

²⁵ R.A. KUDRIN, *Typological features of intellect and bioelectrical*, in *Bulletin of Volgograd State Medical University*, 2014, pp. 62-65.

²⁶ E. KOC, Ç. TASKIN, H. BOZ, *Risk and Control in Consumer Behavior: A Discussion, Contemporary Issues*, in *Behavioral Finance (Contemporary Studies in Economic and Financial Analysis, Vol. 101)*, 2019, (<https://doi.org/10.1108/S1569-375920190000101001>).

Also, from the point of view of cost optimization, this study helps to cut off consumers with high risk-taking, and therefore with a high tendency to change preferences.²⁷ To promote goods or services existing in the market, it is worth targeting consumers with other developed components of emotional intelligence, as they are less likely to change their consumer preferences. Consumers from the group who are good at managing their emotions will try this product or service, which can give benefits for the promotion of new products on the market²⁸.

5. Conclusion

To sum up, the relationship between emotional intelligence and risk-taking according to the results of the research is secondary because this factor has a low level of correlation with risk-taking (0,23). As described previously, the use of this research is possible only in the correlation between self-regulation and risk-taking (0,35). This research also confirms similar studies conducted before, except for research with special equipment.

Potentially companies can use this research in defining consumer segments in order to provide better promotion of their products. In direct sales, consumers with a high level of self-regulation more likely can change their traditional way of consumption, which means that they more likely buy a new product. According to this, companies can focus on such consumers in order to expand on the market, or conversely, change focus on other consumers in order to cut their marketing costs. Also, the most significant part of respondents has a mid-low level of risk-taking and low level of emotional intelligence, which can provide additional information for companies to use this in their promotion strategies among young adults in the Ukrainian market.

The main limitations for deeper research were a small number of respondents, the inability to use more profound research methods, and their variability. Another limitation of this kind of research is the lack of information about how accurate the various methods are in determining emotional intelligence. Despite existing research and problems, it makes sense to conduct deeper research with certain corrections. These adjustments include using the most accurate mechanism for determining the level of emotional intelligence and reaching a wider audience. Also, in future

²⁷ N. AYADI, *Consumer Risk-Taking Experience: The Role of Positive Anticipated Emotions*.

²⁸ H.-Y. HA, *The Effects of Consumer Risk Perception on Pre-purchase Information in Online Auctions: Brand, Word-of-Mouth, and Customized Information*, 2006, June 23, *Journal of Computer-Mediated Communication*.

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research, we suggest expanding the range of tools for assessing both risk-taking and emotional intelligence.

Promising areas for research in this area may be dependencies between different levels of emotional intelligence and consumption of particular goods and services. Another promising area can be the definition of all factors besides emotional intelligence that affect risk-taking.

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