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Research on types of self-actualization of future masters in pedagogy

Дослідження типів самоактуалізації майбутніх магістрів педагогіки

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Abstract

Purpose is to identify types of self-actualization of future Masters in Pedagogy in the dimensions of educational and professional activity. The psycho-diagnostic instruments applied are valid and reliable. Three levels of statistical processing were used: 1) descriptive frequency characteristics; 2) coefficients for establishing statistical significance; 3) k-means clustering for identifying types of self-actualization of the research participants. The main concepts of A. Maslow's theory of self-actualization (1970) comprise methodological foundations of the empirical research. The study shows that in descriptive frequency characteristics there were no statistically significant differences with similar dimensions. Spearman's correlation analysis (rs) and correlation matrix allowed comprehending the variety of statistically significant content correlations of the examined phenomenon. K-means clustering made it possible to identify four types of the respondents'

Анотація

Метою є з'ясування типів самоактуалізації майбутніх магістрів педагогіки у вимірах навчально-професійної діяльності. Застосовано психодіагностичні інструменти, які є валідними і надійними. Використано три рівні статистичної обробки: 1) описові частотні характеристики; 2) коефіцієнти для з'ясування статистичної достовірності; 3) кластерний аналіз k-середніх для визначення типів самоактуалізації досліджуваних. Методологічну основу емпіричного дослідження склали вихідні положення концепції самоактуалізації А. Маслоу (1970). Констатовано, що у описових частотних характеристиках статистично достовірних відмінностей зі схожими вимірами не з'ясовано. Застосований кореляційний аналіз Спірмена (rs) і побудована кореляційна матриця дозволили збагнути розмаїття змістових статистично достовірних зв'язків досліджуваного феномену. Кластерним

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self-actualization: “Creative self-actualization” (n=32; 14.34%), “Hyperactive self-actualization” (n=60; 26.91%), “Egoistic self-actualization” (n=72; 32.29%) and “Life self-actualization” (n=59; 26.46%). Appropriateness of implementing the research results in organization of educational and scientific training for Masters in Pedagogy was empirically established and theoretically substantiated.

Key words: self-regulation of personality, educational space, adolescence, educational and pedagogical activity, educational and professional training, higher education institutions.

Introduction

Training for future Masters in Pedagogy is a highly responsible process and a result of the development of integral, general and special professional competences. Masters in Pedagogy must not only develop themselves permanently and “keep pace with time”, but also be able to teach others to do that. Taking into consideration that professional competences developed in the dimensions of self-realization rapidly lose relevance and operational capacity, the issue of an individual’s self-actualization is considered to be dominant. An exploring component acquires special importance in educational and professional training for Masters in Pedagogy. It should be regarded rather through a prism of creativity, organization of scientific exploring activity, than reproduction. The formation of the ability to solve complex problems in the professional area, including innovative research activity of Masters in Pedagogy, means thorough reconsideration of the current knowledge and creation of new knowledge, following successful patterns of realization of professional practice. Such articulation of the above issues highlights topicality and timeliness of the examined subject. At the same time, the articulated scientific problem is topical in a global dimension and requires thorough examination.

We assume that empirical research and theoretical substantiation of types of self-actualization of future Masters in Pedagogy will allow obtaining scientific facts which will contribute to efficient organization of educational and scientific processes of their training. Purpose is to identify types of self-actualization of future Masters in Pedagogy in the dimensions of educational and professional activity.

аналізом методом к-середніх встановлено чотири типи самоактуалізації респондентів: “Творча самоактуалізація” (n=32; 14.34%), “Гіперактивна самоактуалізація” (n=60; 26.91%), “Егоїстична самоактуалізація” (n=72; 32.29%) і “Життєва самоактуалізація”(n=59; 26.46%). Емпірично з’ясовано і теоретично обґрунтовано доцільність імплементації результатів дослідження у організацію освітнього і наукового процесів підготовки магістрів педагогіки.

Ключові слова: саморегуляція особистості, освітній простір, юнацький вік, навчально-педагогічна діяльність, навчально-професійна підготовка, заклад вищої освіти.

The empirical research on types of self-actualization will allow solving more complex problems of educational and professional training for future Masters in Pedagogy. The suggested empirical algorithm of the summative strategy will allow establishing casual relationships and identify the types of the respondents’ self-actualization. Structuring and logical sequence make it possible to outline the actual dimension, find growth points and urgent changes in educational process. Self-actualization of Masters in Pedagogy plays a key role in socio-economic, safety-related and political life of the country.

Literature Review

Self-actualization is the peak of Abraham Maslow (1970) hierarchical pyramid of needs. The scientist singled out a different number of the pyramid components at different stages of creating and substantiating his theory, but self-actualization was always its peak. Sometimes self-actualization is considered as self-expression of an individual (Radul, 2011a). Self-actualization combines a number of important elements which can be in intrinsic interrelation, complement each other or, probably, be less evident against a background of dominant elements. According to A. Maslow (1970), they involve: creativity, morality, spontaneity, being unbiased, problem-solving, tolerance as acceptance of things one cannot change, and others. The list of the above elements which are actualized or become dominant in activity is capable of ensuring an individual’s self-actualization. The author of the theory assumed and substantiated that self-actualization is achieved by a very small percentage of people (approximately 1.0%). And this level is reached

by an individual when they have realized their potential at maximum in their activity, utilized their talents and achieved success. A logical question arises: if self-actualization is achieved by a very small percentage of people, how can we explore types of self-actualization of future Masters in Pedagogy? We position educational and scientific spaces as indispensable conditions for respondents' institutionalization which provide all the above elements of self-actualization: creativity, morality, spontaneity, being unbiased, problem-solving, tolerance as acceptance of things one cannot change. Definitely, we have added and operationalized the list of relevant dimensions characterizing future Masters in Pedagogy. Application of this approach implies topicality of the task to establish the dimension of the above impacts and, as the purpose and hypothesis state, to identify the types.

In scientific literature there is a sufficient number of empirical studies revealing self-actualization of an individual in the dimensions of psychological well-being, through their openness, successfulness, seeking happiness, orientation towards ideals and psychological maturity (Karpenko & Klympush, 2023; Maddi & Khoshaba, 1994). As research shows, psychological maturity (Maslow, 1970) in combination with social maturity (Radul, 2011b) is an important dimension in an individual's self-actualization.

Much attention is paid to the formation of soft skills and hard skills (Kulish et al., 2020; Popovych et al., 2021b; Zaverukha et al., 2022) in education of future professionals in the socioeconomic area. Since self-actualization has a system-creating function, combination of well-formed soft skills and hard skills is able to ensure an optimal result. It is important to form self-development skills for professional growth of a future Master in Pedagogy as an individual who will follow the way of self-actualization after graduation. The concept of self-efficacy of an individual by Albert Bandura (1977) confirms our theoretical search. The scientist proved that self-efficacy can be achieved by an individual through subject activity and interpersonal communication. Two dimensions are interrelated and ensure successful activity of an individual.

A communicative component was thoroughly examined in the context of establishment and development of educational and professional activity that is shown in the studies by I. Halian et al., (2020), Popovych et al., (2020), S. Radul et al., (2022). An anticipatory component of

respondents' activity in the dimensions of self-actualization is a precondition for successful realization of a plan (Nosov et al., 2020; Plokhikh et al., 2021; Plokhikh, 2023). Safety of educational space V. Kalenchuk et al., (2023), psycho-emotional potential and resilience are referred to important factors affecting self-efficacy of activity (Halian et al., 2021; Melnychuk et al., 2023; Popovych et al., 2021c).

Types of self-actualization are considered to be dominant dimensions of manifestation of the examined phenomenon in professional development of future Masters in Pedagogy. Instilling the idea of self-actualization to postgraduates of a Master level will contribute to solving problems of freedom and responsibility, losing and searching for value orientations, being in society, alone and lonely. Research on types of self-actualization of future Masters in Pedagogy will allow operationalizing the problem of self-development, self-motivation, mental maturity and well-being aimed at achieving self-actualization.

Methods

Methodology. The main concepts of A. Maslow's theory of self-actualization (1970) comprise methodological foundations of the empirical research. The main ideas of the concept of social maturity of an individual as a combination of freedom of choice and ability to take responsibility were considered (Radul, 2011a; Radul et al., 2022). Respondents seeking a Master's degree are positioned as subjects of ethical behavior, able to interact with society tolerantly, appropriately and successfully. Young people are a community with a high level of social activity, determining the future of their country (Stupak, 2021).

Participants. The research sample involved the first- and second-year postgraduate students, taking Master's degree courses in the academic areas including a pedagogical component: Volodymyr Vynnychenko Central Ukrainian State University (VVCUSU) (Kropyvnytskyi region, Ukraine) and Vasyl Stefanyk Precarpathian National University (VSPNU) (Ivano-Frankivsk region, Ukraine). After completing such Master's degree courses postgraduates gain a professional qualification and have well-developed competences that allows them to start teaching and performing scientific activity in higher education institutions. The age of the respondents ranged from 21 to 48 years old. The dominant part of the respondents was represented by graduates of

VVCUSU and VSPNU. The descriptive frequency characteristics of the sample were ($M=23.1$; $Me=23$; $Mo=22$; $SD=\pm 2.12$). The quantitative characteristics of the sample were ($n=223$). The sample involved males ($n=67$; 30.05%) and females ($n=156$; 69.95%).

Organization of Research. The research was carried out according to the plan of the summative strategy. Empirical data were collected in the academic year 2022-2023. The respondents anonymously filled out forms of standard questionnaires given through Google-form. The research was approved by the Ethics Committees of the administration of VVCUSU and VSPNU. It complied with all ethical principles provided by Helsinki declaration of 2013 (World Medical Association Declaration of Helsinki, 2013).

Procedures and instruments. The test "Personal Orientation Inventory" (POI) by *E. Shostrom (1964)* was chosen as the key psycho-diagnostic instrument. The adapted version of the method known as "Self-actualization test" (SAT) (Aleshina et al., 1987) was used. We applied fourteen scales which allowed differentiating the research subject and qualitatively reflect the parameters. Here is the list of the parameters: competence in time (CT); support (Su); value orientations (VO); behavioral flexibility (BF); self-sensitivity (SSn); spontaneity (Sp); self-esteem (SE); self-acceptance (SA); concept of human nature (CHN); synergy (Sy); acceptance of aggression (AA); contact (C); cognitive needs (CN); creativity (Cr). The coefficient reflecting homogeneity of the responses α -Cronbach was at a satisfactory level ($\alpha=.816$).

The respondents' locus of control on discrete and external factors was determined by the test "Life-meaningful orientations" ("LMO") (Leontyev, 2006) by means of two scales: locus of control-self (LCS) and locus of control-life (LCL). Since, according to the methodology and the summative research strategy, training for future professionals is important, the suggested scales

are closely connected with the component "competence in time" (CT) by (SAT) (Aleshina et al., 1987) in the continuum "past-present-future". The coefficient of homogeneity of the responses – α -Cronbach ($\alpha=.859$).

The questionnaire "Motivational structure of personality" (MSP) (Milman, 1990) was used for qualitative reflection of the content parameters of the motives of educational and professional activity. Two scales are considered to be of experimental interest: general activeness (GA) and creative activeness (CA) which qualitatively position professional orientation of future Masters in Pedagogy. α -Cronbach was determined at the level .886.

Statistical Analysis. Three levels of statistical processing of the obtained results were used: 1) descriptive frequency characteristics; 2) coefficients for establishing statistical significance; 3) *k*-means clustering for identifying types of self-actualization of the research participants. All the statistical operations were performed by means of "SPSS" v. 29.0. and the graphical editor "MS Office Word 2007". The levels $p \leq .050$ and $p \leq .010$ are considered to be statistically significant.

Results

The summative research strategy was implemented by the following stages: 1) descriptive frequency statistics were found; 2) comparison of the obtained empirical data with the norms which were suggested by the methods' authors and given in similar studies was performed; 3) correlations with the key research parameters of self-actualization were established; 4) cluster analysis of the empirical dataset for identifying the types of the participants' self-actualization was performed. Tabl. 1 gives the main descriptive frequency characteristics of the examined parameters by the methods "SAT" (Aleshina et al., 1987), "LMO" (Leontyev, 2006) and "MSP" (Milman, 1990).

Table 1.

The main descriptive frequency characteristics of the examined parameters by the methods "SAT", "LMO" and "MSP"

| Parameters | Min | Max | <i>Me</i> | Mo | M | SD |
|------------|-------|-------|-----------|----|-------|--------|
| CT | 3.00 | 11.00 | 6 | 8 | 6.45 | ±2.562 |
| Su | 20.00 | 59.00 | 38 | 41 | 38.43 | ±7.212 |
| VO | 5.00 | 18.00 | 12 | 11 | 11.23 | ±2.129 |
| BF | 5.00 | 17.00 | 10 | 9 | 10.11 | ±2.731 |
| SSn | 3.00 | 10.00 | 7 | 6 | 6.32 | ±2.099 |
| Sp | 3.00 | 12.00 | 7 | 6 | 7.45 | ±2.061 |
| SE | 4.00 | 13.00 | 8 | 9 | 8.34 | ±2.664 |
| SA | 2.00 | 14.00 | 9 | 8 | 8.86 | ±2.334 |
| CHN | 4.00 | 10.00 | 7 | 7 | 6.56 | ±1.325 |
| Sy | 3.00 | 8.00 | 5 | 6 | 5.89 | ±1.234 |
| AA | 3.00 | 13.00 | 7 | 8 | 7.56 | ±2.451 |
| C | 3.00 | 13.00 | 8 | 6 | 7.78 | ±2.411 |
| CN | 2.00 | 14.00 | 6 | 6 | 6.54 | ±1.987 |
| Cr | 2.00 | 12.00 | 7 | 7 | 7.23 | ±2.178 |
| LCS | 8.00 | 29.00 | 21 | 20 | 21.22 | ±3.034 |
| LCL | 12.00 | 41.00 | 28 | 28 | 28.43 | ±5.098 |
| GA | 8.00 | 20.00 | 13 | 12 | 12.61 | ±3.08 |
| CA | 10.00 | 24.00 | 16 | 13 | 15.95 | ±4.11 |

Source: Personal elaboration, academic year 2022/2023.

Note: Min – minimum value of distribution; Max – maximum value of distribution; *Me* – median of distribution (data given in italics); Mo – mode of distribution; M – mean of distribution; SD – standard deviation of distribution; CT – competence it time; Su – support; VO – value orientations; BF – behavioral flexibility; SSn – self-sensitivity; Sp – Spontaneity; SE – self-esteem; SA – self-acceptance; CHN – concept of human nature; Sy – synergy; AA – acceptance of aggression; C – contact; CN – cognitive needs; Cr – creativity; LCS – locus of control-self; LCL – locus of control-life; GA – general activeness; CA – creative activeness.

Analysis of the descriptive frequency characteristics of the respondents by the parameters "SAT" (Aleshina et al., 1987) showed that the range of dimensions by the median from the lowest – synergy (*Me*=5) to the highest – support (*Me*=38) is close to the norm (Aleshina et al., 1987; Shostrom, 1964). The results by the two scales "LMO" (Leontyev, 2006): LCS (*Me*=21) and Lcl (*Me*=28) do not have statistically significant differences obtained by these scales in the studies related to our research S. Radul et al., (2022). The registered

values by two scales of the following method – "MCO" (Milman, 1990): GA (*Me*=13) and CA (*Me*=16) do not have a significant advantage in comparison with our previous research V. Radul et al., (2022).

In order to operationalize the examined parameters of self-actualization, we established correlations with the scales – LCS, LCL, GA and CA by Spearman's correlation coefficient (r_s). Tabl. 2 presents the data obtained.

Table 2.

Data on correlations of the parameters of self-actualization with the research scales (n=223) by Spearman's correlation coefficient (r_s)

| Scales of self-actualization | Statistical parameters | Examined parameters | | | |
|------------------------------|------------------------|---------------------|--------------|--------------|--------------|
| | | LCS | LCL | GA | CA |
| CT | r_s | .098 | .101 | .084 | .115* |
| | p | .334 | .156 | .567 | .041 |
| Su | r_s | .097 | .111* | .076 | .088 |
| | p | .402 | .043 | .760 | .812 |
| VO | r_s | .158* | .148* | .137* | .144* |
| | p | .011 | .012 | .022 | .014 |
| BF | r_s | -.036 | .041 | .039 | -.029 |
| | p | .844 | .707 | .712 | .659 |
| SSn | r_s | .111* | -.022 | -.019 | .095 |
| | p | .043 | .534 | .432 | .347 |
| Sp | r_s | .059 | .053 | -.022 | .038 |
| | p | .829 | .815 | .443 | .562 |

| | | | | | |
|-----|-------|----------------|---------------|--------------|---------------|
| SE | r_s | .178** | .168** | .099 | .114* |
| | p | .009 | .010 | .134 | .042 |
| SA | r_s | .109* | -.032 | -.022 | .042 |
| | p | .047 | .434 | .529 | .301 |
| CHN | r_s | .033 | .078 | .089 | .084 |
| | p | .802 | .243 | .808 | .867 |
| Sy | r_s | -.037 | .042 | .049 | .099 |
| | p | .839 | .699 | .657 | .123 |
| AA | r_s | .043 | .077 | .099 | -.084 |
| | p | .780 | .283 | .124 | .865 |
| C | r_s | -.188** | .152* | .113* | -.074 |
| | p | .008 | .011 | .042 | .766 |
| CN | r_s | -.137* | .114* | .044 | .268** |
| | p | .022 | .042 | .567 | .006 |
| Cr | r_s | -.117* | .119* | .012 | .334** |
| | p | .035 | .031 | .896 | .002 |

Source: Personal elaboration, academic year 2022/2023.

Note: Min – minimum value of distribution; Max – maximum value of distribution; Me – median of distribution; Mo – mode of distribution; M – mean of distribution; SD – standard deviation of distribution; CT – competence in time; Su – support; VO – value orientations; BF – behavioral flexibility; SSn – self-sensitivity; Sp – spontaneity; SE – self-esteem; SA – self-acceptance; CHN – concept of human nature; Sy – synergy; AA – acceptance of aggression; C – contact; CN – cognitive needs; Cr – creativity; LCS – locus of control-self; LCL – locus of control-life; GA – general activeness; CA – creative activeness.

Fig. 1 presents a correlation pleiad which completed comprehension of the obtained statistically significant correlation parameters

and allowed visualizing importance of the parameters by the level of statistical significance and the number of correlations.

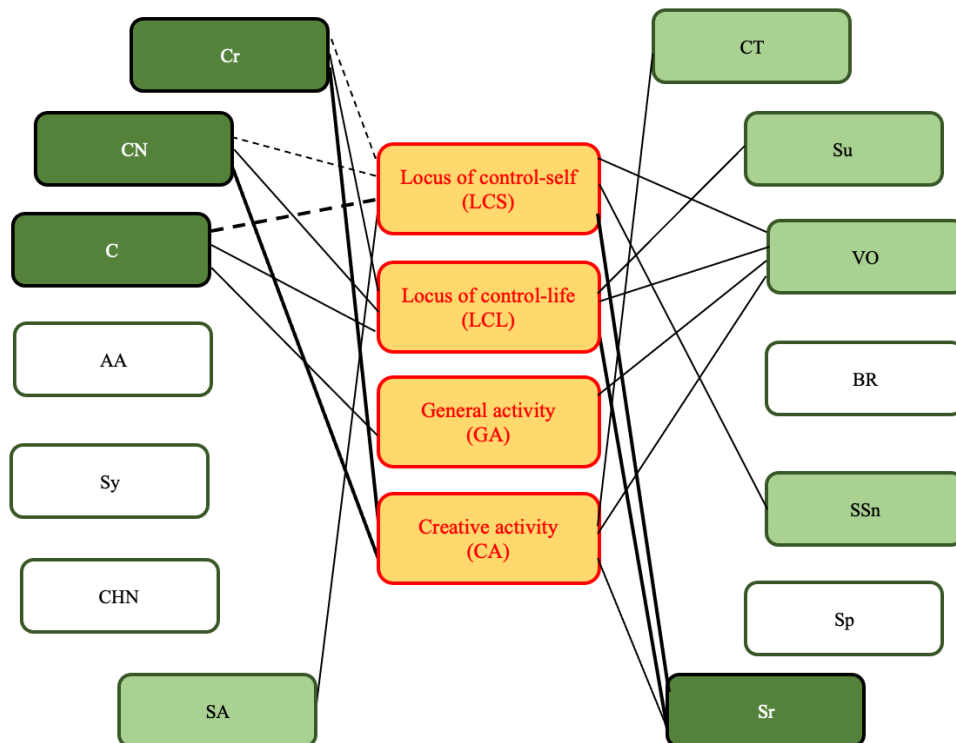


Figure 1. Correlation pleiad of the examined parameters of self-actualization (n=223)

Source: Personal elaboration, academic year 2022/2023.

Note: — positive correlations at the level $p \leq .050$; ——— positive correlations at the level $p \leq .010$; - - - - negative correlations at the level $p \leq .050$; - - - - negative correlations at the level $p \leq .010$; CT – competence in time; Su – support; VO – value orientations; BF – behavioral flexibility; SSn – self-sensitivity; Sp – spontaneity; SE – self-esteem; SA – self-acceptance; CHN – concept of human nature; Sy – synergy; AA – acceptance of aggression; C – contact; CN – cognitive needs; Cr – creativity.

We registered statistically significant correlations of the examined parameters with all (four) suggested variables affecting self-actualization. There are four positive correlations and one negative correlation at the level ($p \leq .010$): LCS & SE ($r_s = .178$); LCS & C ($r_s = -.188$); LCL & SE ($r_s = .168$); CA & Cr ($r_s = .334$); CA & CN ($r_s = .268$). There are thirteen positive correlations and two negative correlations at the level ($p \leq .050$): LCS & VO ($r_s = .158$); LCS & SSn ($r_s = .111$); LCS & SA ($r_s = .109$); LCS & CNg ($r_s = -.137$); LCSs & Cr ($r_s = -.117$); LCL & Su ($r_s = .111$); LCL & VO ($r_s = .148$); LCL & C ($r_s = .152$); LCL & CN ($r_s = .114$); LCL & Cr ($r_s = .119$); GA & VO ($r_s = .137$); GA & C ($r_s = .113$); CA & CT ($r_s = .115$); CA & VO ($r_s = .144$); CA & SE ($r_s = .114$).

K-means clustering was used to arrange relevant dimensions reflecting self-actualization of future Masters in Pedagogy. We partitioned the determined number of dimensions ($n=13$) into the optimum number of clusters ($k=4$). All the respondents' data were used in the research

($n=223$). *k*-means clustering means combining the sample's data into statistically homogenous groups by the determined dimensions. All the dimensions with statistically significant correlations were taken into consideration ($p \leq .050$; $p \leq .010$). Creative activeness (CA) was considered to be the main characteristic. Creative activeness has the highest statistically significant correlation ($r_s = .334$). The calculated minimum number of respondents in the cluster was $n \geq 27$. It is one of the requirements which should be met while forming clusters by a quantitative parameter. Appropriateness of using cluster analysis was established by means of "SPSS" v. 29.0 by Kaiser-Meyer-Olkin test of sampling adequacy (KMO) being $KMO = .744$. Bartlett's coefficient is significant at the level $p < .001$ that allowed using *k*-means clustering appropriately. The parameter "Creative Activeness" (CA) is the nucleus of the first cluster and the rest of the cluster dimensions were partitioned by this principle. Tabl. 3 gives the initial and final centers of clusters.

Table 3.
Initial and final centers of clusters

| Parameters | Cluster 1 (n=32) | | Cluster 2 (n=60) | | Cluster 3 (n=72) | | Cluster 4 (n=59) | |
|------------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|
| | b | e | b | e | b | e | b | e |
| CA | 24.00 | 18.00 | 16.00 | 12.00 | 15.00 | 11.00 | 10.00 | 17.00 |
| GA | 13.00 | 10.00 | 20.00 | 15.00 | 12.00 | 9.00 | 8.00 | 14.00 |
| LCS | 16.00 | 11.00 | 17.00 | 12.00 | 29.00 | 19.00 | 8.00 | 10.00 |
| LCL | 17.00 | 13.00 | 18.00 | 14.00 | 12.00 | 16.00 | 41.00 | 20.00 |
| CT | 11.00 | 15.00 | 14.00 | 11.00 | 13.00 | 3.00 | 3.00 | 5.00 |
| Su | 59.00 | 39.00 | 36.00 | 27.00 | 33.00 | 24.00 | 20.00 | 28.00 |
| VO | 18.00 | 11.00 | 10.00 | 7.00 | 9.00 | 6.00 | 5.00 | 8.00 |
| SSn | 10.00 | 7.00 | 6.00 | 4.00 | 5.00 | 4.00 | 3.00 | 9.00 |
| SE | 13.00 | 9.00 | 8.00 | 5.00 | 7.00 | 5.00 | 4.00 | 7.00 |
| CHN | 14.00 | 9.00 | 8.00 | 6.00 | 7.00 | 4.00 | 2.00 | 9.00 |
| C | 13.00 | 8.00 | 7.00 | 5.00 | 6.00 | 5.00 | 3.00 | 6.00 |
| CN | 14.00 | 9.00 | 8.00 | 6.00 | 7.00 | 5.00 | 2.00 | 7.00 |
| Cr | 12.00 | 8.00 | 7.00 | 4.00 | 6.00 | 4.00 | 2.00 | 8.00 |

Source: Personal elaboration, academic year 2022/2023.

Note: b – beginning of the cluster; e – end of cluster; CA – creative activeness; GA – general activeness; LCS – locus of control-self; LCL – locus of control-life; CT – competence in time; Su – support; VO – value orientations; SSn – self-sensitivity; SE – self-esteem; CHN – concept of human nature; C – contact; CN – cognitive needs; Cr – creativity.

It is necessary to characterize the results of cluster analysis. The beginnings and the ends of clusters allowed identifying minimum difference and similarity of the examined parameters.

Cluster 1 numbers ($n=32$; 14.34%) respondents with high values of CA ($b=24.00$; $e=18.00$) and relatively low values of LCS ($b=16.00$; $e=11.00$). The type of actualization in which creative activity is dominant was called "Creative self-actualization".

Cluster 2 covers a relatively larger number of respondents, in comparison with the previous one, and numbers ($n=60$; 26.91%). A distinguishing characteristic of the respondents of this type is a high level of general activeness GA ($b=20.00$; $e=15.00$) and relatively medium values of the rest of the dimensions. This type of the respondents' actualization resembles hyperactive accentuation of teenagers, therefore, it was called somewhat metaphorically – "Hyperactive self-actualization".

Cluster 3 combines ($n=72$; 32.29%) the largest number of the respondents. The most distinguishing characteristic of the respondents of this type is a strong ability to localize self-control on their own "Self" – LCS ($b=20.00$; $e=15.00$) and, as a result, low localization of self-control on life, environment and significant others – LCL ($b=29.00$; $e=19.00$). Excessive concentration on one's own personality motivated us to call this type of self-actualization "Egoistic self-actualization".

Cluster 4 numbers ($n=59$; 26.46%) and resembles Cluster 2 only by a quantitative characteristic. The respondents of this type have opposite key parameters – LCL ($b=41.00$; $e=20.00$) and, consequently, low localization of self-control on their own personality – LCS ($b=8.00$; $e=10.00$). Such a combination of the key parameters incentivized us to call this type "Life self-actualization".

Discussions

Ukrainian and foreign scientific literature contains many studies related to professional training for higher education degree seekers in Pedagogy. Self-actualization of an individual in the dimensions of professional activity has also been examined thoroughly (Halian et al., 2020; Popovych et al., 2021a; Radul, 2011a; Radul, 2021b). When we aim to operationalize and implement scientific findings, there arise difficulties with the suggested scope of studies, therefore, our research was oriented towards establishing statistical significance, substantiating the research results with further implementation. Four types of self-actualization of future Masters in Pedagogy were suggested: "Creative self-actualization", "Hyperactive self-actualization", "Egoistic self-actualization", "Life self-actualization" (see Tabl. 3), through operationalizing the key parameters of the latter. The research purpose was achieved, and the hypothesis was proved.

A number of content features of the empirical research is considered to be of scientific interest. The given descriptive frequency characteristics (see Tabl. 1) incentivized us to focus on the scales showing rather low values by the median: CT ($Me=6$); Su ($Me=38$); SE ($Me=8$); Sy ($Me=5$); CN ($Me=6$). We assume that a change in the types of self-actualization in the dimensions of educational and professional training will contribute to an increase in the data on the parameters and a shift of the localization vector from general activeness and one's own personality to a creative component. The fact

(see Tabl. 2 and Fig. 1) that both components – creativity and cognitive needs – have a negative statistically significant correlation ($p \leq .050$) with localization of self-control Cr & LCS ($r_s = -.117$) and CN & LCS ($r_s = -.137$) is also considered to be of scientific interest. We think that excessive localization of adolescents on their own personality, social desirability and copying others in insignificant characteristics have a negative effect on their creativity and cognitive activeness. This fact is confirmed in the study by V. Plokhikh (2022) about limitation of psychological defense and its impact on the prospects of educational and professional activity of students. A negative correlation LSC & C ($r_s = -.188$; $p \leq .010$) is obvious. In turn, contact has a positive effect on creative activeness and localization of self-control on life.

The above types of self-actualization (see Tabl. 3) are rather a cross-section of self-actualization orientation of future Masters in Pedagogy. In our opinion, "Creative self-actualization" and "Life self-actualization" are the most optimal types which both respondents and managers of educational and scientific processes should strive for. "Hyperactive self-actualization" and "Egoistic self-actualization" are those types of self-actualization which subjects of educational and scientific processes should work at to reach preliminary indexes.

Conclusions

1. The research finds that types of self-actualization are dominant dimensions of manifestation of the examined phenomenon in professional growth and development of future Masters in Pedagogy.
2. *K*-means clustering was used to determine the optimal number of clusters ($k=4$) and identify four types of self-actualization of future Masters in Pedagogy: "Creative self-actualization" ($n=32$; 14.34%), "Hyperactive self-actualization" ($n=60$; 26.91%), "Egoistic self-actualization" ($n=72$; 32.29%) and "Life self-actualization" ($n=59$; 26.46%).
3. It was established that creativity and cognitive needs have a negative statistically significant correlation ($p \leq .050$) with localization of self-control Cr & LCS ($r_s = -.117$) and CN & LCS ($r_s = -.137$). We think that excessive localization of adolescents on their own personality, social desirability and copying others in insignificant characteristics have a negative effect on their creativity and cognitive activeness.

4. The study highlights that the examined types are rather a cross-section of self-actualization orientation of future Masters in Pedagogy.
5. It is generalized that the research on types of self-actualization of future Masters in Pedagogy will allow operationalizing the issue of self-development, self-motivation, mental maturity and well-being to achieve self-actualization.

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