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Important Factors for Successful Solution of Emotional Situations: Empirical Study on Young People

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***Abstract*—**Attempts to split the construct of emotional intelligence (EI) into separate components – ability to understand own and others' emotions and ability to control own and others' emotions may be meaningful more theoretically than practically. In real life, a personality encounters various emotional situations that require exhibition of complex EI to solve them. Emotional situation solution tests enable measurement of such undivided EI. The object of the present study is to determine sociodemographic and other factors that are important for emotional situation solutions. The study involved 1,430 participants from various regions of Lithuania. The age of participants varied from 17 years to 27 years. Emotional social and interpersonal situation scale EI-DARL-V2 was used. Each situation had two mandatory answering formats: The first format contained assignments associated with hypothetical theoretical knowledge of how the situation should be solved, while the second format included the question of how the participant would personally resolve the given situation in reality. A questionnaire that contained various sociodemographic data of subjects was also presented. Factors, statistically significant for emotional situation solution, have been determined: gender, family structure, the subject's relation with his or her mother, mother's occupation, subjectively assessed financial situation of the family, level of education of the subjects and his or her parents, academic achievement, etc. The best solvers of emotional situations are women with high academic achievements. According to their chosen study profile/acquired profession, they are related to the fields in social sciences and humanities. The worst solvers of emotional situations are men raised in foster homes. They are/were bad students and mostly choose blue-collar professions.

***Keywords*—**Emotional intelligence, emotional situations, solution of situation, young people.

I. Introduction

EI concept and issues of EI measurement and development have been discussed for three decades, however, there is no unanimous definition nor theory of EI. Currently, two the most pronounced tendencies of EI explanation could be distinguished. The first tendency explains EI as intelligence that operates using the emotional information [1]. The most prominent representatives of the said tendency are Mayer and Salovey who proposed the Four-Branch Model of EI. The model views total EI as joining abilities from four areas: (*a*) accurately perceiving emotion, (*b*) using emotions to facilitate thought, (*c*) understanding emotion, and (*d*) managing emotion [2]. The second tendency is often referred to as Mixed Model approach, which includes aspects of character and motivation as well as emotional abilities under the umbrella of EI; this approach uses very broad definitions of EI that include non-cognitive capability, competency or skill [3], [4].

Despite the accepted concept of EI, all scientist agree that EI level correlates with life satisfaction and subjectively perceived well-being, psychological and physical health of the individual, leadership, professional achievement [5]-[7], and other aspects that are important to the personality. Thus, the importance of EI is consolidated by the increasing number of empirical studies conducted. A higher level of EI allows the individual to know his or her strengths and weaknesses and to adequately use this knowledge for easier adaptation to the new environment in the broad sense. However, there are some problems related to EI investigation. Efforts to split the EI construct into separate components – ability to understand own and others' emotions and ability to regulate own and others' emotions – may have a theoretical, but not practical sense. In real life, individuals encounter various emotional social situations, in which complex EI must be demonstrated in order to solve them. Therefore, the problem of measurement of such "undivided", i.e. complex, EI arises. EI tests frequently provide a split view about individual's ability to understand own or others' emotions, and about ability to influence the control of own and others' emotions, etc. Typically, study methodologies contain several scales that allow assessment of specific individual EI factors, and the sum of the said factors is considered to be total EI. However, it is disputable whether such treatment is correct and whether the total score of individual components adequately reflects the total EI, which would allow foreseeing success of emotional situation solving in real life. Scientists who support the latter point are trying to develop emotional situation tests in which the subject has to utilize complex knowledge and abilities, e.g., Wong's Emotional Intelligence Scale (WEIS), Situational Test of Emotional Understanding (STEU), Situational Test of Emotion Management (STEM) and other. In such tests, emotional situation is briefly described and possible answers are provided. Here is an example of the STEU test situation: Edna's co-worker organizes a goodbye party for Edna, who is going on holidays. Edna is most likely to feel: surprise, gratitude, pride, hope, or relief. An example of STEM test situation: Pete has specific skills that his co-workers do not and he feels that his workload is higher because of it. What

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action would be the most effective for Pete: Speak to his boss about this; start looking for a new job; be very proud of his unique skills; speak to his co-workers about this.

In 2014, the first Lithuanian situation test EI-DARL V2 was developed, which was used in the empirical study described in the present article (see the Methodology section). It has to be noted that the statement and answer construction in the EI-DARL V2 situation test is far more complicated than in the presented examples.

Summarizing present insights, it is meaningful to assume that it is relevant to analyze not just individual EI factors, but also the way the individual exhibits integrated knowledge and abilities in real life emotional situations. It is the emotionally intelligent behavior in everyday social and interpersonal situations that is the key to individual's satisfaction with life. Emotional illiteracy obstructs development of harmonious interpersonal relations, inhibits career advancement and aggravates psychological and physical health of an individual. Therefore, the objective of the performed empirical study is to spotlight various sociodemographic and social-biographical factors that are related to the ability of a young person to solve situations of emotional nature.

II. Methods

A. Participants

Participants were selected using quota selection while observing natural proportions of the whole population of Lithuania. All 1,430 participants from various regions of Lithuania – Vilnius, Kaunas, Klaipeda, Siauliai, Panevezys, Utena, Marijampole, Kaisiadorys, and Alytus – were surveyed. The age of participants varied from 17 years to 27 years (M = 19.7, SD = 3.29). The participants were students attending various levels of educational institutions, workers, unemployed, etc.

B. Methodology

1. Emotional social and interpersonal situation scale EI-DARL-V2 [8] was used. Participants were given 10 emotional, social, and/or interpersonal situations. Each situation had two mandatory answering formats: The first format contained assignments associated with hypothetical theoretical knowledge of how the situation should be solved (Cronbach's α = 0.57), while the second format included the question of how the participant would personally resolve the given situation in real life (Cronbach's α = 0.53). The participant was asked to select one of the provided answers that seemed to be the best/psychologically correct resolution of the situation. An example of the situation:

   "*After a relationship that lasted many years Arthur is breaking up with his girlfriend. There are no chances for reconciliation; nothing can be changed. Arthur is stunned and upset. His best friend Virginius would like to give advice on what Arthur should do now and how he could cope with his downcast mood. What should Virginius tell Arthur?*"

   Possible answers: 1) The best decision is to stop thinking about it and find tasks that would keep Arthur busy from morning until night. 2) Suggest to analyze and understand why this happened – maybe it would be helpful in the future. 3) Nothing happens fast – Arthur should take a break from relations with people, withdraw, and stay alone until he recovers after the separation. 4) While his feelings are still warm, look for ways to get the girlfriend back at all costs. 5) The wisest move for Arthur would be to find another girlfriend as soon as possible. 6) Hard to say what advice should be given.

   How would you behave in reality, what would you advise if you were in Virginius' shoes? (The same six answers are provided).

   Psychometric parameters of the scale are sufficient. Total scale Cronbach's α of the first part of situation solution (i.e., solution at theoretical level) is 0.61; Cronbach's α of the second situation solution (i.e., solution in reality) is also sufficient and is equal to 0.57. The highest Cronbach's α has been determined for the total scale of both situation solution parts, which is 0.76. Other internal consistency indicators even though not high are still sufficient: r/itt of the first situation solution part varies from 0.20 to 0.44, of the second part – from 0.22 to 0.35, of the total – from 0.20 to 0.44. The mean internal correlation among statements in all three said scales is correspondingly 0.16, 0.14, and 0.16. When the obtained results were compared with psychometric indicators of analogous methodologies (e.g., STEU [9]**)** no substantial differences have been found – Cronbach's α in that methodology is 0.71.
2. A questionnaire was developed, in which various sociodemographic and social-biographical data of the subjects were recorded: gender, age, various family factors (succession of birth of the subject in the family, emotional relations in the family, subjectively assessed financial situation of the family, etc., educational level of the subject and his or her parents, occupation of the parents, academic achievement, etc.)

III. Results

After analysis of descriptive statistical data of the situation solution assignments (mean value, standard deviation and summarized positive solution (answer "yes") percentage), it has been established that in nearly all cases, except for one presented situation, the subjects knew better how the situation should be solved theoretically; however, their own solutions of the situation were poorer, although not significantly.

Kolmogorov-Smirnov test criterion was used to verify normality of distribution of the first and the second situation solution parts. The zero hypothesis was tested, but rejected, as the obtained significance level was $p<0.05$. Consequently, distribution is not normal; therefore, non-parametric statistical criteria Mann-Whitney or Kruskal-Wallis were used in further data analysis.

The study has revealed some significant sociodemographic and social-biographical factors that are important for emotional situation solution.

It has been established that gender is an important factor for a situation solution. After applying *Mann-Whitney U* criterion, statistically significant ($p < 0.05$) gender differences were determined both in the total scale of "The first part of situation solution" and in the total scale of "The second part of situation solution". This was also shown by the accumulated frequency charts, in which it can be clearly seen that females solve both situations better (see Figs. 1 and 2).

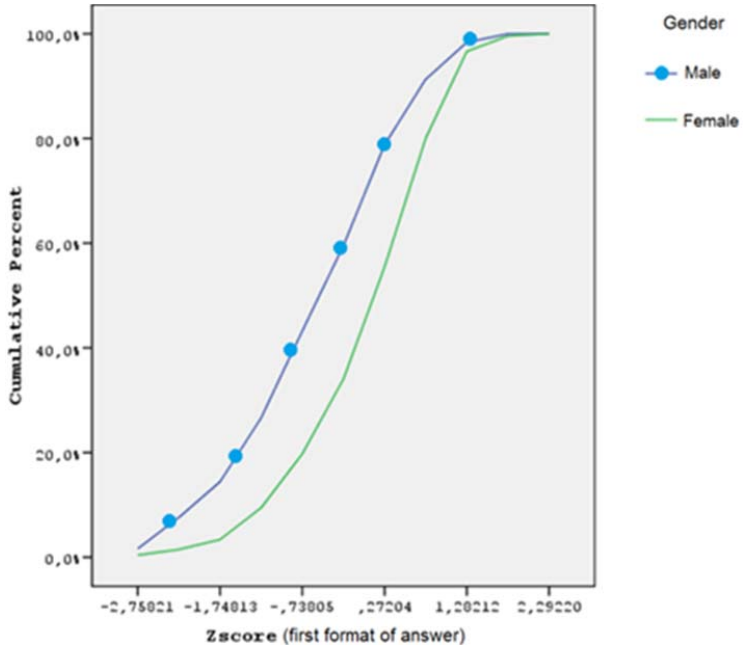

Fig. 1 Comparison of Scores of the First Format of Solution for Females and Males

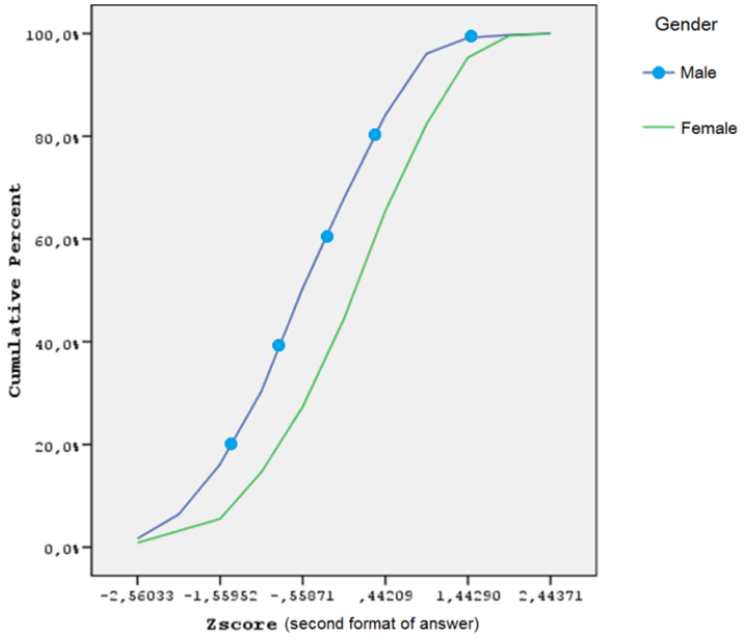

Fig. 2 Comparison of Scores of the Second Format of Solution for Females and Males

Female scores were also better when subjects were asked how the situation should be solved psychologically correctly and how the individual would solve it in real life. The female Mean Rank in the first case was 485.96, while in the second case the Mean Rank was 474.35; correspondingly, the male Mean Rank was 340.42 and 339.29, $p \leq 0{,}001$, respectively.

Previous/current family status is also a significant factor. After applying Kruskal-Wallis criterion it was determined that the poorest solutions are of the subjects who live with their parents (Mean Rank=388.53) and the best solutions were given by those who live with a spouse or a partner (Mean Rank=473.85), the obtained $\chi^2=17.84$ ($p \leq 0{,}001$). Those individuals who were raised by a single parent were the best at solving emotion related social situations (Mean Rank=

476.50), while those who were raised in foster homes showed the worst results (Mean Rank=63.00), (χ^2=9.78; p≤0.05).

The study has revealed that emotional situation solution also depends on the opinion about the financial situation of own family (χ^2=16.71; p≤0.01). In this case, the best situation solutions were offered by individuals who consider their financial situation to be relatively worse than that of others (Mean Rank=437.45), while the worst solutions were given by those who think that their financial situation is significantly worse than that of others (Mean Rank=138.83).

Important and statistically meaningful correlation with education and occupation of mothers was also established. Young people whose mother works in the social sciences or humanities professional spheres are best at solving social-emotional situations (Mean Rank=433.51), but only in the first part of the assignment, i.e. they are able to answer how the situation should be solved theoretically (subjects whose mother is a blue-collar worker showed poorer results, Mean Rank=368.84) (χ^2=12.16; p≤0.01). No differences among groups were established in the solution of the second part of the assignment, i.e. in providing answers to how the individual would personally solve the given situation in real life. It has also been established that individuals whose mothers have a university degree or unfinished higher education provide the best (Mean Rank=446.96) solutions of social and emotion related situations (the first part – how the problem should be solved). Meanwhile, the poorest solutions were presented by those whose mothers have not finished secondary school (Mean Rank=300.18) (χ^2=10.49; p≤0.05). Several educational factors that are important for situation solution efficiency were determined. The study has revealed that the most successful subjects (Mean Rank=503.28) are current students with high academic achievements (or those who were very good students, but are not studying at present), the poorest solvers (Mean Rank=251.00) (χ^2=87.17; p≤0.001) are those who are poor students at present or were such in the past. Furthermore, individuals who are equally successful both at sciences and languages offer the best situation solutions (Mean Rank= 457.17), those who are poor in both areas are the worst situation solvers (Mean Rank=294.97) (χ^2=28.73; p≤0.001). The overall solution of situations (both theoretical and real life) is better in the subjects having a higher education (in the first case, Mean Rank=419.40, in the second – Mean Rank= 410.73), than that of subjects having lower education (in the first case, Mean Rank=175.06, in the second – Mean Rank= 201.07). By selected study areas or acquired professions, the best results in situation solving were demonstrated by representatives of social sciences and humanities; while the poorest results were revealed by young people who have chosen blue-collar professions: in the first case, (Mean Rank= 346.56), χ^2=98.92, p≤0.001, in the second case, – (Mean Rank=301.12), χ^2=68.80, p≤0.001.

IV. Discussion

The study has revealed that females solve emotional situations more accurately both at the theoretical level (i.e. telling how psychologically correctly the situation should be solved) and in selecting real-life solution models. The obtained result most likely could be explained by the fact that, according to many authors [10], [11], etc., females demonstrate higher level of interpersonal EI aspects that are particularly important for social situation solution (e.g., social responsibility, quality of interpersonal relations, etc.), whereas males are characterized by higher internal personal indicators: self-assertion, defense of own rights, resistance to stress, control of impulsiveness, and faster adaptation. The situation test performed by Allen et al. (2014) also confirmed the significance of gender: the mean score for females (M = 0.66, SD = 0.11, n = 451) was higher than that of males (M = 0.63, SD = 0.11, n = 351).

This empirical study has confirmed the importance of family factors for an individual's ability to solve situations. It has been determined that environment, in which responsibility is taken not by the young person himself or herself, but by persons responsible for him or her (e.g., foster home mentors or parents who live together), determines poorer results. Such subjects solved situations worse than those whose environment was not so secure (living with one of the parents or living with a spouse or partner). It is likely that living in a difficult social environment when one has to manage their own life or when one is required to adjust his/her world view with a partner and analyze complicated social situations together, allows for more successful and faster gain of experience that is essential for a higher level of EI. Whereas, in living with parents/foster home mentors, the young person is inclined to intercept the presented model of "understanding of the world" more automatically. This is especially applicable to the foster home environment: poorer social experience and larger number of mandatory rules have a negative impact when a young person has to find an answer in a complicated emotion related social situation. On the other hand, the opposite results may be found in the scientific literature. For example, Singh and Modi surveyed 100 young people aged from 18 years to 22 years living in divorced or two-parent families (Anita Soni/Ashok Sharm EI test was used) and determined that higher EI was found those subjects who came from two-parent families [12].

Another important family factor that influences better situation solving results is higher education and social sciences/humanities character of mother's occupation. The general education of parents allows creating a better environment for their children and develops their emotional competence [13]. It is likely that professions in social sciences and humanities correlate with better-developed communication skills of the mother. This, in turn, determines more frequent and harmonious communication in the family when a growing child receives a lot of important social information, which allows to more accurately interpret emotional, social and interpersonal situations, and solve them more efficiently - at least at the theoretical level. Such a view is also confirmed by the obtained data that, in general, social situations are best solved by the subjects who work with people and the worst solvers are those subjects who work with objects, technology, and equipment [8]. Therefore, it is likely

that intensive communication or, conversely, a certain social isolation, impacts the accumulated social experience and its efficient use. Higher education of the mother should also be linked with her better ability to analyze the information of the environment and share her insights with the growing child. Studies of other authors confirm that it is the mother whose various factors have a greater influence than that of a father on the EI level of the child [14].

The study has revealed the importance of the family financial status factor for situation solution accuracy. It is likely that here the analogous factor of "insufficiently secure environment" was at play, which was mentioned when discussing previous results: individuals who think that their standard of living is lower than that of the others' are best at solving situations. On the other hand, the worst solvers were subjects who considered their financial situation significantly worse than that of the others. Such results may be linked with the fact that worse than average assessment of an individual's own financial situation forces them to look for recourses, take a closer look at the social environment, and learn faster to solve situations correctly; whereas, those who assess their financial situation as significantly worse than that of the others are often susceptible to negative moods and related inadequate perceptions and assessment of their environment. The present empirical study has revealed that birth succession of the subject and emotional relations in the family were not important for situation solving quality.

As to the academic ability of the subjects and its relation with the situation solution efficiency, the obtained data confirm that it is expedient to attribute EI to cognitive processes rather than to traits of personality: it was the excellent students (current or past) who demonstrated the highest scores; furthermore, they were characterized by high achievements both in languages and in sciences. The obtained results correlate with various analogous empirical studies. For example, according to Mestre [15], EI correlated with teacher ratings of academic achievement ($r = 0.47$).

V. Conclusion

The study has revealed the following psychological profile of a subject who is the most capable of solving emotional situations: that is, a female whose mother has higher education and occupation in social sciences or humanities. She is/was a good student, and furthermore, she is good at both languages and sciences. By chosen study major or by acquired profession, she is the representative of social sciences or humanities. Subjectively, she considers her own financial circumstances to be worse than that of others. Furthermore, she lived in a single-parent family; currently she lives with a spouse/friend.

Psychological profile of the worst solver of emotional situations was determined: that is, a male who was raised in a foster home. Subjectively, he assesses his own financial circumstances as significantly worse than that of others. He is/was a poor student, and furthermore, he is not good at either languages or sciences. The most common chosen study major – a blue-collar profession. The poorest emotional situation solvers of those who were raised in families were those whose mother was a blue-collar worker and had unfinished secondary education; currently they live with their parents.

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