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PSYCHOMETRIC APPROBATION OF THE UKRAINIAN VERSION OF THE LIFE-PURPOSE ORIENTATIONS TEST

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Abstract

The relevance of adapting psychodiagnostic instruments into Ukrainian is determined by the need to ensure their linguistic, cultural, and psychometric suitability for the target population. **The aim** of the study - to conduct a psychometric evaluation of the Ukrainian-language version of the Life-Purpose Orientations Test by assessing item characteristics, internal consistency, and structural validity. The study involved 246 students aged 15–22 y. o. ($M = 17.10$; $SD = 1.56$), including 149 males and 97 females. The assessment was conducted face – to – face in general secondary education institutions and higher education institutions in Odesa (Ukraine). The Ukrainian - language 20-item version of the Life-Purpose Orientations Test was administered. Descriptive statistics, corrected item–total correlations, Cronbach's α , McDonald's ω , the Kaiser–Meyer–Olkin measure, Bartlett's test of sphericity, exploratory factor analysis, and parallel analysis were used. The total life meaningfulness score demonstrated high internal consistency (Cronbach's $\alpha = 0.856$; McDonald's $\omega = 0.860$). Reliability varied across the subscales: the highest coefficients were obtained for “Goals in

Life” and “Life Effectiveness,” whereas the lowest were found for “Locus of Control – Self.” The data were suitable for factor analysis ($KMO = 0.864$; $\chi^2(190) = 1351.08$; $p < 0.001$). Parallel analysis and exploratory factor analysis identified three latent components: “Agency and Control over Life Choices,” “Life Satisfaction and Engagement,” and “Goal and Worldview Clarity.” The Ukrainian - language version of the Life - Purpose Orientations Test demonstrated adequate reliability of the total score and may be used for the integral assessment of life meaningfulness. At the same time, the subscale scores should be interpreted with caution and require further examination in independent samples.

Key words: life - purpose orientations; meaning in life; psychometric evaluation; psychodiagnostics; structural validity; internal consistency.

The problem of the meaning of life occupies a special place in psychological research on personality, as it is associated with a person’s awareness of the direction of his own life, the presence of significant goals, the subjective experience of the value of his own existence and the ability to integrate life experience into a holistic system of ideas about himself and his future. In modern psychology, the meaning of life is considered as a multidimensional phenomenon, in the structure of which at least such interrelated components are distinguished as the coherence or clarity of his own life, the presence of a life goal and the experience of the significance of his own existence [1, 2]. The presence of meaning implies not only a subjective understanding of what is happening in a person’s life, but also a sense of its direction, the presence of goals and the awareness of the value of his own life activity.

One of the sources of empirical research on this issue was the existential-humanistic tradition and the logotherapeutic concept of V. Frankl, within which the desire for meaning is considered one of the fundamental motivational tendencies of a person. An attempt to operationalize the relevant theoretical provisions was made by J. Crumbaugh and L. Maholick, who developed the Purpose – in – Life Test (PIL) to quantitatively assess the degree to which a person experiences purpose fullness and meaningfulness in his or her own life [3]. Initially, the instrument was created to empirically test the provisions of logotherapy about existential vacuum and noogenic problems, but later the PIL gained much wider application in studies of psychological well - being, adaptation and personal functioning.

The classic version of the PIL contains 20 items, which are assessed on a seven - point scale, and the total indicator reflects the overall severity of the experience of meaning and purposefulness in life. At the same time, psychometric studies of the PIL have shown that the

question of its internal structure cannot be considered finally resolved. Factor-analytic studies in different samples demonstrated one-, two-, three- and multifactor solutions. In particular, latent variable analysis revealed, in addition to the general factor, several specific components related to the presence of a life purpose, motivation to search for meaning, and existential uncertainty [4]. Research on the Swedish version of the PIL also confirmed the psychometric suitability of the instrument, but showed a more complex internal organization of indicators than a purely unidimensional model would suggest [5]. The results of further research have also provided the basis for the creation of shortened versions of the PIL and continued discussion about which of its items most fully represent the construct of meaningfulness in life [6].

In parallel with the PIL's development in international psychology, the conceptual refinement of the concept of meaning in life itself took place. In particular, M. Steger and co-authors proposed to distinguish between the presence of meaning and the active search for meaning as related, but independent psychological dimensions [7]. In subsequent conceptual models, the meaningfulness of life began to be considered through a combination of understanding of life experience, purposefulness and subjective significance of one's own existence [1, 2]. Such an expansion of the theoretical field also actualized the problem of psychometric accuracy of instruments used to measure the meaningful life sphere of the individual. Therefore, the use of any specific version of the methodology requires taking into account not only its theoretical origin, but also its empirically confirmed structure, reliability and compliance with the characteristics of the cultural and linguistic group in which it is used.

In the psychological practice of the post - Soviet countries, the test of meaningful life orientations (MLO) by D. O. Leontiev, developed on the basis of the Purpose - in - Life Test [8], has become widely used. At the same time, the MLO is not a literal linguistic equivalent of the original PIL. In the process of adaptation, the wording of part of the stimulus material and the method of presenting answers were changed: instead of the standard seven - point scale, a symmetrical format of 3–2–1–0–1–2–3 was used. Based on further factor analysis, along with the general indicator of meaningfulness of life, five subscales were proposed: "Goals in life", "Life process", "Life effectiveness", "Locus of control – I" and "Locus of control – life" [8, 9]. Thus, the MLO underwent not only linguistic, but also a certain content and structural transformation of the original instrument, which must be taken into account during its further adaptation to other linguistic and cultural environments.

The MLO test is also actively used in Ukrainian psychological research. According to

O. Veldbrecht, O. Bovdyr, and O. Samkova, among the candidate and doctoral thesis's in psychology submitted for defense in Ukraine in 2019, this technique was used in 15 out of 141 works, which indicates its significant prevalence in domestic research practice [9]. At the same time, the fact of the widespread use of the technique itself is not sufficient confirmation of its psychometric equivalence in another linguistic and cultural environment. The analysis of the MLO structure conducted by the above - mentioned authors on a sample of Ukrainian students demonstrated that the empirical factor structure does not fully correspond to any of the previously proposed models, and the indicators of the locus of control subscales are characterized by insufficient internal consistency and require caution when interpreting [9]. At the same time, the most stable indicator remained the total score for 20 test items. The results obtained actualize the issue not only of the structure of the MLO, but also of the psychometric substantiation of its application in the Ukrainian - speaking environment.

The need for such a work is also related to the general requirements for the cross-cultural adaptation of psychodiagnostic instruments. Transferring a test from one language system to another cannot be reduced exclusively to the literal translation of statements. According to international recommendations, adaptation should provide for ensuring the semantic, content and conceptual equivalence of the stimulus material, checking the comprehensibility of the formulations in the target population and further empirical evaluation of the psychometric properties of the resulting version [10, 11]. This is of particular importance for methods aimed at studying existential and value - semantic phenomena, since the linguistic formulations of such statements are directly related to the ways of conceptualizing life goals, personal responsibility, freedom of choice, life success and control over one's own life.

Thus, the presence of significant experience in using the test of meaningful life orientations in psychological research, on the one hand, and the unresolved issues of its internal structure and psychometric equivalence in the Ukrainian - speaking environment, on the other, necessitate the creation and empirical verification of the Ukrainian - language version of the instrument. The task is not to mechanically reproduce the language structures of the original version, but to ensure the content correspondence of the statements with further verification of the extent to which the resulting version retains the ability to reliably measure the general meaningfulness of life and its individual components proposed in the structure of the MLO.

The aim of the study is to conduct psychometric testing of the Ukrainian-language

version of the Meaningful Life Orientations Test by assessing its internal consistency, structural characteristics, and validity in Ukrainian sample.

Research design. The study was conducted within the framework of a cross-sectional psychometric design and aimed at testing the Ukrainian - language version of the Meaningful Life Orientations Test (MLO). Psychometric testing included an analysis of the characteristics of individual items, internal consistency of the overall indicator and subscales, and the internal structure of the methodology. The study was based on international recommendations for the adaptation and use of psychological tests, which provide for ensuring the linguistic and cultural relevance of the instrument and empirical verification of its psychometric properties in the target population [10–12].

Research participants. The analysis included 246 fully completed protocols of students from general secondary and higher education institutions in Odessa. The age of the participants was 15–22 years old ($M = 17.10$; $SD = 1.56$); 149 people (60.6%) were male and 97 (39.4%) were female. Among the participants, 175 people (71.1%) aged 15–17, 71 people (28.9%) aged 18–22 years old.

The study was conducted directly in educational institutions. Participation was voluntary. Before the survey, all participants were informed about the purpose and procedure of the study, the confidentiality of the data obtained, their use exclusively for scientific purposes, and the right to terminate participation at any stage. All respondents provided informed consent; the participation of minors was organized in compliance with ethical requirements for research involving persons under the age of 18. The data were coded and analyzed exclusively in a generalized form. Only fully completed protocols were included in the psychometric analysis; there were no missing values in the final array.

Ethical principles of the study. The study was conducted in compliance with the principles of voluntariness, autonomy, informed consent, confidentiality, the right to refuse participation and minimization of potential psychological risks. Special attention was paid to protecting the rights of minor participants. The organization of the study complied with the ethical principles of research with human participation and the provisions of the Declaration of Helsinki of the World Medical Association [13].

Psychodiagnostic instrument. The study used the Ukrainian version of the test of purposeful life orientations (MLO), developed by D. O. Leontiev based on the Purpose in Life Test (PIL) by J. Crumbaugh and L. Maholick [3, 8]. The method contains 20 pairs of opposite statements in content, which are evaluated on a symmetrical seven-point scale 3–2–

1–0–1–2–3 with subsequent recoding of the answers into the range of 1–7 points. The total indicator is defined as the sum of the scores for all items and reflects the overall meaningfulness of life.

The structure of the MLO includes five subscales: “Goals in life”, which characterizes the presence of life goals and a time perspective; “Life process”, which reflects the content and emotional richness of the current life; “Life effectiveness”, associated with satisfaction with self-realization; “Locus of control – I”, which characterizes the perception of one’s own ability to influence the course of life; and “Locus of control – life”, which reflects the belief in its controllability. The theoretical range of the total indicator is 20–140 points; higher values correspond to a greater degree of meaningfulness of life.

The Ukrainian - language version of the methodology. During the adaptation, the number and sequence of items, the bipolar principle of their construction, the format of responses, the counting system and the composition of the original subscales were preserved. Linguistic processing was aimed at ensuring the semantic and conceptual equivalence of statements and their naturalness for Ukrainian-speaking respondents. Constructions unnatural for the modern the Ukrainian language were replaced with functionally equivalent formulations without changing the psychological content of the items, which corresponds to international approaches to the adaptation of psychodiagnostic instruments [10, 11].

Before conducting the psychometric analysis, the structure of the methodology and the composition of the items did not change, which made it possible to assess the functioning of the full 20-item the Ukrainian - language version without prior adaptation of its structure to the expected result.

Research procedure. The psychodiagnostic examination was conducted in-person in general secondary and higher education institutions in Odessa according to a single the Ukrainian - language instruction and the same order of presentation of the 20 items of the methodology. The researcher provided only organizational explanations for filling out the form, without interfering in the content interpretation of the statements. After testing, the answers were coded according to the MLO key, after which the indicators of the five subscales and the general indicator of meaningfulness of life were calculated. Psychometric analysis was carried out at the level of individual items and total indicators.

Statistical analysis. Statistical processing was carried out on the data of 246 complete protocols in the Python 3 environment. There were no missing values in the final array.

To describe the distribution of indicators, the arithmetic mean (M), standard deviation

(SD), median (Me), interquartile range (IQR), minimum and maximum values, asymmetry and kurtosis were determined. The quality of individual items was assessed by corrected item-total correlations.

The internal consistency of the total index and the five subscales was assessed using Cronbach's α and McDonald's ω coefficients, and their change when individual items were removed was also analyzed.

To check the structural validity, the suitability of the data for factorization was first assessed using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's sphericity criterion. The internal structure of the methodology was investigated using the exploratory factor analysis (EFA) method based on the polychoric correlation matrix with oblique rotation. The optimal number of factors was determined based on the results of parallel analysis, eigenvalue graph (scree plot), factor loadings, and meaningful interpretability of factors.

The use of EFA was due to the fact that previous studies of the MLO did not demonstrate an unambiguous reproduction of the original five - component structure [9]. Therefore, the factor structure of the Ukrainian version was considered as an empirically tested characteristic, and not as an a priori given model.

Correlation analysis was used to assess the relationships between the total indicators. Results were considered statistically significant at $p < 0.05$; effect sizes and 95% confidence intervals were also taken into account, if possible.

Thus, the psychometric analysis was aimed at obtaining complementary evidence regarding the functioning of individual items, internal consistency, and structural validity of the Ukrainian-language version of the MLO. Convergent, discriminant, and criterion validity, as well as test-retest reliability, were not assessed within this stage, since the study design did not involve the use of external psychodiagnostic criteria or repeated testing.

Results. At the first stage of psychometric testing, the descriptive characteristics of the main indicators of the Ukrainian - language version of the test of meaningful life orientations were analyzed and their internal consistency was assessed. The analysis was conducted based on data from 246 respondents. For each of the five subscales and the overall meaningfulness index, the mean, standard deviation, and actual range of scores were determined, and reliability was assessed using Cronbach's α and McDonald's ω coefficients. The results are presented in Table 1.

Table 1

Descriptive characteristics and internal consistency of the indicators of the Ukrainian version of the MLO (N = 246)

Indicator	M	SD	Min–Max	α	ω
Goals in life	26,03	6,73	6–42	0,734	0,735
Life process	24,08	6	6–42	0,681	0,678
Life effectiveness	21,32	5,44	5–35	0,708	0,717
Locus control – Self	16,76	4,45	4–28	0,58	0,591
Locus control – life	25,53	6,32	6–41	0,672	0,684
Overall meaningfulness of life	83,83	17,23	23–127	0,856	0,86

Note. M – arithmetic mean; SD – standard deviation; Min–Max – actually obtained range of values; α – Cronbach’s coefficient; ω – McDonald’s coefficient.

The data obtained show that the highest internal consistency is achieved by the general indicator of meaningfulness of life: the Cronbach’s α value was 0.856, McDonald’s ω – 0.860. The practically identical values of the two coefficients confirm the sufficient consistency of the set of 20 items and indicate the reliability of using the total indicator of the Ukrainian-language version of the MLO.

At the level of individual subscales, the most convincing internal consistency indicators were obtained for the scales “Goals in life” ($\alpha = 0.734$; $\omega = 0.735$) and “Life effectiveness” ($\alpha = 0.708$; $\omega = 0.717$). For the scales “Life Process” and “Locus of Control – Life”, the coefficients were somewhat lower and were in the range of 0.672–0.684, which indicates moderate internal consistency of the corresponding sets of items.

The lowest values were recorded for the subscale “Locus of Control – Self” ($\alpha = 0.580$; $\omega = 0.591$). Given that this scale contains only four items, the result obtained is not a sufficient basis for its exclusion, but it indicates less homogeneity of its content compared to other components of the MLO and requires further verification at the level of the factor structure of the methodology.

Analysis of individual items additionally confirmed the generally satisfactory consistency of the 20-item version of the test. Adjusted correlations of items with the total indicator varied from $r = 0.222$ to $r = 0.671$, which indicates a different contribution of

individual statements to the formation of an integral indicator of meaningfulness of life. At the same time, the sequential removal of items did not lead to a noticeable improvement in the reliability of the total scale: the Cronbach's α values remained within 0.839–0.858. Its maximum increase to 0.858 was observed when item 6 was excluded, however, such a change compared to the initial value $\alpha = 0.856$ is minimal and has no independent psychometric significance.

Thus, the results of the internal consistency analysis did not reveal sufficient grounds for reducing the 20-item the Ukrainian - language version of the MLO. At the same time, differences in the reliability of individual subscales, primarily the indicator "Locus of control - Self", raise the question of how well the theoretically specified structure of the methodology is reproduced in the Ukrainian sample. In this regard, the next stage of the analysis was to verify the structural validity of the test and determine the latent organization of its items.

Given the differences in the internal consistency indicators of individual subscales, the next stage of psychometric testing was to verify the internal structure of the Ukrainian version of the MLO. Before conducting factor analysis, the suitability of the obtained data for factorization was assessed.

The value of the Kaiser-Meyer-Olkin sample adequacy measure was $KMO = 0.864$, which indicates a sufficient density of relationships between the items of the methodology and the appropriate suitability of the correlation matrix for isolating latent factors. Bartlett's sphericity criterion also turned out to be statistically significant: $\chi^2(190) = 1351.08$; $p < 0.001$. Therefore, the hypothesis of the absence of systematic relationships between items was rejected, and the obtained data were considered suitable for further factor analysis.

Given that psychometric testing involved empirical verification, rather than a priori confirmation of the five - component structure of the original version of the MLO, the next step was to determine the optimal number of latent factors.

To determine the optimal number of latent factors, a parallel analysis was used, which allows comparing the Eigen values obtained on empirical data with the corresponding values characteristic of randomly generated data with a similar number of observations and variables. This approach avoids the mechanical application of the Kaiser criterion and reduces the risk of isolating an excessive number of factors.

The results of the parallel analysis confirmed the feasibility of isolating three factors. The Eigen values of the first three factors of the empirical correlation matrix were 6.06; 1.59 and 1.46, respectively, and exceeded the corresponding average Eigen values obtained for

random data (1.54; 1.44 and 1.36). Instead, the actual value of the fourth factor (1.14) was already lower than the corresponding random value (1.30), which did not provide grounds for further increasing the number of factors.

Table 2

Factor loadings of items of the Ukrainian version of the MLO based on the results of exploratory factor analysis (N = 246)

№	Shortened content of the item	Factor 1. Subjectivity and control of life choices	Factor 2. Satisfaction and richness of life	Factor 3. Goal- oriented and worldview certainty
1	1 Energy / boredom	–	0,467	–
2	2 Excitement / routine of life	0,481	–	–
3	3 The presence of clear life goals	–	–	0,337
4	4 Meaningfulness and purposefulness of life	–	0,544	–
5	5 Novelty and diversity of everyday life	–	0,406	-0,334
6	6 Plans and interests after completing professional activity	–	–	–
7	7 Compliance of life with one's own expectations	–	0,385	–
8	8 Implementation of life plans	–	0,673	–
9	9 Life filled with interesting things	–	0,763	–
10	10 Meaningfulness of life lived	0,438	–	–
11	11 Acceptance of one's own life path	–	0,405	–
12	12 Confidence in interaction with the world around one	–	0,53	–
13	13 Personal responsibility	0,675	–	–
14	14 Freedom of life choice	0,606	–	–
15	15 One's own purposefulness	0,732	–	–
16	16 Presence of a calling and life goal	–	–	0,622
17	17 Formation of life views	–	–	0,553
18	18 Found calling and meaningful goals	0,457	–	–
19	19 Control over one's own life	0,65	–	–
20	20 Satisfaction with everyday activities	0,428	0,317	–

Note. Factor loadings $\lambda \geq 0.30$ are given; lower values are not displayed

Thus, despite the presence of five subscales in the original key of the MLO, the empirical data of the Ukrainian version indicated a more compact three-factor organization of the relationships between the items of the methodology. At the same time, the fact of isolating three factors does not yet determine their psychological content, therefore, at the next stage,

an exploratory factor analysis was conducted with further analysis of the magnitude and distribution of factor loadings of individual items.

For the factor solution, oblique rotation was used, since the components of meaningful life orientations (MLO) theoretically cannot be considered as completely independent of each other. When interpreting, we primarily took into account the items with the most pronounced factor loadings, as well as the presence of cross-loadings and the content consistency of statements within each isolated factor.

The resulting three-factor solution demonstrated a meaningfully differentiated structure of the Ukrainian - language version of the MLO. The first factor, conditionally designated as “Subjectivity and control of life choices,” combined items related to experiencing oneself as an active subject of one’s own life. The highest factor loadings were for statements reflecting purposefulness (item 15; $\lambda = 0.732$), personal responsibility (item 13; $\lambda = 0.675$), control over one’s own life (item 19; $\lambda = 0.650$), and freedom of life choices (item 14; $\lambda = 0.606$). This factor also included items related to the found calling, the meaningfulness of one’s life, and satisfaction with everyday activities. Thus, its content characterizes not a separate aspect of the locus of control, but a more integrated dimension of subjectivity, combining the ability to determine life direction, make choices, and perceive oneself as an active participant in one's own life path.

The second factor – “Satisfaction and richness of life” – was formed primarily by items reflecting the subjective assessment of the content, fullness and effectiveness of everyday life. The highest loadings were recorded for items related to the fullness of life with interesting things (item 9; $\lambda = 0.763$), the implementation of life plans (item 8; $\lambda = 0.673$), the meaning of life (item 4; $\lambda = 0.544$), confidence in interaction with the world around us (item 12; $\lambda = 0.530$) and energy (item 1; $\lambda = 0.467$). This factor also included characteristics of the diversity of everyday life, the correspondence of life to one’s own expectations and the acceptance of the life path taken. Thus, the factor integrates the emotional-evaluative and effective aspects of experiencing one’s own life. The third factor was called “Target and worldview certainty”. Its core consisted of items that directly characterize the formation of life orientations: the presence of a calling and a life goal (item 16; $\lambda = 0.622$), the formation of life views (item 17; $\lambda = 0.553$) and the presence of clear life goals (item 3; $\lambda = 0.337$). Compared to the first two factors, this component turned out to be more compact and primarily reflects the certainty of life prospects and the formation of a system of personal orientations.

Items with insufficiently unambiguous factor affiliation require special attention. Item 6 did not demonstrate a loading $|\lambda| \geq 0.30$ on any of the selected factors, which indicates its weak integration into the identified latent structure of the methodology. Item 20 was characterized by cross-loading on the first ($\lambda = 0.428$) and second ($\lambda = 0.317$) factors, and item 5, along with the main loading on the second factor ($\lambda = 0.406$), had an additional loading on the third factor of the opposite sign ($\lambda = -0.334$). This indicates the semantic intersection of individual components of meaningful life orientations and confirms their interrelationship.

In general, the results of the exploratory factor analysis showed that the empirical structure of the Ukrainian version of the MLO does not fully reproduce the five-component system of subscales of the original methodology. Instead, three broader latent components were identified that integrate individual aspects of purposefulness, subjective control, life satisfaction, and worldview certainty.

Taken together with the results of the internal consistency analysis, the data obtained indicate unequal psychometric stability of the overall indicator and individual subscales of the MLO. The most stable was the integral indicator of meaningfulness of life, for which high values of internal consistency coefficients were obtained ($\alpha = 0.856$; $\omega = 0.860$). At the same time, lower reliability indicators of individual subscales and the difference between the empirically established factor structure and the original five-component model indicate the need for careful interpretation of subscale scores of the Ukrainian version.

Thus, the psychometric analysis confirmed the feasibility of using the full 20-item Ukrainian version of the MLO primarily for assessing the general meaningfulness of life, while the structural organization of its individual components requires further clarification and comparison with the results of previous psychometric studies.

Discussion. Psychometric testing of the MLO Ukrainian version demonstrated high internal consistency of the general indicator of meaningfulness of life and heterogeneous reliability of individual subscales. The most stable scales were the “Goals in Life” and “Life Effectiveness”, while the lowest internal consistency was demonstrated by the “Locus of Control – Self” scale. Similar results were obtained in a previous study of the MLO on a Ukrainian student sample, where insufficient psychometric stability of individual subscale indicators was also noted [9]. This suggests that the identified features are associated not only with linguistic adaptation, but also with the structural organization of the methodology itself. Exploratory factor analysis did not fully reproduce the original five - component MLO

model. Instead, three meaningfully interpreted factors were identified: “Subjectivity and control of life choices”, “Satisfaction and richness of life” and “Goal and worldview certainty”. The resulting structure indicates the possible integration of individual MLO components into broader semantic formations. The variability of the factor structure is consistent with the results of previous psychometric studies of the Purpose in Life Test, in which the number and content of latent factors also depended on the characteristics of the sample and the method of analysis [4, 5].

Item 6, related to plans after retirement, which did not demonstrate sufficient factor certainty, requires special attention. Given the age of the participants, 15–22 years old, this may be due to the low subjective relevance of the distant life perspective. At the same time, its removal did not significantly improve the internal consistency of the overall scale, so there is no reason to reduce the 20-item version at this stage.

The results obtained allow us to recommend the Ukrainian version of the MLO, primarily for the integral assessment of meaningfulness

Research limitations. Research limitations are related to the age specificity of the sample and its formation among students of Odessa. In addition, the lack of repeated testing and external psychodiagnostic criteria did not allow us to assess the test - retest, convergent and discriminant validity. Further research should include testing the obtained factor structure on independent and more diverse samples.

Conclusions. The psychometric testing conducted allowed us to assess the main characteristics of the Ukrainian version of the test of meaningful life orientations.

1. The general indicator of meaningful life demonstrated high internal consistency ($\alpha = 0.856$; $\omega = 0.860$), which confirms the possibility of its use as an integral indicator of the methodology.

2. The reliability of individual subscales was uneven: the most stable were “Goals in Life” and “Life Effectiveness”, while the lowest internal consistency indicators were obtained for the “Locus of Control – Self” scale.

3. Exploratory factor analysis did not confirm the complete reproduction of the original five-component structure of the MLO. In the Ukrainian sample, three latent components were identified, meaningfully interpreted as “Subjectivity and Control of Life Choice”, “Satisfaction and Satisfaction of Life” and “Goal and Worldview Certainty”.

4. The analysis of individual items did not reveal sufficient psychometric grounds for reducing the methodology, therefore, at this stage it is advisable to retain the full 20-item

Ukrainian-language version of the MLO.

The results obtained provide grounds to recommend the Ukrainian version of the test of meaningful life orientations for research use, primarily for assessing the general level of meaningfulness of life, with a more cautious interpretation of individual subscale indicators.

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Use of AI. The author did not use AI when writing the work

References:

1. George L. S, Park C. L. Meaning in life as comprehension, purpose, and mattering: Toward integration and new research questions. *Review of General Psychology*. 2016; 20(3):205 – 220. DOI: 10.1037/gpr0000077
2. Martela F, Steger MF. The three meanings of meaning in life: Distinguishing coherence, purpose, and significance. *Journal of Positive Psychology*. 2016;11:531–545. DOI:10.1080/17439760.2015.1137623
3. Crumbaugh J. C, Maholick L. T. An experimental study in existentialism: The psychometric approach to Frankl's concept of noogenicneurosis. *Journal of Clinical Psychology*. 1964; 20: 200–207. DOI:[tps://doi.org/10.1002/1097-4679\(196404\)20:2<200::AID-JCLP2270200203>3.0.CO;2-U](https://doi.org/10.1002/1097-4679(196404)20:2<200::AID-JCLP2270200203>3.0.CO;2-U)
4. Harlow L. L, Newcomb M. D, Bentler P. M. Purpose in Life Test assess mentusing latent variable methods. *British Journal of Clinical Psychology*. 1987; 26(3): 235–236 DOI: [10.1111/j.2044-8260.1987.tb01355.x](https://doi.org/10.1111/j.2044-8260.1987.tb01355.x)
5. Jonsén E, Fagerström L, Lundman B, Nygren B, Vähäkangas M, Strandberg G. Psychometric properties of the Swedish version of the Purpose in Life scale. *Scandinavian Journal of Caring Sciences*. 2010;24(1):41–48 DOI: [10.1111/j.1471-6712.2008.00682.x](https://doi.org/10.1111/j.1471-6712.2008.00682.x)
6. Schulenberg S. E, Schnetzer L. W, Buchanan E. M. The Purpose in Life Test – Short Form: Development and Psychometric Support. *Journal of Happiness Studies*. 2011;12(5):861–876. DOI: <https://doi.org/10.1007/s10902-010-9231-9>
7. Steger MF, Frazier P, Oishi S, Kaler M. The Meaning in Life Questionnaire:

Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*. 2006;53(1):80–93. DOI: <https://doi.org/10.1037/0022-0167.53.1.80>

8. Omelchenko T. Experimental study of personality self-development of future practicing psychologists. *Psychological Prospects Journal*. 2019;(34):194–205. DOI: <https://doi.org/10.29038/2227-1376-2019-34-194-205>

9. Veldbrekht O. O, Bovdyr O. S, Samkova O. M. Factor structure of the Life – Meaning Orientations Test in the students sample. *Psychological Journal*. 2021;7(9):17–25. DOI: <https://doi.org/10.31108/1.2021.7.10.2>

10. International Test Commission. ITC Guidelines for Translating and Adapting Tests (Second Edition). *International Journal of Testing*. 2018;18(2):101–134. DOI: <https://doi.org/10.1080/15305058.2017.1398166>

11. Beaton D. E, Bombardier C, Guillemin F, Ferraz M. B. Guidelines for the process of cross – cultural adaptation of self – report measures. *Spine*. 2000;25(24):3186–3191. DOI: 10.1097/00007632-200012150-00014

12. American Educational Research Association, American Psychological Association, National Council on Measurement in Education. Standards for Educational and Psychological Testing. Washington, DC: *American Educational Research Association*; 2014.

13. World Medical Association. World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*. 2013;310(20):2191–2194. DOI: 10.1001/jama.2013.281053