

Personality Characteristics of Preschool Education Students with Different Levels of Emotional Intelligence

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Abstract: The aims of this paper were to explore the influence of personality characteristics on students' emotional intelligence. The study involved 87 university students (future preschool teachers). The sample is homogeneous. The "Emotional Intelligence" test (EmIn) (D. Lioussine), "The Big Five Personality Test" (5PFQ), "Test of empathic abilities level" by V. Boyko were employed. Methods of descriptive statistics, Spearman correlation analysis, Kruskal-Wallis one-way analysis of variance and structural analysis (by A. Karpov) were used. Mathematical data processing and graphical presentation of the results were carried out using the computer software package of statistical software SPSS 17.0. The results of this study confirm the suggested assumptions about the existence of reliable statistically significant relationships between the emotional intelligence, its components and students' personal characteristics, and dependence of the emotional intelligence level from the peculiarities of the personality characteristics structural organization ($p \leq 0.01$). The elucidation of these regularities can be used to improve the psychological techniques of the development and correction of emotional intelligence among preschool education students.

Keywords: *emotional intelligence; extraversion-introversion; affection-alienation; self-control-impulsivity; emotional instability-emotional; stability expressiveness-practicality; empathy.*

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1. Introduction

The emotional intelligence problem is relatively new for psychological science (1980-1990), but it is promising and popular. Emotional intelligence is one of the peculiar indicators of the professional qualities development, the ability to understand the attitude of the individual, represented in emotions, to manage his/her own emotional sphere. It is an important factor influencing the quality of individual life, social status, success, etc.

The study of emotional intelligence was investigated by Goleman (1995) (theory of emotional competence), Bar-On (2000) (non-cognitive theory of emotional intelligence), Weissbach & Dax (1998) (emotional intelligence as the ability to “intellectually” manage their emotional life), Mayer & Salovey (1997) (theory of emotional and intellectual abilities) and others.

Emotional intelligence and peculiarities of its formation in the student’s age were studied by Andreeva (2004), Gudkova & Kondratyeva (2015), Manoilova (2004), Meshcheriakova (2011), Radu (2014), Stein, Book & Kanoy (2013), Joibari & Mohammadtaheri (2011), etc., but the problem of studying the emotional intelligence of future educators, was not properly highlighted in the scientists’ psychological researches. In our opinion, its foregrounding and research are important both in the theoretical and practical aspects, because the preschool teacher is a specialist who, from an early age, forms the emotional sphere of the child, establishes his/her interpersonal interaction, forms prosocial and other positive behaviour, and therefore the emotional intelligence development is a powerful factor that has a significant influence on the development of the child.

In addition, we should keep in mind that it is during the preschool childhood emotions are developing, becoming more complex and acquiring an intellectualized character. The rapid maturation of the emotional sphere at this age has a tremendous impact on the personal development of the child, on the mastery of various activities. The formation of a major large part of the child’s emotional experience, in particular the expressive actions dynamics, the emotional response adequacy, the empathy development, self-regulation, as well as the expressiveness of personal characteristics of general emotionality, anxiety, sensitivity, and frustration occur predominantly under the influence of the educator, who is the guide and mentor in this process. Therefore, understanding of their own emotions and emotions of others, the ability to interact effectively, developed emotional intelligence all these are important competencies in the professional activities of the preschool teacher.

2. Review of literature

The term emotional intelligence came into the psychological thesaurus with the works of Salovey & Mayer, who interpreted it as “The ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions” (Salovey, & Mayer, 1990, p. 189). Most scholars (Mayer & Salovey, 1997; Weissbach & Dax, 1998; Matthews, Zeidner & Roberts, 2003; Lioussine, 2004; Andreeva, 2008) it is considered as an integrative entity that includes cognitive, emotional, and personal qualities, acquired feature, skill / ability that can be developed and through which you can “intelligently” manage your life; as a complex construction that includes three types of abilities: identification and expression of emotions, regulation of emotions, the use of emotional information in thinking and activities.

Gardner (1993) defined the emotional intelligence as a person’s ability to understand others, recognition of the motives of their behaviour and attitude to work, and represented it in two forms: interpersonal (the ability to adequately recognize the mood, the manifestations of temperament, the motives and aspirations of others, and respond accordingly), and intrapersonal (the ability of a person to understand the own feelings, their origins, and on this basis to regulate his/her own behaviour). Mayer, Salovey, & Caruso (2000) explained the emotional intelligence as an opportunity to accurately understand, evaluate, and “articulate” (to formulate) their own and others’ emotions, to retrieve and create feelings that facilitate thinking.

In a broad sense, emotional intelligence includes the ability to recognize, understand and control their own emotions, and emotions of others (Goleman, 1995; Mayer & Salovey, 1997; Matthews, Zeidner & Roberts, 2003; Lioussine, 2004).

Goleman (1995), based on the model of Salovey & Mayer (1990), added three additional components to their identification i.e. enthusiasm, persistence and social skills, thus combining cognitive abilities with personal characteristics. He interpreted the emotional intelligence as “the ability of a person to interpret his/her own emotions and emotions of others in order to use the information obtained to realize his/her own goals” (Goleman, 1995, p.23). Petrides & Furnham (2000) consider the emotional intelligence as ability or information-processing EI, and emphasize the existence of certain personal traits (EI), directly related to the emotional functioning of the individual.

According to Lioussine (2003), “the ability to understand emotions” means that a person can: recognize emotion; identify emotions; understand the reasons that caused this emotion and the consequences to which it will lead. He explains “the ability to control emotions” as an opportunity: a) to control the intensity of emotions, first of all, to suppress excessively strong emotions; b) control the external expression of emotions; c) improperly to cause one or another emotion (Lioussine, 2006).

The analysis of the emotional intelligence problem shows that there is no unified view of its interpretation due to the large number of theoretical approaches to this concept. In our work, we interpret emotional intelligence as a complex entity that combines cognitive and emotional qualities that contribute to understanding ourselves, our own emotions and the emotions of others, thus influencing personal development and interpersonal interaction. Therefore, low level of development of emotional intelligence can aggravate the knowledge perception, hinder relationships, influence on socialization, personality professional development.

The ability to manage your own emotions helps to maintain prudence in problem situations; increases the degree of tolerance to uncertainty situations and increases self-confidence (Paraskevova, 2012).

Nowadays it is quite obvious that in addition to professional knowledge, skills and abilities for a successful socio-psychological adaptation to a future specialist there is a need to a developed emotional intelligence. According to Meshcheriakova (2011), the time of study at a higher educational establishment is the most favourable period for its development. However, the results of the conducted studies indicate a low level of emotional intelligence among students-psychologists, in particular, about insufficiently expressed empathy, communicative competence, control and emotion management (Meshcheriakova, 2011, p. 157); lack of ability to identify both their own emotions and emotions of other people, inability to accurately express emotions and needs that are associated with them, incapacity to distinguish accurate and inaccurate, true and false feelings expression, inaptitude to deliberately cause or, conversely, get rid of certain emotions, to manage the emotional conditions of other people (Hruzynska, 2018, p. 69).

The development of the students’ emotional intelligence depends on several components: emotional (empathy), cognitive component (awareness in the presence of personality qualities and features), behavioural component (ability to manage their emotions, psychological flexibility in building relationships). The study of emotional intelligence among psychological and pedagogical specialties students is especially important, since their future

profession is related to social interaction, and the personal intelligence itself is an indicator of the professionally important and personal qualities development, promotes better self-knowledge and communicative processes. Therefore, it is important to focus on the study and research of individual's personal psychological features as factors that increase the emotional intelligence and establish the relationship between them.

3. Design and methods

3.1. The aim of article

The aim of this paper was to explore the influence of personality characteristics on students' emotional intelligence.

3.2. Participants

The study involved 87 university students (futures preschool teachers) of 3-5 years of study (aged from 19 to 22 years). The sample is homogeneous. The average age of students is 21.19 years.

3.3. Methods

Emotional intelligence

Emotional intelligence was measured with the "Emotional Intelligence" test ("EmIn") (Lioussine, 2006). The basis of the questionnaire is the interpretation of emotional intelligence as the ability to understand and manage their and others' emotions. It consists of 46 tasks grouped in 5 subscales: "understanding of others' emotions", "understanding your own emotions", "managing of others' emotions", "managing of one's own emotions", "expression control", which are grouped into four scales of a more general order ("understanding emotions", "managing emotions", "interpersonal emotional intelligence", "intrapersonal emotional intelligence"). Using the questionnaire, you can define an "integral index of the emotional intelligence".

Personality traits

To assess personality traits we used the "The Big Five Personality Test" (5PFQ) (McCrae & Costa, 1987; Khromov, 2000). Each of the 5 scales of this questionnaire corresponding to 5 basic personality dimensions (extraversion-introversion; affection-alienation; self-control-impulsivity; emotional instability-emotional stability; expressiveness-practicality) comprises 6 subscales, each being assessed based on 8 questions.

Empathy

Analysis of the empathy level and its components was implemented the “Test of empathic abilities level” by V.V. Boyko (1996). The test consists of 45 assertions that determine the integral index of empathy and the six trends in its structure: rational, emotional and intuitive channels of empathy, settings that promote the empathy, penetrating empathy, identification in empathy, integral indicator of empathy.

Mathematics Methods

Methods of descriptive statistics, correlation analysis of Spearman, Kruskal-Wallis one-way analysis of variance and structural analysis (by A. Karpov) were used.

Mathematical data processing and graphical presentation of the results were carried out using the computer software package of statistical software SPSS 17.0.

4. The results of the research – statistic data and their interpretation

The first stage of the research was to study the emotional intelligence features and its components among students – future educators – in the process of professional training in a higher education institution.

The results analysis of the survey on the questionnaire “EmIn” (Lioussine, 2006) shows the average indicators of the ability to understand and manage their own and others’ emotions ($M = 85.27$) the sample in general (fig.1).

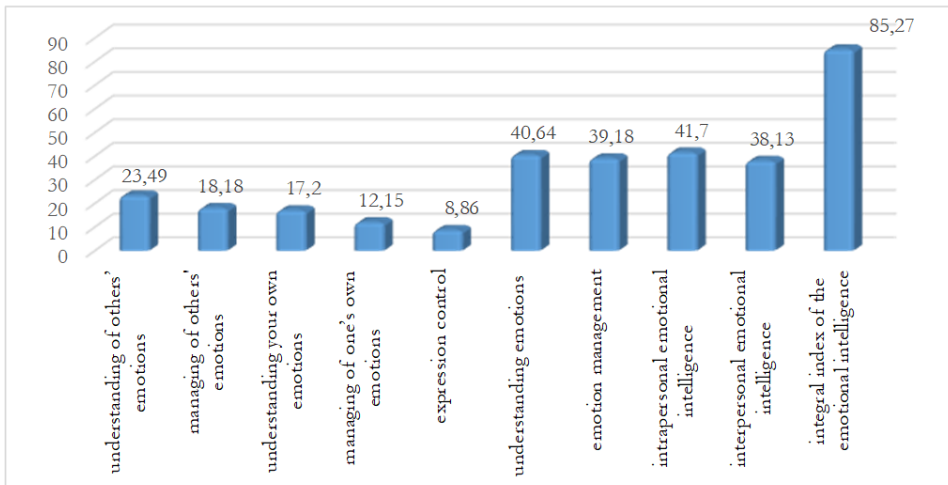


Fig.1. The averaged values of indicators by the method of D. Lioussine

As you can see from fig. 2, more than half of the investigated subjects (62.07%) diagnosed the average level of emotional intelligence. Thus, most students may have difficulty in understanding and managing both their own and others' emotions.

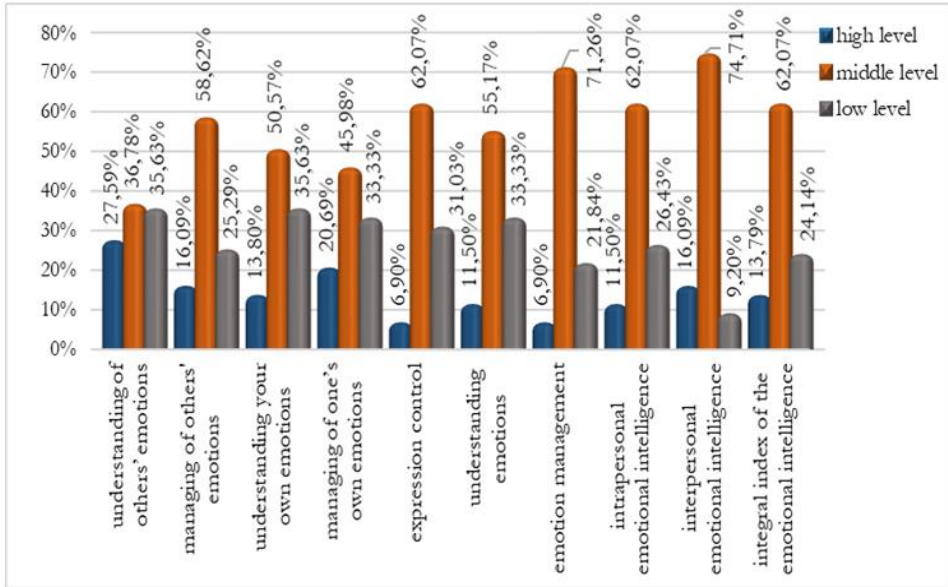


Fig. 2. Levels of the emotional intelligence and its components (by the method of D. Lioussine)

At the below average level, there is only the subscale of “expression control” ($M=8.86$), although in the percentage of more than half of the subjects (62.07%) the average level of ability to control external manifestations of their own emotions is diagnosed. Such data give grounds to talk about the necessity of purposeful work on the emotional intelligence development at the stage of studying at a higher education institution, since it is in the student’s age that the emotional and intellectual spheres are still quite plastic and sensitive (Koltunovych & Polishchuk, 2018).

The results obtained from “The Big Five Personality Test” (fig.3) indicate that for the majority of subjects the “expressiveness” (93.11% of the subjects were diagnosed with high and intermediate levels), affection (88.51% of the subjects were diagnosed with high and the average level) and “emotional instability” (86.20% of the subjects are diagnosed with high and average levels) are characterized. Hence, the high values of such features are the tendency to active social contacts, (easy) switching in the process of activity and communication, high emotionality in the communicative sphere

and sensitivity to communication failures, positive attitudes towards others, inability to control their own emotions.

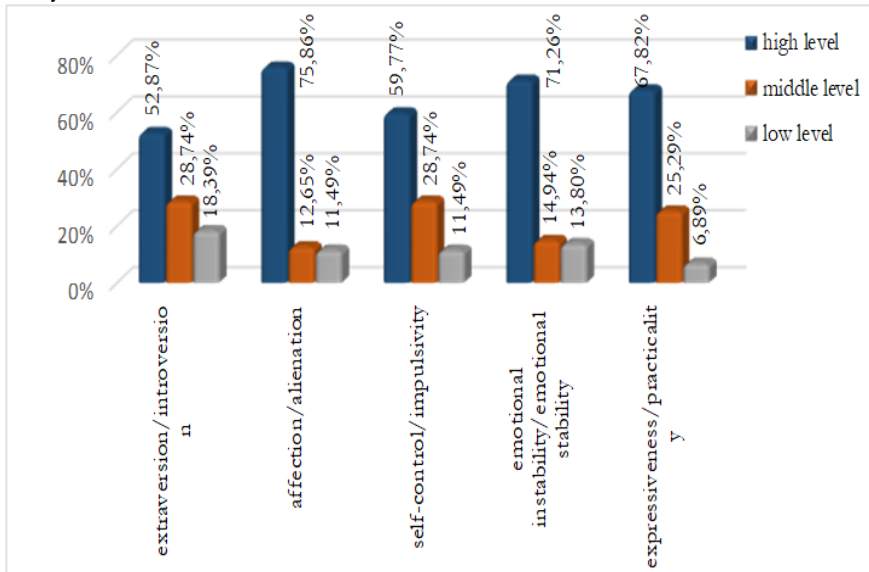


Fig. 3. Levels of the formation of personality traits

Results of the study of students' empathic abilities by V.V. Boyko method (fig.4) indicate that the majority of students (75.86%) have a low level of "integral index of empathy". This result, in our opinion, is due to the fact that for the effective interaction not the constant empathy is more important, but the possession of "cognitive" and "effective" empathy.

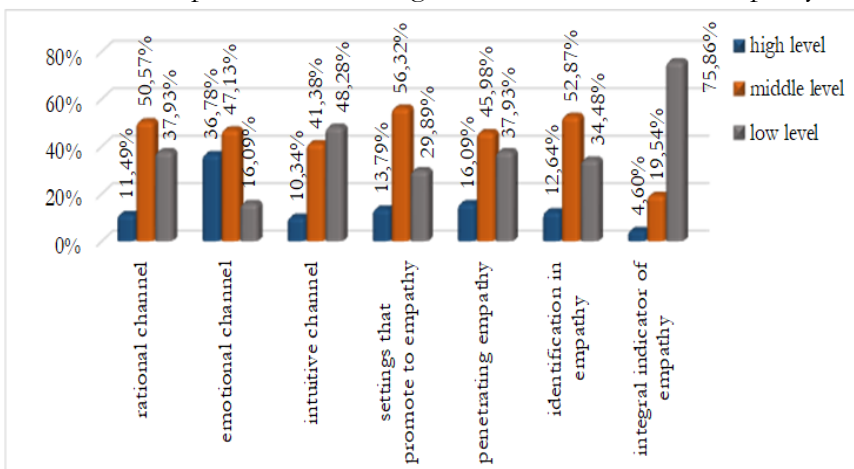


Fig. 4. Levels of empathy and its components

The obtained indicators testify to underdeveloped abilities for empathy, complicity, the inner world of another person understanding and prediction of its behaviour, effective interaction; not too wide range of emotional sensitivity and empathy perception; insufficiently developed communicative abilities that allow creating an atmosphere of openness, trust, psychic, ability to understand another based on empathy, reflection; insufficient mobility and flexibility of emotions, inability to mimetic response.

The second stage of the research was aimed at studying the interrelationships between the studied variables. To this end, Correlate Analyze Spearman (tab. 1) was used.

In connection with the presence of a large number of significant interactions, only the most significant ($p \leq 0.01$) were analysed. In addition, it should be noted that there is no statistically significant correlation between the emotional intelligence and its components and the scale of the “extraversion-introversion”.

Table 1. Significant correlation between scales of emotional intelligence and personal characteristics ($p \leq 0.01$)

Scales of emotional intelligence and personal characteristics	affection/ alienation	self-control/ impulsivity	emotional instability/ emotional stability	expressiveness/ practicality	integral indicator of empathy
understanding of others' emotions	0.284	-	-	-	0.360
managing of others' emotions	0.331	0.467	-	0.288	-
understanding your own emotions	-	0.290	-	-	0.411
managing of one's own emotions	-	-	-0.498	-	-
expression control	0.281	0.304	-	-	-
understanding emotions	0.315	0.311	-	-	0.428
emotion management	-	0.282	-0.432	-	-
intrapersonal emotional intelligence	0.342	0.364	-	0.282	0.417
interpersonal emotional intelligence	-	-	-0.390	-	0.342
integral index of the emotional intelligence	0.291	0.343	-0.294	-	0.389

The greatest number of relationships is found between the components of emotional intelligence and the scales of “self-control-impulsivity”, “affection-alienation” and “integral indicator of empathy”. All relationships found between components of emotional intelligence and the scale of “emotional instability-emotional stability” are negative. In particular, it correlates inversely with the “management of one’s own emotions”, “managing one’s own and someone else’s emotions”, “interpersonal emotional intelligence”, and “integral index of emotional intelligence”. This is a well-predicted result, because the inability to control their own emotions, impulsive inclinations appear in such behaviour as irresponsibility, evasion from reality, petulance, helplessness, situational action, anxiety of waiting for troubles, despair and depression in the event of failure. It is clear that the presence of such characteristics reduces the ability to understand and guide both their own emotions and the emotions of other people.

As you can see from tabl.1, the increase in the ability to understand and guide both their own emotions and emotions of others is related to the growth of empathy (0.389), self-control (0.343), affection (0.291) and decrease in the emotional instability (0.294).

The growth of “interpersonal emotional intelligence”, characterized by the ability to understand the emotions of other people and their leadership is accompanied by the growth of empathy (0.342) and a decrease in the emotional instability (-0.390).

Where the growth of the ability to understand and guide their own emotions (“intrapersonal emotional intelligence”) is followed by the growth of empathy (0.417), self-control (0.364), affection (0.342) and expressiveness (0.282).

The ability to control external manifestations of your own expression positively correlates with affection (0.281) and self-control (0.304).

Using Kruskal-Wallis one-way analysis of variance indicates the existence of statistically significant differences between groups of subjects with different levels of emotional intelligence on the following scale: “integral indicator of empathy”, “self-control-impulsivity”, “affection-alienation”, “penetrating empathy” (tab. 2).

Table 2. The comparison results of three groups of researched subjects with different levels of emotional intelligence by personal characteristics

	Affection- alienation	Self-control- impulsivity	Penetrating empathy	Integral indicator of empathy
Chi-Square	8.942	11.528	6.947	17.738
df	2	2	2	2
Asymp. Sig.	.011	.003	.031	.000

On the basis of the applied analysis, it can be stated that according to the indicator “integral indicator of empathy”, all groups are different: in a group with a high level of emotional intelligence, this indicator is higher than in groups with medium and low levels, and in a group with an average intelligence, it is lower in the emotional intelligence level than in the group with its low level.

In the three other scales, the scores are higher in the group of subjects with a high level of emotional intelligence, compared to other two. There were no differences between the groups of subjects with low and intermediate levels according to these indices.

Therefore, we can assume that it is the high level of empathic abilities, the meaningful representation of the inner world of the partner of communication, the volitional regulation of their own behaviour, the presence of permeable ability as an important communicative quality of a person, which allows creating an atmosphere of openness, trust, and psychic i.e. those personal characteristics that influence the formation of emotional intelligence.

The third stage of the research. The subsequent interpretation of data took place at the structural level. In order to establish regularities at the level of organization of respondents’ personal characteristics with different levels of emotional intelligence, matrices of intercorrelation were calculated. They are a reflection of the individual traits structures, on the basis of which the corresponding structurograms were constructed (fig. 5), the structural indices were determined (tab. 3), weight coefficients, basic and leading personal characteristics (tab. 4), homo/heterogeneity of structures (tab. 5) in three groups of respondents.

Analyzing structurograms, a number of regularities were revealed: 1) for the structure of personality characteristics of respondents with medium

and low levels of emotional intelligence there is a greater number of statistically significant interrelations, compared to a group with a high level of emotional intelligence; 2) the number of statistically significant negative interactions is higher in the structure of personality characteristics of respondents with a high level of emotional intelligence. In the other two groups, they are absolutely absent; 3) a group of respondents with an average level of emotional intelligence differs from the other two more integrated system of personality characteristics.

For a more detailed structurograms' analysis, their evaluation was performed using a system of structural indices (Karpov, 2006).

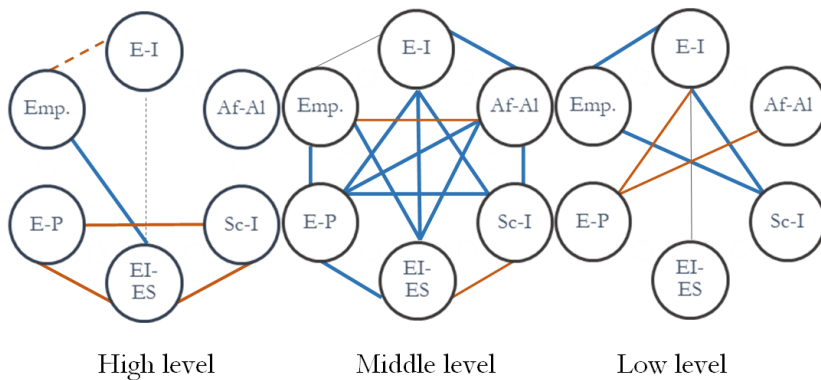


Figure 5. Structurograms of personality characteristics in researcher groups with different levels of emotional intelligence

Notes: $p \leq 0.01$ $p \leq 0.05$ $p \leq 0.10$
 Positive relationship —; —; —;
 Negative relationship - - -; - - -;
 E-I – Extraversion-Introversion; Af-Al – Affection-Alienation; Sc-I – Self-control-Impulsivity;
 EI-ES – Emotional instability-Emotional stability; E-P – Expressiveness-Practicality; Emp. – Integral indicator of empathy.

As you can see from the tab. 3, in the group of respondents with middle and low levels of emotional intelligence there is no IDS, which indicates the integration of individual characteristics (ISO=38 and 14, respectively). This structural indicator allows us to talk about the difference in the structure of personal characteristics of respondents. ISO in respondents with a high level of emotional intelligence is 6.3 times lower

than respondents with an average level of emotional intelligence and 2.3 times than those with a low level of their emotional intelligence (ISO=6).

Table 3. Indicators of structural indices in respondents with different levels of emotional intelligence

Structural Indices	Level		
	high	middle	low
coherence index of the structure (ICS)	9	38	14
index of structure divergence (IDS)	-3	0	0
index of a structural organization (ISO)	6	38	14

ICS is the lowest in a group of respondents with a high level of emotional intelligence, suggesting a lower degree of personality characteristics synthesis to a certain degree of integrity. In groups of respondents with middle and low levels of emotional intelligence, we observe that separate personal characteristics begin to interact closely with each other.

The basic qualities were determined on the basis of the structural (correlation) weight (W) of each structurogram element (Karpov, 2006). According to Karpov (2006), the basic qualities are system-forming for the synthesis of all others; they have the greatest number of interconnected links (the largest structural weight), and occupy the central place in the complex of properties of the subject. Moreover, the basic qualities may not have statistically significant correlation relations with the “external criterion” that is, the integral index of emotional intelligence, but they play an essential role in its formation. This combination indicates the structure deployment.

In addition to the basic ones, the leading qualities were also identified i.e. those components that directly statistically correlate with the “external criterion”. Moreover, the same quality can be both basic and leading, which indicates its highest significance in the formation of emotional intelligence.

As you can see from tab. 4, “emotional instability-emotional stability” (W=6), “expressiveness-practicality” (W=15) in the structure of personal qualities of respondents with a high level of emotional intelligence are in the group of respondents with average level of emotional intelligence and “extraversion-introversion” (W=9) in the group of respondents with a low level of emotional intelligence.

There was no similarity in the structures at this stage of the study.

The leading qualities in the group of respondents with a high level of emotional intelligence are affection ($p \leq 0.01$), in a group with a low level of emotional intelligence there are self-control ($p \leq 0.01$) and empathy, $p \leq 0.01$. It is likely that increasing in self-control and empathy are factors that will contribute to the formation of emotional intelligence.

Consequently, we can conclude that the revealed basic personal characteristics determine the possibility of forming an emotional intelligence in one case and the impossibility of its development in another, and certain leading characteristics contribute / prevent the process of its formation at a particular stage.

Table 4. Structural weight and rank of personal factors from respondents with different levels of emotional intelligence

Personality traits	Level of emotional intelligence														
	high					middle					low				
	R>0	R<0	Σ_R	W	rank	R>0	R<0	Σ_R	W	rank	R>0	R<0	Σ_R	W	rank
extraversion-introversion	0	2	2	-3	4	5	0	5	13	4	4	0	4	9	1
affection-alienation	0	0	0	0	6	5	0	5	14	2	1	0	1	2	5
self-control-impulsivity	2	0	2	4	2	4	0	4	11	5	2	0	2	6	2
emotional instability-emotional stability	3	1	4	6	1	5	0	5	14	2	1	0	1	1	6
expressiveness-practicality	2	0	2	4	2	5	0	5	15	1	2	0	2	4	4
empathy	1	1	2	1	5	4	0	4	9	6	2	0	2	6	2
Basic components	emotional instability-emotional stability					expressiveness-practicality					extraversion-introversion				
Leading components	affection-alienation, $p \leq 0.01$					-					self-control-impulsivity, $p \leq 0.01$ empathy, $p \leq 0.01$				

The estimation of structures homo-/heterogeneity was carried out using the method of express- χ^2 (Karpov, 2006), which is based on the

ranking of the structural weight of individual elements of the structure and the discovering of the *r-Spearman* rank correlation coefficient. The homogeneity of structures is demonstrated by the presence of significant positive correlation coefficients ($\chi^2_{emp.} > \chi^2_{cr.}$), the heterogeneity is testified by their absence ($\chi^2_{emp.} < \chi^2_{cr.}$) (tab. 5).

Table 5. Estimation of structures homo-/ heterogeneity of personality characteristics

Emotional intelligence levels	high	middle	low
high	1.000	-	-
middle	.265	1.000	-
low	-.603	-.618	1.000

The calculation of the χ^2 criterion allows us to talk about the heterogeneity of the structures personality characteristics in three groups of respondents ($\chi^2_{emp.} < \chi^2_{cr.}$: $\chi^2_{emp.}=0.917$, $p \leq 0.01$ & $\chi^2_{emp.}=0.811$, $p \leq 0.05$). Thus, the growth of the index of emotional intelligence reflects internal changes in the personal structure. A new structural pattern is revealed: changes in the level of emotional intelligence are accompanied by qualitative rearrangements in the structure of personality characteristics.

4. Conclusions

Hence, the emotional intelligence as an ability to understand emotions, to manage the emotional sphere on the basis of intellectual analysis and synthesis; a set of emotional, personal and social abilities, all these are an important component of the professional competence of the future pre-school teacher.

The results of the empirical research indicate insufficient level of emotional intelligence and its components in the future educators and confirm the necessity of its development in the student's age. The data obtained during the research confirm the supposed assumptions about the existence of reliable statistically significant relationships between the emotional intelligence and personal characteristics (in particular, empathy, self-control, affection, emotional stability and expressiveness) and the determinism of the students' emotional intelligence of the of the structural organization peculiarities of personality qualities and properties.

The elucidation of such patterns can be used in creating emotional intelligence development programs for students at the educational stage.

The results of the study do not claim to be comprehensive coverage of the problem, but they are promising for further scientific research.

Prospects for further research. Further research will be focused on the study of psychological and pedagogical conditions for the formation of emotional intelligence among students, the psycho-technologies improvement of its development, taking into account the pedagogical activity specification.

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