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INSIGHT

The Psychological
Dimensions
of Society

ІНСАЙТ:

ПСИХОЛОГІЧНІ ВИМІРИ
СУСПІЛЬСТВА

INSIGHT:

THE PSYCHOLOGICAL
DIMENSIONS OF SOCIETY

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The journal covers topical issues of psychological theory and history of psychological thought; personality psychology; pedagogical and developmental psychology; social psychology; organizational psychology; legal, economic and other branches of psychological science.

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Editor's Preface

The latest – sixteenth – issue of the scientific journal “Insight: the psychological dimensions of society” (No.16/2026) has been published.

Our journal continues to implement the strategy of publishing high-quality research, covering psychological studies on current issues, addressing fundamental problems in psychological science, expanding the geographical diversity of authors, and focusing exclusively on the English-language versions of articles. The Editorial Board is continually raising the scientific requirements for the publication of research guided by international standards. The application for inclusion in the Web of Science scientometric database, submitted on July 12, 2025, is valid and is currently under review. According to the decision of the Attestation Board of the Ministry of Education and Science of Ukraine dated December 11, 2025, the journal is classified in Category B.

The scientific journal “Insight: the psychological dimensions of society” consistently adheres to the policy of academic integrity, publishes and disseminates high-quality psychological studies, and supports the policy of an open and democratic society based on the conviction that knowledge is universal.

This issue features six research articles and an Editor's Preface. The articles in this issue are presented in the following sections: “General Psychology; Personality Psychology”, “Pedagogical and Developmental Psychology”, and “Legal Psychology”.

The section “General Psychology; Personality Psychology” features one study. Researchers Anzhela Myshenina and Oleksii Chebykin established a correlation between manifestations of female attractiveness style and communicative comfort, a subjective psychological indicator of successful professional interaction, and identified the individual psychological correlations of these manifestations with regard to the partner's gender and the formality of the situation. The findings support treating style manifestations primarily as continuous self-presentation tendencies. They should be considered in psychological counseling and communicative competence development programs.

The section “Pedagogical and Developmental Psychology” features four articles. Ihor Halian and Andrii Halian examined the structure of value orientations among students enrolled in professional pre-higher education programs. Factor analysis was used to identify three complementary latent factors in the individual's value system: “Transcendence and Personal Autonomy” (F1) that combines openness to change with a humanistic orientation and psychological well-being; “Social Status and the Desire for Influence” (F2) that reflects the motivation for achievement and leadership; and “Traditionalism and Normative Regulation of Behavior” (F3) that characterizes an orientation toward social norms, cultural continuity, and maintenance of social order. It is noteworthy that

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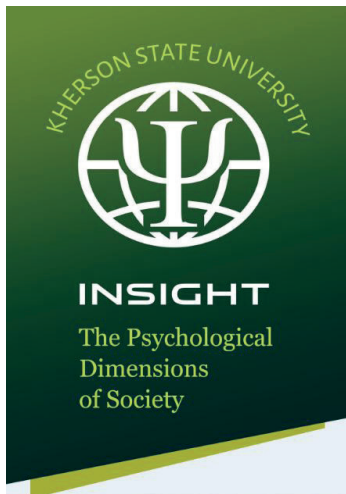
the obtained factor structure demonstrates a high level of integration of the value system and mainly reproduces the classical circumplex model of S. Schwartz. The results of confirmatory analysis are particularly valuable from a scientific perspective as they empirically confirm the effectiveness of the observed three-factor model of value orientations of young people. Ivan Obyskalov and Nataliia Shevchenko theoretically substantiated and empirically verified the impact of reflection development on improving decision-making efficiency among youth. The greatest changes in decision-making were observed in the volitional and cognitive domains. The findings suggest that structured reflection helps young people recognize problem situations and draw on internal resources to address them. The results of the formative experiment confirmed the research hypothesis and positioned reflection as a tool for improving their decision-making efficiency. Researcher Daria Pavliuchek empirically identified the specificity of the structure of existential anxiety among Ukrainian students with different profiles of post-traumatic and clinical symptomatology and, on this basis, substantiated differentiated targets of psychological counseling. The author found that the structure of existential anxiety differs significantly by symptom type, and the leading components of concern do not coincide across contrasting groups. The study found that standard screening for anxiety and depression yields the least differentiated picture, which argues for extending the diagnostic protocol in counseling. The researcher concluded that the identified configurations outline differentiated targets of assistance: restoring self-continuity in the avoidance profile, legitimizing death anxiety

in the intrusion and hyperarousal profile, and relationally oriented work in the depressive profile. In the final article in this section, researcher Ruslana Posobchuk assessed the influence of parental relationships on the specific features of adult women's interactions with their partners. The author argues that codependency in women is associated with childhood relationships with parents. A markedly expressed level of codependency is observed in the group of women whose parents were divorced. The study showed that the presence of optimal control and involvement of both parents during childhood contributed to a more harmonious formation of personal boundaries in adulthood.

The issue concludes with the section "Legal Psychology", which features a single article. Researchers Svitlana Karskanova, Iryna Larchenko, and Dmytro Hryshyn examined the resilience and occupational functioning of police in the frontline city of Kherson. The study established associations between resilience and perceived stress, occupational burnout, and individual work performance among police officers. The researchers confirmed that a greater capacity to recover from stress was associated with lower subjective stress and less pronounced burnout symptoms.

The Ethics Committee and the Editorial Board carefully review all submitted manuscripts to ensure objective and high-quality selection of psychological studies that align with the journal's aim and scope. In each issue, readers can expect the best scientific studies.

Thank you for your cooperation and contribution to science!



**General psychology;
personality psychology**

**Загальна психологія;
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Female Attractiveness Style Characteristics in Promoting Successful Professional Interaction

Стильові особливості жіночої атрактивності в забезпеченні успішності професійної взаємодії

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Abstract

The aim was to establish associations between manifestations of female attractiveness style and communicative comfort, a subjective psychological indicator of successful professional interaction, and to identify the individual psychological correlations of these manifestations with regard to the partner's gender and the formality of the situation. **Methods.** Participants were 200 employed women aged 20–41 years ($M = 30.02$; $SD = 6.09$). They completed a modified female attractiveness scale, a communicative comfort questionnaire, and measures of interpersonal orientations, formal-dynamic properties of temperament, emotional maturity, and motivational attitudes. Data were analyzed using Spearman's rank correlation, the Friedman test, and the Kruskal-Wallis test.

Анотація

Мета – встановити зв'язки між вираженістю стильових проявів жіночої атрактивності та комунікативним комфортом як суб'єктивно-психологічним показником успішності професійної взаємодії, а також визначити індивідуально-психологічні кореляції цих проявів з урахуванням статі партнера та формальності ситуації. **Методи.** У дослідженні взяли участь 200 працюючих жінок віком від 20 до 41 року ($M = 30.02$; $SD = 6.09$). Застосовано модифіковану шкалу жіночої атрактивності, опитувальник комунікативного комфорту та методики діагностики міжособистісних орієнтацій, формально-динамічних властивостей темпераменту, емоційної зрілості й мотиваційних установок. Статистичне опрацювання охоплювало кореляційний аналіз за Спірменом, критерії

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Results. Among the $n = 145$ participants, those classified as having a dominant or mixed style, a mixed style was most prevalent (61.4%). All five style indices were significantly associated with overall communicative comfort. The strongest associations were found for gentle and vibrant manifestations ($r_s = .53$ for both indices). Gentle, vibrant, formal, and intellectual manifestations were positively associated with comfort in all four contexts. Associations for manipulative manifestations were weaker, and their correlation with comfort in formal interactions with men was not significant. Communicative comfort differed across contexts defined by partner gender and interaction formality ($\chi^2(3) = 19.43$; $p < .001$). The highest mean rank was recorded for informal interactions with women, and the lowest for formal interactions with men. Style-group differences were found only for comfort in interactions with women ($H = 13.09$; $p = .023$), the formal-style group had the highest mean rank and the manipulative-style group had the lowest. Gentle manifestations were primarily associated with empathic and prosocial characteristics; vibrant manifestations – with social activity and external emotional expressiveness; formal manifestations – with emotional maturity, social plasticity, and work orientation; intellectual manifestations – with introexpressiveness and result orientation; and manipulative manifestations – with authoritarianism, power orientation, and flexibility of social behavior. **Discussion and conclusions.** Female attractiveness style manifestations were associated with communicative comfort and individual psychological characteristics. Contextual differences in comfort indicated the relevance of the partner's gender and interaction formality. The findings support treating style manifestations primarily as continuous self-presentation tendencies and considering them in psychological counseling and communicative competence development programs.

Keywords: self-presentation, interpersonal orientations, temperament, emotional maturity, motivational attitudes, partner gender, formal and informal situations.

Фрідмана і Краскела-Волліса. **Результати.** Серед $n = 145$ учасниць, для яких визначено домінуючий або змішаний стиль, переважав змішаний стиль (61.4%). Усі п'ять стильових індексів були статистично значущо пов'язані із загальним комунікативним комфортом. Найтісніші зв'язки встановлено для м'яких і яскравих проявів ($r_s = .53$ для обох індексів). М'які, яскраві, формальні й інтелектуальні прояви мали додатні зв'язки з комфортом у кожному з чотирьох контекстів. Для маніпулятивних проявів зв'язки були слабшими, а кореляція з комфортом в офіційній взаємодії з чоловіками не досягла статистичної значущості. Комунікативний комфорт відрізнявся залежно від поєднання статі партнера та формальності взаємодії ($\chi^2(3) = 19.43$; $p < .001$). Найвищий середній ранг зафіксовано для неформальної взаємодії з жінками, найнижчий – для офіційної взаємодії з чоловіками. Відмінності між стильовими групами встановлено лише за комфортом у взаємодії з жінками ($H = 13.09$; $p = .023$), де найвищий середній ранг мала група формального стилю, найнижчий – група маніпулятивного стилю. М'які прояви були пов'язані переважно з емпатійними та просоціальними характеристиками; яскраві – із соціальною активністю й зовнішньою емоційною виразністю; формальні – з емоційною зрілістю, соціальною пластичністю та орієнтацією на працю; інтелектуальні – з інтроекспресивністю й орієнтацією на результат; маніпулятивні – з авторитарністю, орієнтацією на владу та гнучкістю соціальної поведінки. **Дискусія і висновки.** Підтверджено зв'язок стильових проявів жіночої атрактивності з комунікативним комфортом та індивідуально-психологічними характеристиками. Контекстні відмінності комфорту засвідчили значення статі партнера та формальності взаємодії. Результати обґрунтовують доцільність аналізувати стильові прояви передусім як безперервні тенденції самопрезентації та враховувати їх у психологічному консультуванні й програмах розвитку комунікативної компетентності.

Ключові слова: самопрезентація, міжособистісні орієнтації, темперамент, емоційна зрілість, мотиваційні установки, стать партнера, офіційні та неформальні ситуації.

Introduction

In this article, female attractiveness is not equated with physical attractiveness. It is viewed as a psychological characteristic of self-presentation, manifested in emotional, communicative, cognitive, and social-role-based ways of organizing interaction. Physical attractiveness is only one aspect of the broader phenomenon of attractiveness, although it has historically been the most studied manifestation. The classic study by Dion et al. (1972) demonstrated that attractive individuals are more often attributed socially desirable traits. Further meta-analytic generalizations confirmed the existence of this effect and demonstrated its dependence on the assessment situation, the evaluator's characteristics, and the characteristics of the person being evaluated (Eagly et al., 1991; Langlois et al., 2000). However, studies of physical attractiveness do not exhaust the psychological mechanisms of self-presentation and subsequent interpersonal interaction.

In professional settings, the effects of physical attractiveness have been studied particularly extensively. It has been linked to more favorable evaluations of candidates, career opportunities, remuneration, and recommendations for professional promotion (Hosoda et al., 2003; Nault et al., 2020). At the same time, a systematic review by I. Kukkonen et al. (2024) showed that the effects of attractiveness vary depending on gender, field of activity, and specific professional context. This provides grounds for viewing attractiveness as a characteristic whose significance is determined by the context of interaction, the demands of a professional role, and the features of social evaluation (Kukkonen et al., 2024; Popovych et al., 2022).

The evaluation of women in professional settings can be framed by conflicting expectations regarding warmth, competence, confidence, and the normative appropriateness of behavior. Role congruity theory explains that negative reactions can arise when gender stereotypes do not align with perceptions of the requirements of a professional or leadership role (Eagly & Karau, 2002). In particular, Johnson et al. (2010) found that attractiveness could hurt women applying for positions typically associated with

masculinity. At the same time, M. Menegatti et al. (2021) considered competence and morality in addition to attractiveness when evaluating female candidates. The findings of C. Edge and G. Bacci (2025) also showed that women's experiences of professional visibility, inclusion, and self-worth in the workplace are linked to gender-based social expectations. The professional significance of attractiveness should be analyzed within the broader context of self-presentation, role norms, and interpersonal interaction.

In this regard, a promising approach is to shift from viewing attractiveness as an external feature to analyzing it as a means of self-presentation in social interaction. According to the two-component model of impression management, self-presentation encompasses the motivation to influence how others perceive a person, as well as the selection of means by which an individual constructs their own image in a specific situation (Leary & Kowalski, 1990). In research on professional image, self-presentation is likewise understood as a combination of visual, behavioral, and communicative components through which a professional is perceived in workplace interaction (Marchenko, 2016). In social evaluation, the dimensions of warmth and competence are particularly important, as they constitute the basic coordinates for how people and social groups are perceived (Cuddy et al., 2008). In the work by O. Chebykin and A. Klenchu (2012), attractiveness is viewed as a complex characteristic encompassing the emotional-communicative, cognitive, behavioral, and external manifestations of personality.

Within the framework of the author's operationalization, styles of female attractiveness are defined as relatively stable modes of self-presentation that combine, to varying degrees, emotional, communicative, cognitive, and social-role manifestations. The gentle style reflects an orientation toward a supportive, benevolent, and emotionally safe form of interaction; the vibrant style – expressiveness, energy, and social visibility; the formal style – role-appropriate behavior, conformity to norms, and emotional restraint; the intellectual style – analytical thinking, reasoned argumentation, and substantive dialogue; and the manipulative style – the instrumental use of self-

presentation strategies to influence the course of interaction. This approach allows us to analyze attractiveness as a system of psychologically significant ways of organizing social behavior.

Communicative comfort – a subjective feeling of psychological safety, mutual understanding, emotional coherence, and the acceptability of the interaction – was used as a criterion for the success of professional interaction in this study. Given the situational dependence of social evaluation, role expectations, and the gender-specific nature of professional interaction, the relationships between attractiveness styles and communicative comfort may differ depending on the partner's gender and the formality of the situation (Eagly & Karau, 2002; Johnson et al., 2010; Nault et al., 2020). Therefore, this study analyzed four contexts: interactions with men and women in formal and informal settings.

A previous publication within this research project focused on the general and component-specific manifestations of female attractiveness and their relationships with the comfort of social and communicative interaction in a professional setting (Myshenina & Chebykin, 2025). This article presents a separate analysis of style indices of attractiveness, their connections with temperamental, emotional, interpersonal, and motivational characteristics, as well as the contextual specificity of communicative comfort. Thus, the relationships of individual female attractiveness styles with psychological characteristics and communicative comfort across different contexts of professional interaction remain insufficiently studied.

Research hypotheses: 1) the expression of female attractiveness style tendencies would be associated with communicative comfort as an indicator of successful professional interaction; 2) communicative comfort would differ across professional interaction contexts defined by the combination of the partner's gender and the formality of the situation; 3) female attractiveness style manifestations would be associated with individual psychological characteristics.

The aim was to establish associations between female attractiveness style manifestations and communicative comfort, a subjective psychological indicator of successful professional interaction,

and to identify the individual psychological correlations of these manifestations with regard to the interaction partner's gender and the formality of the situation.

Methods

Participants. The study involved 200 women aged 20 to 41 years ($M = 30.02$; $SD = 6.09$) who engaged in professional activities that involved regular social and communicative interaction. Of the participants, 38.0% worked in education, 28.0% in the service sector, 15.5% in communications, 12.5% in medicine, and 6.0% in management; 62.5% had higher education. Participants were recruited through women's clubs, volunteer organizations, and an online Google Forms survey distributed via Telegram, Instagram, and Facebook. The sample size was determined by the actual number of completed protocols obtained from the participants.

Variables. Female attractiveness was operationalized through five style indices – gentle, vibrant, formal, intellectual, and manipulative – and a categorical indicator of a dominant or mixed style. Communicative comfort was represented by indicators of comfort in interactions with men and women in formal and informal situations, integral indicators based on the partner's gender and the formality of the situation, and an overall indicator. Individual psychological characteristics were operationalized through indicators of interpersonal orientations, formal-dynamic properties of temperament, emotional maturity, and motivational attitudes. The relationships under study were correlational.

Procedures and Instruments. Style manifestations of female attractiveness: A modified version of the Female Attractiveness Scale (Chebykin & Klenchu, 2012) was used. The original scale contains 25 items. An additional scoring procedure was used to obtain indices of the gentle, vibrant, formal, intellectual, and manipulative styles. The indices were calculated as the mean scores for the items corresponding to each style. The style with the highest mean score was identified as dominant. If the difference between the leading styles did not exceed .30 points, the style was classified as mixed. Style was determined only for participants with a

medium or high level of overall attractiveness. The scale modification procedure, its psychometric characteristics, and the procedure for determining attractiveness levels are described in a previous publication within the project (Myshenina & Chebykin, 2025).

Communicative comfort: The author-developed questionnaire "Assessment of the Influence of Gender Characteristics on Professional and Social Interaction" (Myshenina & Chebykin, 2025) was used. Four questions assessed comfort in interactions with men and women in formal and informal situations using a four-point scale ranging from 1 ("difficult") to 4 ("quite comfortable"). Four contextual indicators, four integral indicators, and one overall indicator were calculated.

Individual psychological characteristics: Interpersonal orientations were assessed using T. Leary's Interpersonal Relations Diagnostic Test, the formal-dynamic properties of temperament were assessed using V. Rusalov's Structure of Temperament Questionnaire, emotional maturity was assessed using the Emotional Maturity Method by O. Chebykin, and motivational attitudes were assessed using O. Potemkina's method.

Organization of research. The survey was conducted individually or in small groups in rooms that ensured the confidentiality of responses. Some of the data were collected online. Completion of the full set of instruments took between 40 and 60 minutes. Only fully completed protocols were included in the statistical analysis.

Statistical analysis. Statistical processing was performed using IBM SPSS Statistics 21. The median, quartiles, minimum, and maximum were calculated to describe the style indices. Mean ranks were additionally calculated for communicative comfort across different contexts. Relationships were assessed using Spearman's rank-order correlation coefficient with two-sided p-values. Differences among the four related contexts of communicative comfort were examined using the Friedman test. When the overall result was statistically significant, pairwise comparisons were performed using the Wilcoxon signed-rank test. The Kruskal-Wallis test was used to compare the six style groups. When a statistically significant result was obtained, pairwise comparisons were performed using the Mann-Whitney U test. The

threshold for statistical significance was set at $p < .050$.

Results

The results showed that the median and quartile values of the attractiveness style indices, Me (Q1; Q3), fell within a narrow range: 2.58 (2.23; 2.92) for gentle manifestations; 2.56 (2.11; 2.89) for vibrant manifestations; 2.60 (2.00; 3.00) for formal manifestations; 2.43 (2.00; 2.86) for intellectual manifestations; and 2.50 (2.00; 3.00) for manipulative manifestations. The range of individual scores was widest for manipulative manifestations, extending from 1.00 to 4.25; for the other style manifestations, the minimum and maximum values ranged from 1.20 to 4.14. The similarity of the medians and the substantial overlap between the interquartile ranges indicate that no single style tendency clearly predominated or was universally dominant across the sample.

A dominant or mixed style was identified for $n = 145$ women with moderate or high overall attractiveness. A mixed style was found in 89 participants (61.4%), a manipulative style in 19 (13.1%), a formal style in 17 (11.7%), a gentle style in 8 (5.5%), a vibrant style in 7 (4.8%), and an intellectual style in 5 (3.4%). The prevalence of the mixed style indicates that many participants combined several modes of self-presentation, with no single mode predominating. A distinct dominant style was less common, with the manipulative- and formal-style groups being the largest among the groups characterized by a single dominant style.

Comparisons among the six style groups revealed statistically significant differences in the expression of the communicative ($H=13.23$, $p<.05$), cognitive ($H=11.67$, $p<.05$), and social-role components of attractiveness ($H=12.55$, $p<.05$). These findings indicate that the identified style groups differed in the relative expression of particular components of attractiveness.

Communicative comfort differed across interaction contexts ($\chi^2(3)=19.43$, $p<.001$). The highest mean rank was observed for informal interactions with women (2.74), followed by formal interactions with women (2.57), informal interactions with men (2.37), and formal interactions with men (2.32). However, the

pairwise comparisons did not reveal statistically significant differences ($p > .05$). Thus, the Friedman test appears to reflect small overall variations in comfort across the four contexts but does not provide evidence of statistically significant differences between specific pairs of interaction contexts.

The correlation analysis of the attractiveness style indices and communicative comfort

indicators (Tabl. 1) showed that gentle and vibrant style manifestations had the strongest positive associations with communicative comfort. Greater expression of these manifestations was associated with higher comfort in all four interaction contexts and with higher overall communicative comfort.

Table 1. Correlations Between Female Attractiveness Style Indices and Communicative Comfort ($n = 200$)

Attractiveness style index	Interaction comfort				
	Men, Formal	Men, Informal	Women, Formal	Women, Informal	Overall Comfort
Gentle	.41**	.33**	.33**	.30**	.53**
Vibrant	.36**	.37**	.35**	.31**	.53**
Formal	.24**	.22**	.30**	.19**	.37**
Intellectual	.22**	.32**	.33**	.21**	.41**
Manipulative	.06	.14*	.20**	.14*	.19**

Note: * – $p < .050$; ** – $p < .010$.

For the gentle style index, the strongest context-specific association was found with comfort in formal interactions with men. The vibrant style index showed correlations of similar magnitude with comfort in formal and informal interactions with both men and women. The formal and intellectual style indices were also positively associated with communicative comfort, although their correlations were weaker and more dependent on the interaction context. The strongest context-specific association for the formal style index was observed with comfort in formal interactions with women. The intellectual

style index was more closely associated with comfort in informal interactions with men and formal interactions with women. The manipulative style index showed the weakest associations. Its correlation with comfort in formal interactions with men was not statistically significant, whereas its correlations with comfort in the other contexts were positive but weak.

Communicative comfort indicators were also compared across the groups characterized by different dominant styles, including the mixed-style group (Tabl. 2).

Table 2. Comparison of Attractiveness Style Groups by Communicative Comfort Indicators ($n = 145$)

Attractiveness style group	<i>n</i>	Interaction comfort indicators: mean ranks				
		Overall comfort	Comfort with men	Comfort with women	Formal context	Informal context
Gentle	8	86.06	82.19	82.81	87.69	79.75
Vibrant	7	77.36	73.64	77.86	79.14	76.29
Formal	17	76.15	58.91	91.65 ^a	77.62	75.82
Intellectual	5	56.40	73.60	54.70	49.10	75.30
Manipulative	19	46.84	62.11	46.66 ^b	56.55	46.82
Mixed	89	77.40	77.11	74.83	75.17	77.06

Note: Groups marked with different superscript letters “^a” and “^b” differ significantly.

Statistically significant differences between the style groups were found only for comfort in interactions with women ($H = 13.09$; $p = .023$). The formal-style group had the highest mean rank, whereas the manipulative-style group had the lowest. The pairwise comparison confirmed a statistically significant difference between these two groups ($p = .024$). The remaining comparisons did not reach the accepted level of statistical significance.

The associations between the attractiveness style indices and individual psychological characteristics (Tabl. 3) showed that manifestations of the gentle attractiveness style were most closely related to empathic, friendly, and emotional-communicative characteristics.

Table 3. Personality Correlates of Female Attractiveness Style Indices and Overall Communicative Comfort ($n = 200$)

Indicator	Most pronounced personality correlates
Gentle style index	Introempathy ($r_s = .68$; $p < .010$); friendly interaction style ($r_s = .63$; $p < .010$); introexpressivity ($r_s = .61$; $p < .010$); social emotionality ($r_s = .59$; $p < .010$); altruistic orientation ($r_s = .54$; $p < .010$)
Vibrant style index	Social ergicity ($r_s = .58$; $p < .01$); extraexpressivity ($r_s = .53$; $p < .010$); authoritarian interaction style ($r_s = .51$; $p < .010$); tempo of mental activity ($r_s = .48$; $p < .010$)
Formal style index	Emotional maturity ($r_s = .51$; $p < .010$); social plasticity ($r_s = .49$; $p < .010$); authoritarian interaction style ($r_s = .45$; $p < .010$); work orientation ($r_s = .43$; $p < .010$)
Intellectual style index	Introexpressivity ($r_s = .43$; $p < .010$); result orientation ($r_s = .39$; $p < .010$)
Manipulative style index	Authoritarian interaction style ($r_s = .47$; $p < .010$); power orientation ($r_s = .44$; $p < .010$); social plasticity ($r_s = .42$; $p < .010$); introexpressivity ($r_s = .41$; $p < .010$); social ergicity ($r_s = .40$; $p < .010$)
Overall communicative comfort	Social plasticity ($r_s = .56$; $p < .010$); introexpressivity ($r_s = .62$; $p < .010$); extraexpressivity ($r_s = .60$; $p < .010$); introempathy ($r_s = .59$; $p < .010$); emotional maturity ($r_s = .54$; $p < .010$); friendly interaction style ($r_s = .59$; $p < .010$); altruistic orientation ($r_s = .46$; $p < .010$); work orientation ($r_s = .51$; $p < .010$); aggressive interaction style ($r_s = -.47$; $p < .010$); suspicious interaction style ($r_s = -.63$; $p < .010$)

Stronger manifestations of the gentle attractiveness style were associated with a greater ability to understand one's emotional experiences, an orientation toward friendly interaction, internally directed emotional expressivity, sensitivity to socially significant events, and an altruistic orientation. Vibrant attractiveness style manifestations were primarily associated with the dynamism of social contact. Their main correlates were social activity, outward emotional expressivity, an authoritarian orientation in interpersonal interaction, and the tempo of mental activity. This combination of characteristics corresponded to an energetic and noticeable

mode of self-presentation. Formal attractiveness style manifestations were associated with emotional regulation, behavioral flexibility, and professional orientation. Their strongest associations were found with emotional maturity, social plasticity, an authoritarian interaction style, and work orientation. Taken together, these characteristics reflected a controlled and normatively organized mode of self-presentation oriented toward the requirements of one's professional role. Intellectual attractiveness style manifestations were most notably correlated with introexpressivity and result orientation. They had fewer pronounced correlates than

the other style manifestations. The identified associations indicated a combination of internally directed processing of emotional experience and a focus on achieving a specified result. Manipulative attractiveness style manifestations were associated with social influence and the active adjustment of behavior to situational demands. Their strongest associations were found with authoritarianism, power orientation, social plasticity, internally directed expressivity, and social activity. Compared with gentle style manifestations, they were characterized by a weaker representation of empathic and prosocial characteristics and a stronger power-oriented and instrumental tendency.

Overall communicative comfort was positively correlated with social plasticity, internally and externally directed emotional expressivity, introempathy, emotional maturity, a friendly interaction style, and orientations toward altruism and work. Negative correlations were found with aggressive and suspicious interaction styles, with the strongest for the suspicious interaction style. These correlations indicate that higher communicative comfort was associated with emotional expressivity, empathy, social flexibility, and friendliness, whereas confrontational and distrustful tendencies were associated with lower communicative comfort.

Discussion

The findings support the conceptualization of female attractiveness in professional interactions as a system of style manifestations of self-presentation. The combination of several manifestations is consistent with the view of self-presentation as the flexible regulation of impressions depending on the situation and the anticipated consequences of the interaction (Leary & Kowalski, 1990). Such flexibility does not preclude authenticity but may reflect the ability to select appropriate forms of self-expression. In particular, acceptance, self-disclosure, and the validation of personally significant characteristics contribute to more authentic self-expression among women in the workplace (Zigomo et al., 2024).

The contextual variability of communicative comfort indicates its sensitivity to the partner's

gender and the formality of the situation. However, it does not suggest that a particular context rigidly determines it. This interpretation is consistent with the view of warmth and competence as fundamental dimensions of social perception and with role congruity theory (Cuddy et al., 2008; Eagly & Karau, 2002). Women's professional behavior may be evaluated simultaneously in terms of competence, friendliness, and conformity to gender expectations (Heilman et al., 2024). Additional strain may arise from the belief that women must meet a broader range of requirements than men to receive the same professional recognition (Panerati et al., 2025).

At the same time, lower comfort in a particular context should not be interpreted directly as a lack of confidence in professional competence. Women rated the competence associated with their own occupational roles more highly than men did (Zakrisson, 2023). Comfort may also depend on the anticipated reaction of the interaction partner, as people sometimes overestimate negative responses to behavior that violates gender stereotypes (Atkinson et al., 2023).

The characteristics of the professional environment are also important. The direction of gender bias depends on the gender composition of the occupation, with unfavorable evaluations more often directed toward members of the underrepresented gender (Galos & Coppock, 2023). Organizational messages concerning gender equality may also influence how women's and men's professional success is explained (Kelley et al., 2024). Future research should therefore consider the partner's status, the gender composition of the professional environment, and organizational norms.

The similarly directed associations of gentle and vibrant manifestations with communicative comfort (see Tabl. 1) may have different psychological foundations. Gentle manifestations combine friendliness, empathy, and the maintenance of predictable interactions. In the workplace, empathic behavior includes not only emotional sensitivity but also professionalism, assistance, and a responsible attitude toward colleagues (Hall et al., 2024). Vibrant manifestations facilitate active engagement in communication and help maintain interaction

dynamics, although their effectiveness depends on the situational appropriateness of emotional expressiveness. Women in leadership positions often regulate or conceal their emotions to avoid negative stereotype-based evaluations (Beharrie & Mabitsela, 2023).

Communicative comfort is not equivalent to psychological safety, although both constructs concern the ability to express oneself openly without anticipating adverse consequences. Psychological safety is associated with a supportive organizational context for professional interactions (Kyambade et al., 2024).

Formal manifestations may facilitate interaction by providing role clarity and more explicit expectations. This assumption is consistent with the finding that comfort in interactions with women was higher in the formal-style group than in the manipulative-style group (see Tabl. 2).

Manipulative manifestations should not be interpreted as unambiguously negative: their association with social plasticity may reflect an ability to adjust behavior to the situation. However, their combination with authoritarianism and a power orientation indicates a possible instrumental orientation in interactions (see Tabl. 3). The instrumental perception of others is associated with interpersonal exploitativeness and a sense of entitlement (Lachowicz-Tabaczek et al., 2025).

The findings complement research in which attractiveness in professional settings has primarily been examined in terms of physical attractiveness (Hosoda et al., 2003; Nault et al., 2020). Its professional consequences are gender- and context-dependent (Jones et al., 2024; Kukkonen et al., 2024; Kühn & Wolbring, 2024). At the same time, external cues do not always determine competence evaluations, which may depend substantially on the evaluators' characteristics (Sánchez-Gordón et al., 2025). These findings indicate that professional impressions arise from the interplay among external cues, behavioral manifestations, evaluators' characteristics, and situational demands, and incorporate judgments of attractiveness, competence, morality, and conformity to gender expectations (Menegatti et al., 2021).

The scientific novelty lies in integrating three

levels of analysis: continuous style indices, the categorical identification of a dominant or mixed style, and context-specific communicative comfort. This approach showed that continuous indices captured individual differences in communicative comfort more sensitively than assignment to mutually exclusive style groups. It also enabled style manifestations to be linked with emotional, temperamental, interpersonal, and motivational characteristics. Accordingly, style manifestations should be considered primarily as continuous individual tendencies, whereas categorical classification may serve as a complementary descriptive tool.

The practical significance of the findings lies in the potential application of the style-based approach in psychological counseling, professional development programs, and communicative competence training. Such interventions should not aim to develop a single normatively desirable style. Instead, they should focus on expanding the repertoire of self-presentation strategies, developing emotional maturity, empathy, and social plasticity, and increasing awareness of the boundaries between persuasion, leadership behavior, and instrumental control over an interaction partner.

Conclusions

1. All five female attractiveness style indices were statistically significantly associated with overall communicative comfort. Gentle, vibrant, formal, and intellectual style manifestations were positively associated with comfort across all four professional interaction contexts. The associations were weaker for manipulative manifestations, and their correlation with comfort in formal interactions with men did not reach statistical significance.

2. Communicative comfort differed across the four situations defined by the combination of the interaction partner's gender and the formality of the interaction. Informal interactions with women were the most comfortable, whereas formal interactions with men were the least comfortable.

3. Female attractiveness style manifestations were associated with different individual psychological characteristics. Gentle manifestations were associated with empathy,

friendliness, internally directed emotional expressivity, and an altruistic orientation; vibrant manifestations with social activity, outward emotional expressivity, and the tempo of mental activity; formal manifestations with emotional maturity, social plasticity, and work orientation; intellectual manifestations with introexpressivity and result orientation; and manipulative manifestations with authoritarianism, power orientation, and flexibility of social behavior. Higher overall communicative comfort was associated with greater empathy, emotional expressivity, social plasticity, and friendliness, whereas aggressive and suspicious tendencies were associated with lower communicative comfort.

Not Using AI Tools

No AI-assisted technologies were used in the writing, editing, or data analysis for this manuscript. All work is original and completed solely by the listed authors.

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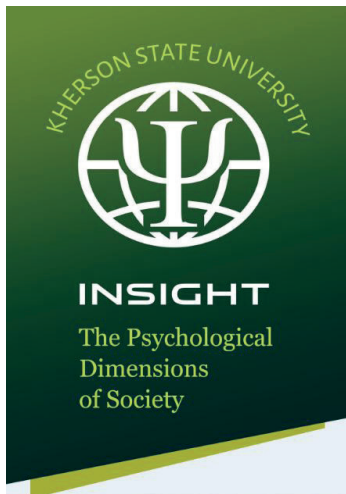
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Pedagogical and Developmental Psychology

**Педагогічна та вікова
психологія**

The Structure of Value Orientations Among Students in Professional Pre-Higher Education

Ціннісна структура особистості здобувачів фахової передвищої освіти

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Abstract

The aim of the study is to examine the structure of value orientations among students enrolled in professional pre-higher education programs in pedagogy. **Methods.** The study of the structure of value orientations of young people is based on the ideas of existential-humanistic psychology, the value-oriented development of the individual, their self-actualization and autonomy, as well as on the idea of the interconnection and interdependence of psychological processes, which is comparable to the systemic approach in psychology. The total sample of the study comprised $n=107$ students in professional pre-higher education in pedagogy. The sample consisted of students aged 16–19 years ($M = 16.44$; $SD = 2.237$) and was formed using random sampling. The value orientations of the participants were assessed using the Portrait Values Questionnaire (PVQ-40; Schwartz, 1992), adapted by I. Semkiv (Boyko-Buzyl et al., 2025), which assesses the ten basic values proposed in Schwartz's theory. The data were analyzed using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). **Results.** Factor analysis

Анотація

Метою є дослідження структури ціннісних орієнтацій здобувачів фахової передвищої освіти педагогічних спеціальностей. **Методи.** Дослідження структури ціннісних орієнтацій особистості молодих людей ґрунтується на ідеях екзистенційно-гуманістичної психології, ціннісно-сміслового розвитку особистості, її самоактуалізації та автономності, а також на ідеї взаємозв'язку і взаємозумовленості психологічних процесів, що співставно системному підходу в психології. Загальну вибірку дослідження склали 107 здобувачів фахової передвищої освіти педагогічних спеціальностей. Вибірка гетерогенна, віком 16–19 років ($M = 16.44$; $SD = 2.237$), сформована рандомним методом. Для дослідження ціннісних орієнтацій респондентів використано методiku “Портрет цінностей” (PVQ-40) (Schwartz, 1992) в адаптації І. Семків (2013), що дає змогу оцінити вираженість десяти базових цінностей відповідно до теорії Ш. Шварца. Статистичне аналізування результатів проведено за допомогою методу факторного аналізу (експлораторного та конфірмаційного). **Результати.** Факторний аналіз виокремив три взаємодоповнювальні

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identified three complementary dimensions within the value structure. The first – “Self-Transcendence and Personal Autonomy” (F1) – combines openness to change with a humanistic orientation and psychological well-being. The second – “Social Status and the Desire for Influence” (F2) – reflects the motivation for achievement and leadership. The third – “Traditionalism and Normative Regulation of Behavior” (F3) – characterizes an orientation toward social norms, cultural continuity, and maintenance of social order. The second and third factors fully correspond to the motivational blocks of Self-Enhancement and Conservation, theoretically described by researchers. In turn, the first factor integrates values that, in the classical model, belong to different sectors of the motivational space, forming a new latent construct that can be defined as humanistic-autonomous self-realization. **Discussion and conclusions.** The study confirmed the hypothesis that the value orientations of students in professional pre-higher education in pedagogy have a certain structure, whose elements mutually complement each other, thereby acquiring systemic quality. The obtained factor structure demonstrates a high level of integration of the value system and mainly reproduces the classical circumplex model of S. Schwartz. The results of the confirmatory factor analysis empirically confirm the effectiveness of the observed three-factor model of value orientations of young people studying in institutions of professional pre-higher education in pedagogy.

Keywords: value orientations, personality, pedagogical education, experiment, factor analysis, confirmatory factor analysis (CFA), confirmatory experiment, statistical modeling.

Introduction

Personal values constitute an important component of personality and the self. They are formed early in life as a hierarchy of priorities and remain relatively stable as guiding principles throughout life. Integration of research from various fields of psychology, particularly social, personality, developmental, political, and organizational psychology, shows that different values serve as guiding principles across domains of life.

фактори ціннісної сфери особистості. Перший – “Самотрансцендентність та особистісна автономія” (F1) – поєднує відкритість до змін із гуманістичною орієнтацією та психологічним благополуччям. Другий – “Соціальний статус і прагнення до впливу” (F2) – відображає мотивацію досягнення й лідерства. Третій – “Традиційність і нормативна регуляція поведінки” (F3) – характеризує орієнтацію на соціальні норми, культурну спадкоємність і підтримання суспільного порядку. Другий і третій фактори повністю відповідають теоретично описаним дослідниками мотиваційним блокам самопіднесення та збереження. Натомість перший фактор інтегрує цінності, що в класичній моделі належать до різних секторів мотиваційного простору, формуючи новий латентний конструкт, який можна визначити як гуманістично-автономну самореалізацію. **Дискусія і висновки.** У процесі дослідження підтверджено гіпотезу про те, що ціннісні орієнтації у здобувачів фахової передвищої освіти педагогічних спеціальностей мають визначену структуру, елементи якої взаємно доповнюють одна одну, набуваючи системної якості. Отримана факторна структура демонструє високий рівень інтегрованості ціннісної сфери та в основному відтворює класичну циркумплексну модель Ш. Шварца. Результати конфірмаційного аналізу емпірично засвідчують дієвість діагностованої трифакторної моделі ціннісних орієнтацій молодих людей, які навчаються в закладах фахової передвищої освіти педагогічного спрямування.

Ключові слова: ціннісні орієнтації, особистість, педагогічна освіта, експеримент, факторний аналіз, конфірмаційний аналіз, констатувальний експеримент, статистичне моделювання.

The psychological study of values was initiated by the works of G. Allport and P. Vernon (1931), who considered values to be dynamic motivational tendencies and personality constructs that reflect individual differences. They proposed a classification of six types of values and developed one of the first psychodiagnostic instruments to measure them. Further development of value theory is associated with the works by M. Rokeach (1973; 1989), who defined values as stable beliefs about desired goals or modes of behavior.

Rokeach argued that individuals share a universal set of values but differ in the relative importance they assign to them, forming individual value hierarchies. In modern psychology, three leading theoretical approaches to the study of values are distinguished: psycholexical (De Raad et al., 2016), functional value theory (Gouveia, 2014), and the theory of basic human values (Schwartz, 1992). The psycholexical approach is based on the assumption that the value system is reflected in language. The analysis of value vocabulary allowed the authors to identify several universal components: interpersonal relationships, status and respect, loyalty and traditions, competence and autonomy. This approach allows for empirical analysis and the identification of culturally specific values.

The functional theory of values, proposed by V. Gouveia (2014), views values as mechanisms that perform two main functions: expressing basic human needs (survival or flourishing) and directing behavior towards achieving personal, social, or central goals. The combination of these functions forms six basic value orientations: arousal, advancement, interactivity, normativity, suprapersonality, and existence. Although the results of psychometric studies generally confirm the validity of this model, its cross-cultural empirical testing remains limited.

The most developed and empirically confirmed concept of values in modern psychology remains the theory of basic human values by S. Schwartz (1992). It was based on the approach of M. Rokeach (1973), in which values serve as guiding principles of life. Using the methodology by M. Rokeach (1973) and the results of his empirical research, S. Schwartz (1992) developed his own concept of basic values (Schwartz & Bilsky, 1987). It is based on two fundamental propositions. First, values are cognitive representations of basic human motives and reflect goals that ensure the satisfaction of three universal needs: biological needs of the organism, needs in interpersonal interaction, and needs related to the functioning and well-being of a social group. Secondly, the value system has a holistic circumplex structure, in which the mutual arrangement of values is determined by the degree of compatibility or conflict between the motivational goals they

express. The more compatible two values are, the closer they are located within the value circle and the more they determine similar ways of perception, evaluation, and behavior. In contrast, values in motivational conflict are located at opposite poles of the circumplex, since their implementation requires different, sometimes mutually exclusive, models of behavior. Later, S. Schwartz (1992) added a third assumption: the value circle is a continuum in which values form a continuous motivational continuum rather than discrete, independent categories. In psychological science, several concepts are used to describe values, including “personal value orientations” and “personal values”. Such a distinction is conditional and, in essence, concerns the attribution of values to motivational or meaningful spheres. Value orientations are usually considered an integral component of the individual's psychological structure, formed and consolidated through socialization, social adaptation, and accumulation of individual life experience. In the psychological structure of the individual, they appear as a hierarchically organized system that determines the priority of individual choice in various spheres of life, sets strategic goals and forms motivational principles of behavior. Personal values can be conceptualized as a higher-order component of the individual's motivational and meaning-making system, functioning as ideals that provide overarching guidelines for behavior and life goals. Being stable, they, when assimilated into the individual's structure, practically do not depend on situational factors, but only shape the overall direction of an individual's behavior and life choices.

In the work of scholars in the last decade, individual values appear as a combination of genetically inherited factors (e.g., needs, temperament) (Twito & Knafo-Noam, 2020) and socialization within cultural context, social groups (e.g., family, peer group), and social institutions (e.g., school, religious groups). Socialization into gender roles begins almost from birth. According to expectations about gender roles and opportunities to which people adapt, it can contribute to the formation of different values (Schwartz & Rubel-Lifschitz, 2009). Different social roles in families, schools, workplaces, and social organizations can

socialize people and influence their values, both directly and indirectly (Schwartz, 2013).

The circular structure of relationships between the ten core values (Schwartz, 1992) emerges early in life. The stabilization of the value structure is already observed between the ages of 7 and 19. However, values can change throughout life in response to significant life events. Significant changes in people's values can be caused, for example, by migration to societies with different values. This applies primarily to values of medium importance. Researchers associate such changes with cognitive maturation and changing psychosocial needs (Daniel & Benish-Weisman, 2019; Pöge, 2020).

Although value systems are dynamic, research indicates that their core remains stable (Bardi et al., 2014; Lönnqvist et al., 2011). The consolidation of core values typically occurs during adulthood (Bardi & Goodwin, 2011; Milfont, 2016). Furthermore, scholars suggest that values are unlikely to change unless individuals experience significant or prolonged alterations in life circumstances (Arieli, 2020). Given these findings, examining the structure of values among young people enrolled in professional pre-higher education institutions, particularly pedagogical colleges, is of particular interest.

The aim of this article is to examine the structure of value orientations among students in professional pre-higher education in pedagogy.

Hypothesis. The value orientations of students in professional pre-higher education are hypothesized to have a specific structure, with elements that mutually complement one another and collectively form a systemic quality.

Methods

Methodology. This study is grounded in the principles of existential-humanistic psychology (Bradbun, 1969; Diener, 1995; Haukedal et al., 2020; Ryff, 1995), value-oriented personality development (I. Halian & A. Halian, 2025; Karpenko, 2018; Radchuk, 2016; Hoian, 2019), self-actualization (Halian, 2024; Maslow, 1954; May, 1953; Rogers, 1954), and individual autonomy (Ach & Pollmann, 2022). Additionally, the study draws on the concept of the interconnection and interdependence of psychological processes, which aligns

with the systemic approach in psychology.

Participants. The study sample comprised 107 students enrolled in professional pre-higher education in pedagogy. Participants ranged in age from 16 to 19 years ($M = 16.44$; $SD = 2.237$) and were selected using a random sampling method. The participants resided in small towns, villages, and regional centers across Ukraine.

Procedures and Instruments. The value orientations of participants were assessed using the Portrait Values Questionnaire (PVQ-40) (Schwartz, 1992), adapted by I. Semkiv (Boyko-Buzyl et al., 2025). This instrument evaluates the expression of ten basic values as defined by Schwartz's theory of basic human values (1992): Self-Direction (independence of thought and behavior; freedom of choice, creativity, autonomy); Stimulation (desire for novelty, variety, risk, and vivid experiences); Hedonism (orientation toward pleasure, enjoyment of life, and positive emotions); Achievement (pursuit of personal success, competence, and social recognition); Power (aspiration for high social status, influence, and control over people and resources); Security (need for personal and social safety, stability, and order); Conformity (adherence to social norms and rules, restraint from behavior that may harm others); Tradition (respect for cultural, family, and religious traditions, customs, and established norms); Benevolence (concern for the well-being of loved ones, willingness to help and support others); and Universalism (commitment to equality, social justice, tolerance, protection of nature, and the well-being of all people). According to S. Schwartz (1992), these ten values are grouped into four value dimensions: openness to change (self-direction, stimulation, and partially hedonism); self-enhancement (achievement, power, and partially hedonism); conservation (security, conformity, tradition); and self-transcendence (benevolence, universalism).

Variables. Exploratory and confirmatory factor analyses were conducted to determine the structure of value orientations. The independent variables consisted of the scales from the Portrait Values Questionnaire (PVQ-40) (Schwartz, 1992), as adapted by I. Semkiv (Boyko-Buzyl et al., 2025): Self-Direction, Stimulation, Hedonism, Achievement, Power, Security, Conformity, Tradition, Benevolence, and Universalism.

Statistical Analysis. The study employed a cross-sectional, non-interventional design to examine the structure of value orientations and assess the stability of the identified factor structure. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted using IBM SPSS Statistics 27 and IBM SPSS Amos.

Results

Tabl. 1 presents descriptive statistics for the ten basic values of the Portrait Values Questionnaire (PVQ-40) (Schwartz, 1992), methodology in the adaptation of I. Semkiv (Boyko-Buzyl et al., 2025). For the sample ($n = 107$), mean values (M),

standard errors (SE), standard deviations (SD), and measures of asymmetry and kurtosis were calculated. These calculations facilitated the assessment of both the endorsement of individual values and the characteristics of the data distribution.

The presented results indicate the uneven expression of individual basic values in the studied sample. The highest mean values were obtained on the scales of hedonism ($M = 4.35$; $SD = 1.05$), benevolence ($M = 4.27$; $SD = 0.90$), stimulation ($M = 4.23$; $SD = 1.00$), and universalism ($M = 4.07$; $SD = 0.91$).

Table 1. Descriptive statistics of the indicators of the measured variables ($n = 107$)

Scale	N	M	SEM	SD	A	SEA	K	SEK	Sh-W (p)
Conformity	107	3.7079	.08615	.89118	-.081	.234	-.143	.463	.365
Tradition	107	3.5701	.08687	.89863	-.102	.234	-.363	.463	.274
Benevolence	107	4.2687	.08693	.89923	-.794	.234	.748	.463	.000
Universalism	107	4.0717	.08749	.90503	-.064	.234	-.539	.463	.279
Self-Direction	107	3.9813	.08357	.86446	-.130	.234	-.589	.463	.049
Stimulation	107	4.2338	.09620	.99514	-.372	.234	-.505	.463	.003
Hedonism	107	4.3488	.10164	1.05139	-.389	.234	-.809	.463	.000
Achievement	107	3.8201	.10349	1.07051	-.057	.234	-.761	.463	.083
Power	107	3.31	.101	1.040	.166	.234	-.822	.463	.005
Security	107	3.92	.084	.867	-.087	.234	.176	.463	.143

Note: M – arithmetic mean; SEM – standard error of the mean; SD – standard deviation; A – asymmetry; K – kurtosis; SEA – standard error of asymmetry; SEK – standard error of asymmetry kurtosis; Sh-W (Shapiro-Wilk's Test) – Shapiro-Wilk's criterion. In the Shapiro-Wilks test, the lower limit of significance is $p > 0.05$ (the Lilliefors significance correction).

Slightly lower, but still quite high average values were recorded on the scales of self-direction ($M = 3.98$), security ($M = 3.92$), and achievement ($M = 3.82$). The least pronounced values were conformity ($M = 3.71$), tradition ($M = 3.57$), and especially power ($M = 3.31$).

Taking into account the standard errors of the mean values ($SE = 0.08$ – 0.10), which are relatively small, we can state that the estimates of the average indicators in the studied sample are sufficiently accurate. All the studied variables exhibit moderate variability, and the asymmetry and kurtosis indicators confirm that the empirical distributions approximate the normal distribution, which makes it possible to apply parametric methods for statistical analysis of the

results. Therefore, at the next stage of the study, exploratory and confirmatory factor analyses were conducted.

Exploratory factor analysis. We first performed calculations to confirm the suitability of the data for factor analysis. The combined KMO results (.849), a statistically significant Bartlett test ($\chi^2 = 447.901$; $p < .001$), 68.50% of the explained variance, and a clear factor structure with minimal cross-loadings indicate a high psychometric quality of the model. Principal components analysis with varimax rotation (Kaiser Normalization) was used for factor analysis. The criterion for selecting factors was an eigenvalue greater than 1.0 (Table 2).

Table 2. Rotated component matrix^a

Scale	Component		
	Factor 1 ^b	Factor 2	Factor 3
Hedonism	.840	.176	.033
Self-Direction	.829	.132	.088
Universalism	.783	.106	.346
Benevolence	.716	.210	.238
Security	.650	.048	.372
Stimulation	.587	.523	.070
Power	-.003	.916	.112
Achievement	.466	.662	.068
Tradition	.060	.063	.833
Conformity	.339	.116	.720

Note: a. Factor extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. The rotation converged after 6 iterations. b. Factors of exploratory factor analysis: “Self-Transcendence and Personal Autonomy” (F1); “Social Status and the Desire for Influence” (F2); “Traditionalism and Normative Regulation of Behavior” (F3).

The first factor is “Self-Transcendence and Personal Autonomy”. The highest factor loadings demonstrate the value of hedonism (.840), self-direction (.829), universalism (.783), benevolence (.716), security (.650), stimulation (.587), and, to a lesser extent, achievement (.466) and conformity (.339). As we can see, the first factor characterizes the integration of values such as autonomy, humanism and psychological well-being, corresponding to a mature personal orientation that combines individual development with social responsibility.

The second factor, “Social Status and the Desire for Influence”, is formed by two variables: power (.916) and achievement (.662). This combination is consistent with the motivational logic of Schwartz’s theory of basic values, where both values belong to the broader dimension of Self-Enhancement. The value “Stimulation” also has a high loading (.523) as in the first factor. Its cross-loading suggests that its contribution to the factor structure warrants further examination. The psychological content of this factor reflects the pursuit of personal success, social recognition, prestige, professional competence, and influence over others. We believe that the second factor should be interpreted as one focused on social effectiveness, prestige, and the realization of leadership potential.

The third factor, “Traditionalism and

Normative Regulation of Behavior”, is represented primarily by tradition (.833) and conformity (.720). At the same time, other variables have low factor loadings (security (.372) and universalism (.346)), although they are statistically significant. Their role in the structure of the third factor is also worth checking. The psychological content of the factor is unambiguous and, in theory (Schwartz, 1992), corresponds to the classical motivational pole of Conservation. Both dominant values reflect an orientation towards maintaining social order, compliance with norms, respect for established rules, cultural traditions, and moral requirements.

Therefore, such a three-level organization of the value system demonstrates a high degree of psychological integration and reflects the specific features of the motivational structure of the sample.

Confirmatory factor analysis. To assess the stability and adequacy of the determined factor structure, as well as the role of variables included in factors with low but statistically significant loadings, confirmatory factor analysis (CFA) was conducted. Model fit was evaluated using standard fit indices.

The global fit assessment of the model indicates that it is generally satisfactory. Despite the statistically significant χ^2 criterion ($\chi^2 = 55.5$; $df = 32$; $p = .006$), which is common in structural equation models estimated using maximum

likelihood, other indicators demonstrate an acceptable level of fit. The CFI value = .949 exceeds the recommended minimum threshold (.90) and approaches the criterion for good fit (.95). The TLI index = .924 also exceeds the acceptable value of .90, indicating an adequate reproduction of the covariance structure of the data. The SRMR indicator of .0447 is below the recommended limit of 0.08, indicating small residual discrepancies between the empirical and theoretical correlation matrices. At the same time, RMSEA = .0807 (90% CI [.034 – .22]), which slightly exceeds the

recommended threshold of .08 but remains in the interval often interpreted in modern literature as an acceptable or marginally acceptable level of model fit, especially for models with a relatively small number of indicators.

It is worth noting that the fit measures are described here without the variable “Stimulation”, which, during the exploratory factor analysis, was included in the F1 factor. With its presence in the F1 factor, the CFI index and especially the TLI were lower (Table 3).

Table 3. Measures of the fit between empirical data and the theoretical model

CFI	TLI	SRMR	RMSEA	CI 90%	
				LO	HI
“With the ‘Stimulation’ variable in the first factor”					
.926	.896	.0541	.0957	.0604	.130
“Without the ‘Stimulation’ variable in the first factor”					
.949	.924	.0447	.0807	.0336	.122

The insufficiently convincing values of the indicators that determine the model's fit prompted us to develop another model that includes indicators with relatively low values but statistically significant factor loadings, as mentioned above.

The next stage of confirmatory factor analysis using the Maximum Likelihood method yielded $\chi^2 = 37.239$ (df = 27; p = .091). The nonsignificant chi-square test suggested no statistically significant discrepancy between the observed and model-implied covariance

matrices. The ratio $\chi^2/\text{df} = 1.379$ confirms the high quality of the model's approximation, since it is significantly lower than the recommended threshold value of 2.0.

The incremental fit indices also demonstrate a high level of consistency of the model with the empirical data. The values CFI = .976, IFI = .977, TLI = .959, NFI = .920, and RFI = .867 confirm that the proposed model describes the data significantly better than the independent model (Table 4).

Table 4. Model Fit Indices

Model	NPAR	CMIN			
		CMIN	DF	P	CMIN/DF
Default model	38	37.239	27	.091	1.379
Saturated model	65	.000	0		
Independence model	20	466.227	45	.000	10.361
Baseline Comparisons					
Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.920	.867	.977	.959	.976
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA				
Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.060	.000	.103	.339
Independence model	.297	.273	.322	.000

Particularly indicative are the CFI and IFI values, which exceed the recommended threshold of .95, indicating a very high-quality model. The TLI value (.959) also indicates a good model fit. The slightly lower value of RFI (.867) can be explained by its

greater sensitivity to model complexity and the number of parameters; however, in the presence of high values of other incremental indices, it does not call into question the overall adequacy of the model.

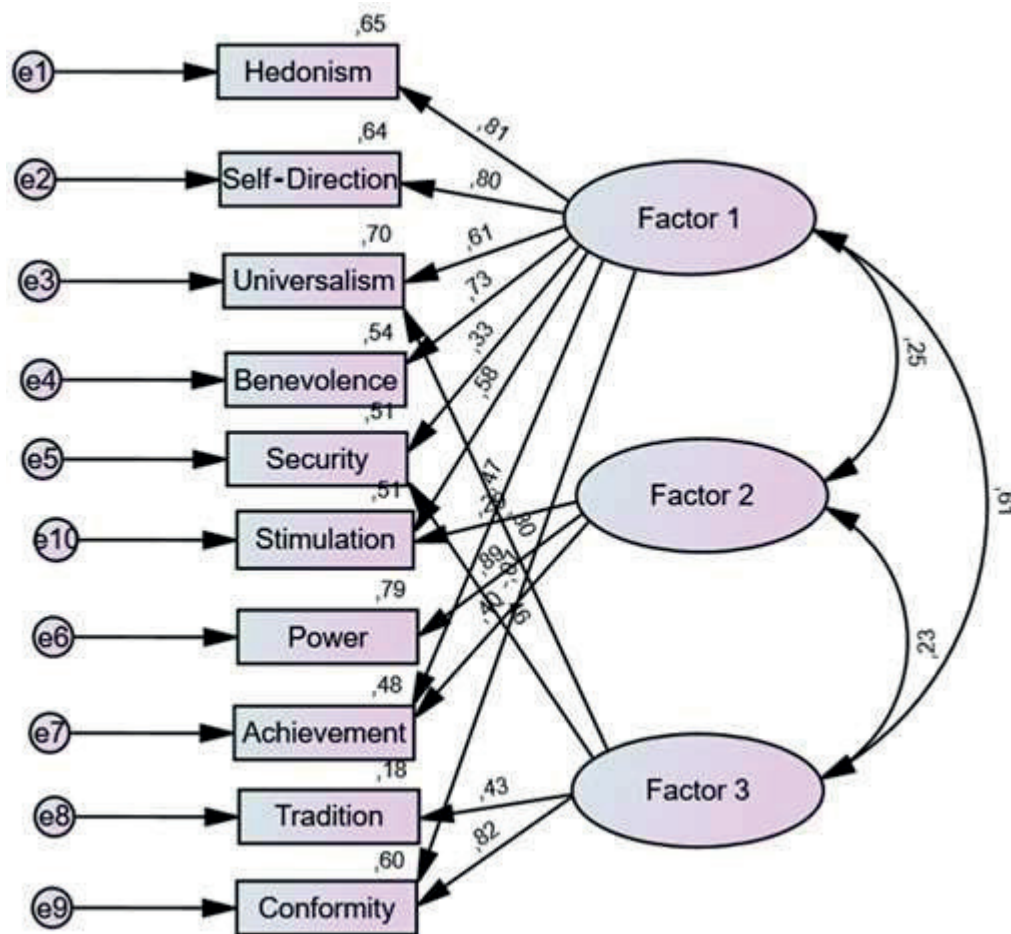


Fig. 1. Standardized Confirmatory Factor Analysis Model of the Structure of Basic Personal Values

The absolute error of approximation RMSEA = .060 indicates an acceptable level of approximation of the model to the general population. According to modern recommendations, RMSEA values $\leq .06$ characterize a good fit of the model, while values up to .08 are considered acceptable. The 90% CI [.000; .103] covers the optimal values, further confirming the stability of the estimate. The PCLOSE indicator = .339, which exceeds the

critical value of .05, gives reason not to reject the hypothesis of a close fit of the model, i.e., the model can be considered to reproduce the data structure well.

Thus, the set of obtained indicators ($\chi^2/df = 1.379$; CFI = .976; IFI = .977; TLI = .959; NFI = .920; RMSEA = .060; PCLOSE = .339) allows us to conclude that the proposed confirmatory factor model is characterized by a good empirical model

fit and confirms the theoretically predicted latent structure of the studied construct. The results indicate sufficient construct validity of the model and confirm its suitability for use in subsequent structural models and empirical studies.

Discussion

Descriptive statistics indicated that the most influential factors for participants included the desire to enjoy life, positive emotions, maintaining friendly relationships within their immediate social environment, openness to new experiences, and a focus on tolerance and the well-being of others. A moderately pronounced orientation of the subjects towards independence in decision-making, the desire for personal success and ensuring stability, predictability, and security in their own lives was also observed. The results obtained allow us to conclude that the participants are less oriented towards unconditional adherence to social norms, the preservation of traditional cultural patterns of behavior or the desire for social dominance and control over others. At the same time, descriptive statistics reflect only the level of expression of individual values, whereas factor analysis enables the establishment of their internal psychological organization. The obtained factor structure partially reproduces the classical model of basic values by S. Schwartz (1992). If the second and third factors correspond to the theoretically defined motivational blocks of Self-Enhancement and Conservation, then the first factor reflects the integration of values, which in the original circumplex model are located in different sectors of the motivational continuum. The configuration of the first factor is particularly indicative, since it integrates values that, in classical theory, belong to different motivational dimensions. One latent construct combines the desire for personal autonomy and development (self-direction, stimulation), an orientation toward positive emotional well-being (hedonism), humanistic orientation (universalism, benevolence) and the need for psychological stability (security). Such a structure indicates that, for the representatives of the studied sample, self-realization is not individualistic or egocentric. On the contrary, it is realized through a harmonious combination of personal freedom, positive life experience, responsibility to others

and the desire to maintain a safe social environment. The results obtained are consistent with the modern rethinking of the theory of basic values. In their works, L. Sagiv and S. Schwartz (2022) emphasize that although the circumplex model reflects universal patterns of relationships among values, specific sociocultural conditions can alter the nature of their empirical integration. The authors emphasize that in conditions of social instability, individual values, which are theoretically in a state of motivational tension, can function as complementary, since they are aimed at achieving a common adaptive goal (Sagiv & Schwartz, 2022).

Of particular interest is the inclusion of the value "Security" in the structure of the first factor. In the classical model of S. Schwartz (1992), security belongs to the Conservation block along with tradition and conformity. However, in the resulting structure, "Security" is integrated with the values of openness to change and self-transcendence. This result can be interpreted as a reflection of the specifics of the modern social context, in which psychological security is increasingly perceived not only as a consequence of compliance with social norms, but also as a necessary condition for personal development, social activity and the realization of life potential. Similar trends are described in modern concepts of adaptive organization of human values, according to which different value systems can be integrated depending on current environmental challenges (Markovitch et al., 2026).

High factor loadings of universalism and benevolence suggest that individual achievements acquire significance mainly on the condition of their social utility. Such a configuration aligns with modern ideas about the strengthening of the role of prosocial values in regulating behavior. As L. Sagiv & S. Schwartz (2022) note, universalism and benevolence are central predictors of cooperation, civic activity, trust and psychological well-being, especially in societies undergoing large-scale social transformations (Sagiv & Schwartz, 2022).

The second factor comprises two values: "Power" and "Achievement". The absence of significant loadings from other values indicates its rather autonomous nature. Thus, the desire for power and personal achievement functions as a separate motivational system, almost unrelated

to either humanistic values or normative regulation of behavior. Particularly indicative is the significantly higher factor loading for the value "Power" compared to "Achievement". This provides grounds to assume that social success in the studied sample is largely understood as the ability to influence the social environment, take responsibility, assume a leadership or managerial role, and not only through individual competitive success.

This autonomy of the Self-Enhancement block aligns with recent psychometric research on value structures. Specifically, a large-scale cross-cultural validation of the revised PVQ-RR questionnaire by J. Cieciuch and S. Schwartz (2022), conducted across 49 cultural groups, confirmed the high stability of power and achievement values as a distinct motivational cluster, irrespective of cultural context (Cieciuch & Schwartz, 2022).

The combination of tradition and conformity in the third factor suggests that participants' behavioral normativity is grounded not only in external social control but also in the internalized significance of cultural and moral norms. Consequently, social regulation of behavior reflects a worldview orientation rather than a situational response. The lack of a significant loading for "Security" on this factor indicates a restructuring of the traditional Conservation block. While S. Schwartz's (1992) theory posits that security, tradition, and conformity constitute a unified motivational system, in the present sample, security assumes a different psychological role and is integrated with personal development values.

Such changes may be associated with the specifics of the modern Ukrainian sociocultural context, which is characterized by prolonged crisis conditions, military threats, and a high level of social uncertainty. Under such conditions, security ceases to be an exclusively conservative value. It is increasingly associated with the ability to maintain psychological well-being, promote personal autonomy, and effectively adapt to rapid changes. Modern research confirms that the hierarchy of human values is quite stable; however, the nature of the relationships between individual values may change depending on social challenges, historical context, and living

conditions (Sagiv & Schwartz, 2022).

In summary, personal development within the studied sample is not in opposition to humanistic orientation or psychological security. Instead, freedom of choice, positive life experiences, social responsibility, and the pursuit of security constitute an interconnected set of values. This integration may represent an adaptive restructuring of the individual's motivational sphere in response to contemporary social transformations. The findings generally support the universality of S. Schwartz's (1992) theory of basic values, while also illustrating that the empirical configuration of value relationships is sensitive to sociocultural context and historical period. This conclusion aligns with recent cross-cultural research, which highlights the importance of integrating universalist and contextual perspectives when interpreting individual value systems (Sagiv & Schwartz, 2022).

Conclusions

Factor analysis revealed three complementary dimensions within the value system of students attending professional pedagogical colleges. The first dimension combines openness to change, humanistic orientation, and psychological well-being. The second dimension reflects motivation for achievement and leadership. The third dimension characterizes orientation toward social norms, cultural continuity, and the maintenance of social order. The resulting factor structure demonstrates a high degree of integration within the value system and partially replicates the classical circumplex model proposed by S. Schwartz. The second and third factors correspond fully to the theoretically described motivational blocks of Self-Enhancement and Conservation. In contrast, the first factor integrates values that, in the classical model, belong to different sectors of the motivational space, thereby forming a new latent construct that may be defined as humanistic-autonomous self-realization.

In the value system of students in professional pre-higher education in pedagogy, humanistic and self-development values occupy a leading position and are compatible with the pursuit of psychological security. Simultaneously, orientations toward social status and leadership,

as well as adherence to traditions and social norms, function as relatively autonomous systems of value regulation. Such a structure reflects a contemporary trend toward integrating personal autonomy, social responsibility, and psychological stability, which is a distinctive feature of value organization among individuals experiencing dynamic social transformations. This observation suggests that the structure of basic values does not always fully replicate S. Schwartz's normative model, but may be modified by the sociocultural context and prevailing living conditions of the studied population. The empirical results confirm the validity of the identified three-factor model.

Not Using AI Tools

No AI-assisted technologies were used in the writing, editing, or data analysis for this manuscript. All work is original and completed solely by the listed authors.

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Enhancing Decision-Making Efficiency Among Youth Through Reflection

Підвищення ефективності ухвалення рішень в осіб юнацького віку засобами рефлексії

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Abstract

Aim. The aim of the study is to theoretically substantiate and empirically verify the impact of reflection development on improving decision-making efficiency among youth through the implementation of a specially designed program. **Methods.** Theoretical: analysis, comparison, and generalization of scientific sources; empirical: the “Self-Regulation of Behavior Profile” questionnaire (Yevdokimova, Kobylko, 2023), the “Self-Management Ability” questionnaire (Yevdokimova, Kobylko, 2023), J. Raven’s Progressive Matrices Scale (Lemak, Petryshche, 2012), the “Creativity” test (Lemak, Petryshche, 2012), the Melbourne Decision Making Questionnaire (Petrovska, 2021), the “Study of Volitional Personality Organization” method (Lemak, Petryshche, 2012); and statistical analysis methods. **Results.** Following the formative intervention, a statistically significant increase in the overall decision-making efficiency score ($z = -4.835$; $\alpha < .001$) with a large effect size ($d = -.614$) and the overall reflection score ($z = -4.870$; $d =$

Анотація

Метою дослідження є теоретичне обґрунтування та емпірична перевірка підвищення ефективності ухвалення рішень в осіб юнацького віку засобами рефлексії шляхом реалізації спеціально розробленої програми. **Методи.** Теоретичні: аналізування, порівняння та узагальнення наукових джерел; емпіричні: опитувальник “Стиль саморегуляції поведінки” (Євдокімова, Кобилко, 2023), опитувальник “Здатність до самоуправління” (Євдокімова, Кобилко, 2023), шкала прогресивних матриць Д. Равена (Лемак, Петрище, 2012), тест “Креативність” (Лемак, Петрище, 2012), Мельбурнський опитувальник ухвалення рішень (Петровська, 2021), методика “Дослідження вольової організації особистості” (Лемак, Петрище, 2012); методи статистичного аналізу. **Результати.** Після завершення формувального впливу в експериментальній групі зафіксовано статистично достовірне зростання загального показника ефективності ухвалення рішень ($z = -4.835$; $\alpha < .001$) з високою вираженістю розміру ефекту ($d = -.614$) та загального показника рефлексії ($z = -4.870$; $d = -.618$).

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-.618) was recorded in the experimental group. The most pronounced positive shift occurred in the volitional ($d = -.605$) and cognitive ($d = -.607$) domains. The abilities to model situations and evaluate outcomes improved significantly (mean values increased from 4.96 to 6.62 and from 5.75 to 7.1, respectively). Changes in intelligence and creative thinking scores exhibited a slightly smaller effect, which is explained by their relative stability at this age. Meanwhile, no statistically significant shifts were recorded in the control group ($\alpha > .05$). **Discussion.** The highest shift in the decision-making structure occurred in the volitional and cognitive domains, where the development of critical analysis enhanced youth's ability to model situations. The transition from an impulsive reaction to a structured reflective evaluation evidently enables young people to better realize problem situations and find internal resources to resolve them. The smaller yet positive dynamics in intelligence and creative thinking metrics are logical given their relative stability and confirm the high ecological validity of the study. **Conclusions.** The results of the formative experiment implementing the program to enhance decision-making efficiency among youth confirmed the research hypothesis and indicate the possibility of positioning reflection as a tool for improving their decision-making efficiency.

Keywords: decision-making, decision-making efficiency, youth, reflection development, creative thinking.

Introduction

The current conditions of personality formation and development in youth in the context of war, as well as the economic, political, and social crises in our country, require an exceptionally high level of development of both the process and outcome of decision-making. The need to identify and implement the most optimal option in decision-making, which determines the subsequent trajectory of an individual's life, necessitates the development of general abilities to orient oneself in the current situation, align one's needs with available resources, identify the optimal course of action, and evaluate outcomes.

The theoretical and methodological foundations of decision-making encompass several key

Найбільш виразний позитивний зсув відбувся у вольовій ($d = -.605$) та когнітивній ($d = -.607$) сферах. Здатності моделювати ситуацію та оцінювати результати значно покращилися (середні значення зросли з 4.96 до 6.62 та з 5.75 до 7.1 відповідно). Зміни в показниках інтелекту та творчого мислення мали дещо менший ефект, що пояснено їхньою відносною стабільністю в цьому віці. Водночас у контрольній групі статистично значущих зсувів не зафіксовано ($\alpha > .05$). **Дискусія.** Найбільший зсув у структурі ухвалення рішень відбувся у вольовій та когнітивній сферах, де розвиток критичного аналізу підвищив здатність юнаків моделювати ситуацію. Перехід від імпульсивної реакції до структурованої рефлексивної оцінки вочевидь дозволяє молоді краще усвідомлювати проблемні ситуації та знаходити внутрішні ресурси для їх вирішення. Менша, проте позитивна динаміка за показниками інтелекту та творчого мислення є логічною через їхню відносну стабільність і підтверджує високу екологічну валідність дослідження. **Висновки.** Результати формувального експерименту з впровадження програми підвищення ефективності ухвалення рішень в осіб юнацького віку, підтвердили гіпотезу дослідження та вказують на можливість позиціонувати рефлексію як засіб підвищення ефективності ухвалення рішень в осіб юнацького віку.

Ключові слова: ухвалення рішень, ефективність ухвалення рішень, юнацький вік, розвиток рефлексії, творче мислення.

areas: the managerial context (Wang & Ruhe, 2007); risk and uncertainty (Yilmaz & Kafadar, 2022; Marquez-Ramos et al., 2023; Zheng et al., 2020); heuristics and cognitive biases (Gilovich, Griffin, & Kahneman, 2002); clinical aspects of reflection (Bedford & David, 2014; Philippi & Koenigs, 2014), alongside rumination (Bucknell, Kangas, & Crane, 2022; Takano & Tanno, 2009); ethical and moral parameters (Vavra, Galvan, & Sanfey, 2024; Heyler et al., 2016); and the substantive content of the process itself (Gonzalez, 2017; Shevchenko & Obyskalov, 2023; Imani et al., 2021).

In addition to the basic components of decision-making (goals, alternatives, and criteria), decision effectiveness is determined by socio-

economic conditions and support (Fischhoff & Broomell, 2020), value orientations (Stepura, 2016), decisiveness as an integrative personality characteristic (Sannikov, 2020), needs and heuristic biases (Korokhod, 2020b), as well as volitional potential (Pomytkina, 2016).

The importance of reflective processes has been revealed in the concepts of CER cycles (Prezenski et al., 2017) and IBLT theory (Gonzalez, 2017). In particular, researchers C. Güss, J. Donovan, and D. Naslund identify the advantages of reflection in dynamic decision-making, including awareness of one's strengths and weaknesses, flexibility, reduction of errors caused by biases, and the development of curiosity (Donovan, Güss, & Naslund, 2015). In addition, reflection facilitates the understanding of others' intentions (Dimaggio et al., 2008) and the prediction of action outcomes (Zhu et al., 2015; Smallwood et al., 2011).

Despite the high level of development of the issue, the influence of the reflective process on decision-making among youth remains insufficiently studied, which necessitated the implementation of a formative experiment. In response to this challenge, a program to enhance decision-making efficiency through reflection among youth was developed. Its purpose was to systematically influence the decision-making process by targeting the components of its psychological structure through reflection.

The effectiveness of the implemented program was confirmed by positive changes in decision-making indicators across all structural levels (individual indicators, structural components, and overall indicators). In line with the aim of examining the presence and extent of the mediated influence of reflection on decision-making efficiency, indicators of both processes were studied during the formative stage.

Hypothesis. The study was based on the assumption that a specially designed program to enhance decision-making efficiency among youth through reflection would be effective. It was expected that the experimental group would demonstrate statistically significant positive shifts in decision-making parameters compared with the control group.

The aim of the study is to theoretically substantiate and empirically verify the enhance-

ment of decision-making efficiency among youth through the implementation of a specially designed program.

Methods

Methodology. Based on the methodological provisions identified previously (Obyskalov, 2024), the study employed the following methods and questionnaires to investigate indicators of reflection and decision-making processes. The "Self-Regulation of Behavior Profile" questionnaire (Yevdokimova & Kobylko, 2023) was used to assess the level of development of the abilities to "adequately describe a situation/event and identify the main aspects, as well as describe one's own thoughts and feelings," "adequately perceive and evaluate a problematic situation," and "formulate conclusions". The "Self-Management Ability" questionnaire (Yevdokimova & Kobylko, 2023) was used to determine the level of development of the abilities to "answer exploratory questions and become aware of the conditions of the situation in which this occurs," "describe specific plans and goals for future actions," and "formulate the purpose and objectives of an activity". Raven's Progressive Matrices Scale (Lemak & Petryshche, 2012) was used to assess the level of intelligence and cognitive abilities underlying the ability to "ask exploratory questions.". The "Creativity" test (Lemak & Petryshche, 2012) was used to investigate the level of individual creativity. The Melbourne Decision Making Questionnaire (Petrovska, 2021) was used to assess the level of vigilance development, which reflects the ability to "compare and identify the optimal option" and represents an integral form of organization of the decision-making process. The "Study of Volitional Personality Organization" method (Lemak & Petryshche, 2012) was used to investigate individual decisiveness and perseverance.

Within the framework of the formative experiment, a program to enhance decision-making efficiency among youth was implemented as the primary means of psychological intervention.

Main objectives of the program:

- To increase the overall indicator of decision-making efficiency;
- To develop young people's understanding

of the psychological structures of reflection and decision-making processes and their interrelationship;

- To improve effective decision-making skills through the organization of patterns of reflective activity;
- To develop the abilities involved in the psychological structure of reflection that demonstrate moderate and high correlations with the corresponding components of the psychological structure of decision-making.

In accordance with the stated aim and objectives of the program, three stages of its implementation were developed:

I. The stage of updating knowledge and forming an understanding of the processes of reflection and decision-making.

II. The stage of improving abilities underlying the reflective process.

III. The stage of consolidating patterns of effective decision-making.

Three cross-cutting areas of work were implemented throughout the program:

- Formation of conceptual understanding;
- Development of individual abilities;
- Psychological support.

The model of the program to enhance decision-making efficiency among youth is presented in Figure 1.

The methodological basis of the program was a combination of problem-based learning technologies, the project approach, and socio-psychological training. Based on the definition of socio-psychological training as “a multifunctional method of intentional changes in the psychological phenomena of an individual, group, and organization aimed at harmonizing an individual's professional and personal existence” (Afanasieva & Pereyhina, 2015), it can be argued that organizing sessions of a program aimed at enhancing decision-making efficiency through the development of reflection among youth in accordance with the principles and structure of training work is appropriate.

Such a format contributes to the development of reflection, since systematic consideration by participants of their behavior and the behavior of other people is one of the key characteristics of the training approach (Soshyna, 2014).

The proposed program contains components characteristic of socio-psychological training, including the actualization of personal motivation and goal setting, creation of an optimal level of working tension, gradual acquisition of new knowledge and skills, modeling of effective behavioral patterns, as well as development of the ability to move from impulsive reactions to reflective behavior and vice versa (Yevdokimova, 2014).

Organization of sessions according to the principles of socio-psychological training involves the use of a set of traditional methods, including mini-lectures, group discussions, brainstorming, training exercises, role-playing, and business games (Miliutina, 2004).

The characteristics of the training approach ensure simultaneous influence on the individual's cognitive, emotional, and behavioral spheres (Yevdokimova, 2014). This significantly increases the effectiveness of developing new behavioral models that gradually replace habitual, less adaptive behavioral stereotypes, with more constructive ways of responding (Miliutina, 2004).

The content of the second, key stage of the program, which is aimed at developing abilities that ensure the functioning of reflection, is based on the use of pragmatic learning methods. The American philosopher and educator John Dewey (Dewey, 1903) is considered the founder of this approach; he consistently substantiated the advantages of problem-based and project-based learning.

Participants. The experimental implementation of the program was conducted at the Department of Psychology of Zaporizhzhia National University during the first and second semesters of the 2024–2025 academic year. To obtain valid and reliable data from the formative experiment, an experimental group (EG) and a control group (CG) were formed. The experimental group, which participated in the program to enhance decision-making efficiency, consisted of 32 students aged 18–19 years. The control group, in which no targeted developmental work was conducted, also comprised 32 students of the same age group. Thus, the total number of participants in the formative experiment was 64.

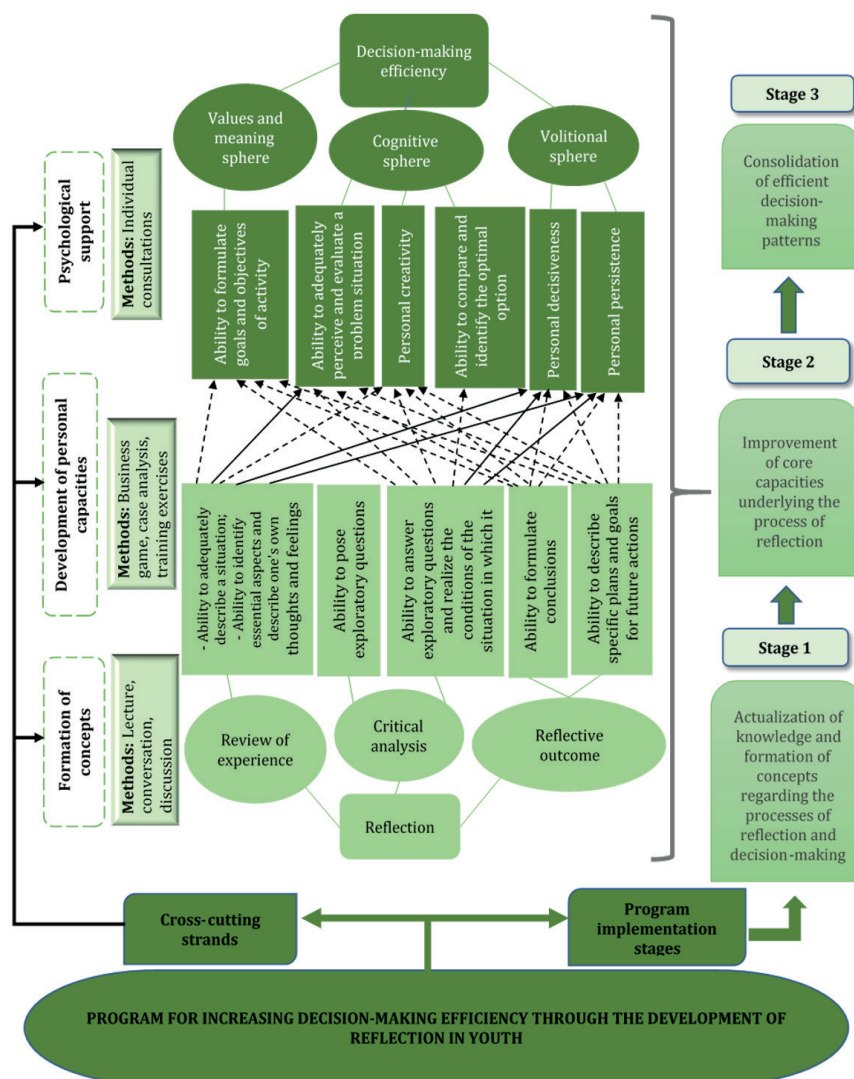


Fig. 1. Model of the program for increasing decision-making efficiency through the development of reflection in youth

The selected age range for the participants in the formative experiment (18–19 years) was determined to avoid additional influences that could reduce the reliability of the study. In particular, this concerned the recorded sharp increase in the development of reflection indicators at the stage of the ascertaining experiment (Shevchenko & Obyskalov, 2025).

Variables. The reflection process comprises three stages, which include the corresponding indicators: review of experience (the ability to adequately describe a situation/event; the ability to identify the main aspects and describe one's thoughts and feelings); critical analysis (the ability

to ask exploratory questions; the ability to answer exploratory questions and become aware of the conditions of the situation in which this occurs); reflective outcome (the ability to formulate conclusions; the ability to describe specific plans and goals for future actions). The decision-making process includes personality domains involved in its implementation: the value-semantic domain (the ability to formulate the purpose and objectives of an activity); the cognitive domain (the ability to adequately perceive and evaluate a problematic situation; individual creativity; the ability to compare and identify the optimal option); and the volitional domain (individual decisiveness; in-

dividual perseverance).

Research Design. Evaluation of the program's effectiveness involved conducting psychodiagnostic assessments at several stages, enabling an in-depth analysis of the changes. The first assessment was aimed at determining the baseline level of decision-making efficiency development among participants in the experimental and control groups. The second assessment reflected changes in the levels of development of reflection and decision-making processes across all levels of their organization after the implementation of the program. This stage enabled analysis of the specific changes resulting from its implementation and the recording of positive dynamics in the experimental group. To monitor changes in the indicators, the same psychodiagnostic methods were used as at the ascertaining stage (Shevchenko & Obyskalov, 2025). The emergence of statistically significant differences between the experimental and control groups in the dynamics of key parameter development was considered evidence of the program effectiveness.

Procedure and Instruments. In accordance with the previously presented model of the program to enhance decision-making efficiency through reflection among youth, eighteen sessions were conducted. At the first stage, participants in the formative experiment completed a psychodiagnostic questionnaire to assess their current levels of decision-making efficiency and reflection. They were introduced to the concepts of reflection and the decision-making process, their functions, psychological structures, relationships between key elements, and the influence of reflection on decision-making. The primary methods of work were lectures, conversations, and discussions. The main part of the work aimed at developing the necessary abilities was implemented during the second stage of the program. This stage was particularly rich in techniques, exercises, and discussions aimed at developing the reflective process. During the third stage of the program, participants were asked to develop a project entitled "Effective Decision-Making in Key Life Decisions." Work on the project aimed to consolidate patterns of effective decision-making by applying the knowledge and skills already acquired. Upon completion, all participants in the control and ex-

perimental groups underwent repeated questionnaire assessments to identify shifts in the indicators resulting from the decision-making efficiency enhancement program.

Statistical Analysis. The Wilcoxon signed-rank test and Cohen's d were used to assess the statistical significance of the changes observed in the groups and to measure effect size.

Results

To validate the recorded results concerning the influence of reflection on the decision-making process among young people, the correspondence of the initial indicators between participants in the control and experimental groups was analyzed. According to the data presented in Tables 1 and 2, seven indicators had nearly identical values, while the remaining indicators were slightly higher in the experimental group but did not exceed the standard deviation range in the control group. This provided a reliable basis for conducting a valid study.

Upon completion of the program for enhancing decision-making efficiency through reflection, the relevant indicators were measured again. The values presented in Tables 1 and 2 demonstrated that, at the level of individual indicators of the reflection and decision-making processes, the variables "Decisiveness," "Perseverance," "Modeling," and "Outcome Evaluation" in the experimental group exceeded the corresponding control-group indicators beyond the standard deviation range.

At the level of structural components, the variables "Review of Experience," "Reflective Outcome," "Cognitive," and "Volitional" in the experimental group already were multiple times higher than those in the control group.

The comparison of overall reflection and decision-making efficiency revealed a difference between the control and experimental groups in the overall reflection indicators, exceeding the standard deviation in both data sets. The difference in decision-making efficiency indicators exceeded the standard deviation for both data sets by almost twofold. These data indicate that after the implementation of the program, the experimental group showed a substantial increase in the indicators compared with the control group.

The next step in examining changes at the lev-

el of overall indicators clearly demonstrated an upward trend between the initial and repeated measurements. Moreover, the dynamics of decision-making efficiency development were more pronounced than the dynamics of the overall reflection indicator.

Based on the recorded data, it can be unequivocally stated that implementing the program to enhance decision-making efficiency through reflection among youth had the expected effect, increasing both reflection and decision-making indicators. At the same time, an important observation was that with each subsequent level of synthesis of the processes under study, the shift toward an increase became stronger. This corresponds to the identified pattern of increasing correlations between reflection and decision-making indicators as the level of synthesis in the study of these processes increased.

The final step of the formative experiment involved determining whether the shifts in the respective measurements were statistically significant. As argued above, the Wilcoxon test was selected for this purpose.

To determine the effect size (d) of the Wilcoxon test, the z value was divided by the square root of the total number of participants in both samples (n ; only cases without zero differences were included).

The interpretation of the effect-size level of the proposed d indices was conducted according to J. Cohen: $.00 \leq |d| < .10$ – negligible; $.10 \leq |d| < .30$ – small; $.30 \leq |d| < .50$ – medium; $.50 \leq |d| < .80$ – large.

To verify the significance of the shift in the experimental group, the absence of a statistically significant shift in the control group was first established. As demonstrated by the results of the Wilcoxon test (Table 1), in the most pronounced cases, the effect size was at the “small” level according to J. Cohen's interpretation. However, these results were not statistically significant because the α value exceeded .05. Therefore, the shifts observed in the control group were not statistically significant and most likely resulted from natural factors during the program implementation period.

We then examined the statistical results for the magnitude of shifts in the experimental group us-

ing the Wilcoxon test (Table 2). As shown in the table, all variables had large effect sizes, except for “Creative Thinking,” which had a medium effect size.

In all cases except the variables “Intelligence” and “Creative Thinking,” the level of statistical significance (α) was highly significant, as it was substantially lower than .01, indicating the reliability of the observed shift.

The significance levels of the variables “Intelligence” and “Creative Thinking” were intermediate between .05 and .01, indicating probable statistical significance of the recorded shift.

These results indicate that the shift observed in the experimental group relative to the control group was statistically significant and substantial, confirming the effectiveness of the program to enhance decision-making efficiency through reflection.

Table 1. Indicators of the Control Group Before and After the Experiment

CG 1	SD	M	CG 2	SD	M	α	z	n	d
Intelligence	4.53	46.06	Intelligence	4.28	46.19	.69	-.40	19	-.07
Vigilance	2.09	15.53	Vigilance	2.03	15.59	.67	-.42	15	-.08
Decisiveness	2.94	13.06	Decisiveness	2.30	13.25	.31	- 1.02	16	-.18
Perseverance	3.99	12.34	Perseverance	3.39	12.38	.81	-.25	12	-.05
Contradiction	1.39	3.22	Contradiction	.94	3.22	1.00	0	22	0
Analysis			Analysis						
Adjustment	1.15	2.97	Adjustment	.83	3.13	.28	- 1.09	21	-.17
Goal Setting	1.56	3.41	Goal Setting	1.29	3.59	.11	- 1.60	11	-.34
Modeling	2.17	4.53	Modeling	1.76	4.75	.18	- 1.35	24	-.19
Outcome	1.69	4.84	Outcome	1.29	4.78	.72	-.37	27	-.05
Evaluation			Evaluation						
Creative	1.95	6.50	Creative	1.58	6.59	.37	-.91	8	-.23
Thinking			Thinking						
Review of	2.17	4.53	Review of	1.76	4.75	.18	- 1.35	24	-.19
Experience			Experience						
Critical Analysis	4.75	49.28	Critical Analysis	4.48	49.41	.77	-.29	22	-.04
Reflective	2.05	7.81	Reflective	1.69	7.91	.59	-.55	19	-.09
Outcome			Outcome						
Value-Semantic	1.56	3.41	Value-Semantic	1.29	3.59	.11	- 1.60	21	-.25
Cognitive	3.22	26.56	Cognitive	2.86	26.94	.14	- 1.47	25	-.21
Volitional	6.13	25.41	Volitional	4.95	25.63	.50	-.67	11	-.14
Overall	5.00	61.63	Overall	4.87	62.06	.21	- 1.27	26	-.18
Reflection			Reflection						
Decision-	8.10	55.38	Decision-	6.24	56.16	.11	- 1.59	28	-.21
Making			Making						
Efficiency			Efficiency						

Note: CG 1 – control group before the experimental intervention; CG 2 – control group after the experimental intervention; SD – standard deviation; M – arithmetic mean; α – statistical significance level; z – Wilcoxon test statistic; n – total number of participants in both samples excluding zero differences; d – Cohen's effect size index.

Table 2. Indicators of the Experimental Group Before and After the Experiment

EG 1	SD	M	EG 2	SD	M	α	z	n	d
Intelligence	6.00	46.44	Intelligence	5.55	46.88	.014	-2.46	12	-.50
Vigilance	1.63	15.16	Vigilance	1.76	16.53	.000	-3.65	19	-.59
Decisiveness	3.68	14.56	Decisiveness	1.96	17.22	.000	-3.92	21	-.61
Perseverance	3.75	13.22	Perseverance	2.21	15.69	.000	-3.86	22	-.58
Contradiction Analysis	1.30	3.50	Contradiction Analysis	1.00	4.19	.000	-3.64	16	-.64
Adjustment	1.09	2.97	Adjustment	.95	3.84	.000	-3.76	17	-.64
Goal Setting	1.57	3.53	Goal Setting	1.11	4.44	.000	-3.80	19	-.62
Modeling	1.31	4.97	Modeling	1.18	6.63	.000	-4.14	23	-.61
Outcome Evaluation	1.93	5.75	Outcome Evaluation	1.07	7.22	.000	-3.95	21	-.61
Creative Thinking	2.28	6.81	Creative Thinking	1.50	7.25	.032	-2.14	10	-.48
Review of Experience	1.31	4.97	Review of Experience	1.18	6.63	.000	-4.14	23	-.61
Critical Analysis	6.07	49.94	Critical Analysis	5.44	51.06	.000	-3.79	20	-.60
Reflective Outcome	2.14	8.72	Reflective Outcome	1.64	11.06	.000	-4.59	27	-.63
Value-Semantic	1.57	3.53	Value-Semantic	1.12	4.44	.000	-3.80	19	-.62
Cognitive	3.73	26.94	Cognitive	2.89	30.41	.000	-4.79	31	-.61
Volitional	6.34	27.78	Volitional	3.35	32.91	.000	-4.36	26	-.61
Overall Reflection	6.50	63.63	Overall Reflection	6.10	68.75	.000	-4.87	31	-.62
Decision-Making Efficiency	9.49	58.25	Decision-Making Efficiency	5.33	67.75	.000	-4.84	31	-.61

Note: CG 1 – control group before the experimental intervention; CG 2 – control group after the experimental intervention; SD – standard deviation; M – arithmetic mean; α – statistical significance level; z – Wilcoxon test statistic; n – total number of participants in both samples excluding zero differences; d – Cohen's effect size index.

Discussion

The statistical data obtained from the formative experiment provide convincing and substantive support for the assumption put forward at the beginning of the study. The results of the comprehensive psychodiagnostic assessment, along with their subsequent mathematical and statistical processing, fully confirm the formulated hypothesis. The statistical findings demonstrate a precise correspondence with the expected outcomes: the experimental group showed a statistically significant increase in the overall decision-making efficiency indicator (Wilcoxon test, $z = -4.835$, $\alpha < .001$), accompanied by a large Cohen's effect size

($d = -.614$). At the same time, none of the overall or structural indicators in the control group reached statistical significance ($\alpha > .05$), thereby excluding the influence of incidental age-related or situational factors and demonstrating the effectiveness of the implemented training program.

An explanation of the obtained results in terms of the aim of the study reveals the underlying mechanisms of the relationship between the phenomena under investigation. The program, developed on the principles of pragmatic learning and socio-psychological training, purposefully stimulated the stages of reviewing experience and forming a reflective outcome.

As a consequence, the largest shift in the structure of decision-making occurred in the volitional ($z = -4.364$; $d = -.605$) and cognitive ($z = -4.785$; $d = -.607$) domains of personality. The development of the ability to answer exploratory questions (critical analysis) directly influenced young people's ability to model situations (the mean value increased from 4.96 to 6.62).

This means that the transition from an impulsive reaction to a structured reflective evaluation enables young people not only to become more aware of a problematic situation but also to identify internal resources to resolve it.

Particular attention should be paid to the results requiring deeper theoretical interpretation. The variables "Intelligence" and "Creative Thinking" showed smaller shifts ($\alpha = .014$, $d = -.502$ and $\alpha = .032$, $d = -.478$, respectively) compared with the other parameters. This statistical result is entirely logical and indicates the high ecological validity of the study: the level of basic intelligence is a relatively stable characteristic that is difficult to transform rapidly over a short formative-experiment period, whereas creativity requires more prolonged and specific stimulation. Nevertheless, even these indicators demonstrated positive dynamics, indicating a general broadening effect of reflection on the individual's cognitive apparatus.

A substantial body of research devoted to a broad range of obstacles to effective decision-making (Marin & Shkreli, 2019; Newman & Nezlek, 2016; Bucknell, Kangas, & Crane, 2022; Takano & Tanno, 2009; Lin & Dolan, 2024; Dey et al., 2018; Yang & van Vugt, 2024; Popovych et al., 2026) points to the relevance and theoretical and practical significance of the results obtained through the program to enhance decision-making efficiency among youth.

Conclusions

The importance and appropriateness of implementing a program to enhance decision-making efficiency among youth have been substantiated. The influence of the program on the decision-making efficiency indicator was assessed through a series of diagnostic measurements. Statistical analysis demonstrated a positive shift in the measurements of the experimental group, in contrast to the control group. The recorded shifts in the

indicators demonstrated a high level of statistical significance ($\alpha < .01$), except for the variables "Creative Thinking" and "Intelligence," whose significance levels were within the range of probable statistical significance (.032 and .014, respectively). According to Cohen's d , the effect sizes for all variables were interpreted as high, except for "Creative Thinking," which showed a medium effect. The results of the formative experiment verified the research hypothesis and demonstrated that reflection can enhance decision-making efficiency among youth.

Not Using AI Tools

No AI-assisted technologies were used in the writing, editing, or data analysis for this manuscript. All work is original and completed solely by the listed authors.

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Existential Anxiety of Ukrainian Students under Martial Law

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Abstract

The aim of the study is to empirically identify the specificity of the structure of existential anxiety among Ukrainian students with different profiles of post-traumatic and clinical symptomatology and, on this basis, to substantiate differentiated targets of psychological counseling. **Methods.** The sample consisted of young adults ($n = 109$; $M = 19.86$; $SD = 1.82$), including 63 women (57.8%) and 46 men (42.2%). The Existential Concerns Questionnaire (Kuchyna, 2020) and the Impact of Event Scale-Revised (Krupelnytska et al., 2025) were administered in their Ukrainian adaptations, together with the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983). The design was cross-sectional, comparative, and correlational: Spearman's rank correlation coefficients were computed, the sample was split into contrasting groups by the median of five symptom markers, and between-group differences were assessed using the Mann-Whitney U test with effect sizes. **Results.** Clinically significant post-traumatic distress was recorded in 56.9% of participants. Fear of death dominated the hierarchy of existential concerns ($M = 2.88$). All correlations were positive and significant ($r_s = .311-.680$; $p < .001$), the strongest being between clinical anxiety and fear of identity loss ($r_s = .680$; $p < .001$). All twenty group comparisons were significant ($p \leq .040$),

Анотація

Метою дослідження є емпіричне з'ясування специфіки структури екзистенційної тривоги українських студентів із різними профілями посттравматичної і клінічної симптоматики та обґрунтування на цій основі диференційованих мішеней психологічного консультування. **Методи.** Досліджено осіб юнацького віку ($n = 109$; $M = 19.86$; $SD = 1.82$), з них 63 жінки (57.8%) і 46 чоловіків (42.2%). Застосовано опитувальник "Види екзистенційної тривоги" (Кучуна, 2020), "Шкалу впливу травматичної події – переглянуту" (Krupelnytska et al., 2025) в українських адаптаціях. Також використано "Госпітальну шкалу тривоги та депресії" (Zigmond, Snaith, 1983). Дизайн – крос-секційний порівняльно-кореляційний: обчислено коефіцієнти рангової кореляції Спірмена, вибірку поділено на контрастні групи за медіанним критерієм п'яти симптоматичних маркерів, відмінності оцінено за U-критерієм Манна-Вітні з визначенням розмірів ефекту. **Результати.** Клінічно значущий рівень посттравматичного дистресу зафіксовано в 56.9% досліджуваних. В ієрархії онтологічного неспокою домінує страх смерті ($M = 2.88$). Усі кореляційні зв'язки виявилися прямими і значущими ($r_s = .311-.680$; $p < .001$), максимальний – між клінічною тривогою і страхом втрати ідентичності ($r_s = .680$; $p < .001$). Усі двадцять групових порівнянь значущі ($p \leq .040$), при-

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with effect sizes ranging from $r = .20$ to $r = .58$. The avoidance cluster proved the most informative marker: large effect sizes were recorded across all scales ($r = .50$ -.58), peaking for fear of identity loss. Fear of death led to the intrusion and hyperarousal profiles; clinical anxiety produced a uniform elevation of three components; in the depressive profile, fear of loneliness was the only component of medium effect size ($r = .33$) and the only one comparably represented in both clinical registers. The post-traumatic clusters surpassed the clinical subscales in differentiating power.

Discussion and conclusions. The structure of existential anxiety differs significantly by symptom type, and the leading components of concern do not coincide across contrasting groups. Standard screening for anxiety and depression yields the least differentiated picture, which argues for extending the diagnostic protocol in counseling. The identified configurations outline differentiated targets of assistance: restoring self-continuity in the avoidance profile, legitimizing death anxiety in the intrusion and hyperarousal profile, and relationally oriented work in the depressive profile.

Keywords: existential fears, ontological anxiety, post-traumatic symptomatology, fear of identity loss, fear of loneliness, psychological counseling.

Introduction

The everyday wartime reality in Ukraine has transformed psychological distress from a situational reaction into a chronic sociocultural backdrop that adversely shapes individual mental health. According to a survey conducted by Polyvianaia et al. (2025), twenty months after the onset of the full-scale war, symptoms of post-traumatic stress were found in almost half of higher education students (48.1%), with moderate and severe levels of anxiety and depression recorded in 34.1% and 33.6% of the respondents, respectively. Notably, the protracted conflict is reshaping distress itself: whereas acute anxiety may subside somewhat as people adapt to the new reality, depressive states deepen – accumulated pain, losses, and depleted resources take their toll (Polyvianaia et al., 2025). This dynamic carries

чому значення розміру ефекту варіюють у діапазоні $r = .20$ -.58. Найінформативнішим маркером став кластер уникнення, за яким зафіксовано високу вираженість розміру ефекту за всіма шкалами ($r = .50$ -.58) з максимумом за страхом втрати ідентичності; за інтрузій і гіперзбудження домінує страх смерті; за клінічної тривоги встановлено рівномірне підвищення трьох компонентів; за депресії єдиним компонентом середньої сили став страх самотності ($r = .33$) – єдиний однаково представлений в обох клінічних регістрах. Посттравматичні кластери випередили клінічні субшкали за силою диференціації.

Дискусія і висновки. Встановлено, що структура екзистенційної тривоги диференціюється залежно від типу симптоматики, а провідні компоненти неспокою в контрастних групах не збігаються. Стандартне оцінювання тривоги й депресії дає найменш диференційовану картину, що аргументує розширення діагностичного протоколу консультування. Виокремлені конфігурації окреслюють диференційовані мішені короткотривалої допомоги: відновлення тягlostі “Я” за уникнення, легітимізацію мортальної тривоги за інтрузій і гіперзбудження, реляційно-орієнтовану роботу за депресивно-го профілю.

Ключові слова: екзистенційні страхи, онтологічний неспокій, посттравматична симптоматика, страх втрати ідентичності, страх самотності, психологічне консультування.

a tangible cost for academic functioning: levels of anxiety and depression correlate significantly with declining academic performance and a general disorganization of the learning process (Korda et al., 2025). Paradoxically, such a high prevalence of symptoms does not convert into a corresponding increase in help-seeking behavior; instead, chronic stress is gradually normalized in the public mind and ceases to be perceived as a legitimate reason to seek support (Lushchak et al., 2026). This underscores the urgent need for both screening instruments (Aleksina et al., 2024) and greater precision in identifying targets of short-term psychological assistance (Frankova et al., 2026).

This destructive dynamic is particularly dangerous in young adulthood. The developmental stage that Erikson (1959) described as a

psychosocial moratorium, a period of free identity exploration and safe experimentation with possible versions of oneself, has been transformed by the pressure of wartime threats into a period of forced existential revision, where the individual concentrates on survival strategies instead of envisioning their future (Kosyanova, 2024). The collapse of familiar life scripts, including education, career, stable relationships, makes the crisis acute and irreversible, while the dominant experiences become fear for one's own safety and that of loved ones, and fear of an irrevocable loss of the future (Sachko, 2023). Broader concomitant changes have also been documented empirically: transformations in the value orientations of youth (Symonenko & Onyshchenko, 2025), deformation of the time perspective in individuals with traumatic experiences (Plokhikh et al., 2025), and a diminished sense of meaning in life (Shrahina & Omelnychenko, 2025); meanwhile, students' adaptive resources are uneven and fluctuate with the stage of the conflict (Hrabovska et al., 2024). Importantly, traumatization is not confined to direct exposure: constant immersion in the media flow is itself associated with stronger traumatic reactions (Gazit & Eden, 2025), and longitudinal data demonstrate the persistence of post-traumatic symptoms even in relatively safe conditions (Krupelnyska et al., 2026; Łubianka & Filipiak, 2026). Where subjective autonomy and safety are lacking, traumatic experience is not integrated into a coherent personality structure but persists as disjointed fragments that intensify ontological insecurity (Ravn, 2024).

The choice of anxiety rather than fear as the central construct of the study is deliberate. Unlike fear, which has a concrete external object, anxiety concerns the very fragility and uncertainty of existence – and precisely for this reason – that the existential tradition views it not as a pathology but as a normal response of a person who has become aware of their own finitude (Yalom, 1980). The risk arises when such anxiety remains without support and fails to be integrated into experience: adaptive disquiet hardens into what Frankl (1992) termed noogenic neurosis – a clinically significant condition engendered not by a deficit of mental health but by an unfilled existential vacuum. Traumatization complicates

this integration because the gap between the bodily experience of threat and the capacity to endow it with meaning blocks the symbolization of experience (van der Kolk, 2015). The clinical profile of such hardening depends on the duration of traumatization, ranging from acute anxiety and freeze reactions at the initial stages to existential exhaustion during a chronic course (Paraniak-Gieszczyk & Ogłodek, 2025).

The theoretical groundwork of the study is Yalom's (1980) conceptualization of the four ultimate concerns of existence – death, freedom, isolation, and meaninglessness – which, under wartime conditions, turn from philosophical categories into direct threats to life. A high level of existential anxiety is not an isolated worldview phenomenon: it is associated with a diminished awareness of life as a whole, through which existence begins to be perceived as chaotic and devoid of perspective (Popovych et al., 2020), while existential dimensions in general act as factors of the individual's subjective social well-being (Halian & Halian, 2025). Recent developments carry these propositions beyond the worldview plane: the neuroexistential approach invites us to consider existential conflicts not merely as states of consciousness but as states of an integral system possessing its own neurobiological substrate (Chan et al., 2026). This is corroborated by evidence on the biochemical correlates of existential profiles in post-traumatic stress disorder, in particular the variability of serotonin and cortisol levels depending on the depth of the ontological deficit (Paraniak-Gieszczyk & Ogłodek, 2025).

However, despite solid research on the psychometric provision of trauma assessment (Krupelnyska et al., 2025) and on students' adaptability under wartime conditions (Hrabovska et al., 2024), the question of how the structure of ontological anxiety relates to the particular dimensions of clinical and post-traumatic symptomatology remains insufficiently studied. Existing research mostly operates with integral indices of distress, whereas the differentiation of post-traumatic symptom clusters (intrusion, avoidance, hyperarousal), anxiety, and depression through the prism of basic existential fears has not received adequate

empirical attention. Systematizing the existential anxiety of youth based on four fundamental fears – death, loss of identity, loneliness, and loss of meaning (Kuchyna, 2020) – makes it possible to move from describing general distress to constructing differentiated psychological profiles, a necessary foundation for developing targeted logotherapeutic and resource-oriented interventions in counseling practice (Gawda & Korniluk, 2024; Haydabrus & Giménez-Llort, 2026; Ronzhes & Khmelyova, 2025; Olstad et al., 2022).

The aim of the study is to empirically ascertain the specificity of the structure of existential anxiety among Ukrainian students with different profiles of post-traumatic and clinical symptomatology and, on this basis, to substantiate differentiated targets of psychological counseling under martial law.

Hypothesis: the structure of existential anxiety (the scores for the fears of death, identity loss, loneliness, and loss of meaning) in students varies statistically significantly depending on the severity of clinical anxiety, depression, and post-traumatic intrusion, avoidance, and hyperarousal.

Methods

Participants. The study involved 109 young adults, all students: 63 women (57.8%) and 46 men (42.2%); age: $M = 19.86$, $SD = 1.82$ (range 16–24 years). The inclusion criteria were: (1) student status; (2) age within the period of young adulthood (16–24 years). The sample was formed through self-selection: participants joined voluntarily in response to announcements on social media specifying the participation criteria. To ensure full anonymity and minimize the amount of personal data collected, the questionnaire contained only two socio-demographic questions – age and gender. No information enabling personal identification (region of residence, educational institution, contact details, internally displaced person status) was collected.

Procedures and Instruments. Data were collected remotely via Google Forms. The study complied with the ethical principles of voluntariness, anonymity, and confidentiality. Before proceeding, respondents read the informed consent statement posted on the first page of the

form and continued only after confirming it. The diagnostic battery comprised three instruments.

The Existential Concerns Questionnaire (ECQ; van Bruggen et al., 2017) in the Ukrainian adaptation by Kuchyna (2020) served as the ontological lens of the study, making it possible to move beyond purely symptomatic analysis and to examine the structure of the personality's disquiet in the face of the ultimate concerns of existence. The questionnaire consists of twenty-two statements rated on a five-point scale. The Ukrainian adaptation differentiates four factors: fear of death, fear of identity loss, fear of loneliness, and fear of loss of meaning in life (which corresponds to the domain of meaninglessness in the original instrument); the existential guilt subscale of the original instrument was excluded from the Ukrainian version due to insufficient internal consistency (Kuchyna, 2020). Each subscale score was computed as the arithmetic mean of the corresponding items. In the present sample ($n = 109$), the internal consistency of the Ukrainian version of the ECQ (Kuchyna, 2020) was confirmed by a high Cronbach's alpha coefficient of .910.

To operationalize traumatic experience, the Impact of Event Scale-Revised (IES-R; Weiss, 2007) in its Ukrainian adaptation by Krupelnyska et al. (2025) was employed. The instrument was chosen because the Ukrainian version was validated specifically on experiences related to the 2022 full-scale invasion. The scale comprises twenty-two statements and operationalizes the respondent's state through three symptom clusters – intrusion, avoidance, and hyperarousal – and a total index of post-traumatic distress severity; a total score of ≥ 33 was adopted as clinically significant. The internal consistency of the instrument on this sample was excellent: $\alpha = .947$.

The current clinical state was assessed with the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983), which acted as a clinical filter for evaluating the psycho-emotional background. The instrument has been applied previously in studies of mental states under martial law (Popovych et al., 2023). The questionnaire consists of fourteen statements distributed across two autonomous subscales of seven items each –

anxiety and depression (subscale score ranges: 0–7, norm; 8–10, subclinical level; 11–21, clinically significant state). The internal consistency of the HADS subscales (Zigmond & Snaith, 1983) on the studied sample was: anxiety $\alpha = .767$ (acceptable) and depression $\alpha = .610$ (questionable); the mean inter-item correlation of the subscale ($\bar{r} = .18$) falls within the acceptable range.

Organization of research. The empirical study follows a cross-sectional comparative-correlational design and was conducted in two stages. At the first stage (January 2026), a pilot survey ($n = 39$) was administered, and its results were used to refine the procedure. At the second stage (May–August 2026), the sample was expanded to $n = 109$ through additional distribution of the questionnaire via social media, using the same selection criteria. The homogeneity of the two subsamples on the key instrument scores was verified with the Mann–Whitney U test, which revealed no statistically significant differences (all $p > .05$), allowing the combined dataset to be used.

Variables. The study assessed the structure of existential anxiety, the severity of post-traumatic symptomatology, and the respondents' current clinical state. Existential anxiety was operationalized through four subscales of the ECQ (Kuchyna, 2020): fear of death, fear of identity loss, fear of loneliness, and fear of loss of meaning; each subscale score was computed as the arithmetic mean of the corresponding items (range 1.00–5.00) in order to ensure direct comparability between factors with different numbers of diagnostic items. Post-traumatic distress was operationalized through the three symptom clusters of the IES-R (Krupelnyska et al., 2025) – intrusion, avoidance, and hyperarousal – and the scale's total score. The current clinical state was operationalized through the anxiety and depression subscales of the HADS (Zigmond & Snaith, 1983).

Statistical analysis. The empirical data were processed using IBM SPSS Statistics v. 27.0.1. For each measure, descriptive statistics were computed: the arithmetic mean (M), the median (Me), the standard deviation (SD), skewness (S), and kurtosis (K). The normality of the distribution was tested using the Kolmogorov–Smirnov test with the Lilliefors correction, chosen based on

the sample size ($n > 100$). Since a statistically significant deviation from normality was found for most scales ($p < .05$), nonparametric methods were applied in subsequent analyses. The internal consistency of the diagnostic items of each instrument was assessed with Cronbach's alpha, with the obtained values interpreted according to standard descriptors ($< .70$, questionable; $.70$ – $.79$, acceptable; $.80$ – $.89$, good; $\geq .90$, excellent).

The relationships between the measures of existential anxiety, post-traumatic distress, and the clinical symptoms of anxiety and depression were examined with Spearman's rank correlation coefficient (r_s). The strength of the association was interpreted according to conventional limits: $|r_s| < .300$, weak; $.300$ – $.490$, moderate; $.500$ – $.690$, strong; $\geq .700$, very strong.

To implement the comparative task of the study, the sample was successively divided into contrasting groups by five symptom measures: the anxiety and depression subscales of the HADS (Zigmond & Snaith, 1983) and the three IES-R clusters (Krupelnyska et al., 2025) – intrusion, avoidance, and hyperarousal. The division followed the median criterion (Me), which ensured balanced subsample sizes and a uniform methodological principle of analysis. Notably, the median values obtained for the HADS subscales (Zigmond & Snaith, 1983) proved close to the clinical cut-off for distress ($Me = 9$ for anxiety and $Me = 7$ for depression against the cut-off score of ≥ 8), indicating that the sample was shifted toward elevated psycho-emotional strain. The median-split procedure was likewise applied to the IES-R clusters (Krupelnyska et al., 2025), for which no normative cut-off points have been established on a Ukrainian-speaking sample. The differences between the resulting contrasting groups in the severity of existential anxiety measures were assessed with the nonparametric Mann–Whitney U test. The effect size (r) was computed with the standardized formula $r = |Z| / \sqrt{n}$, where $|Z|$ is the absolute value of the standardized Z statistic and n is the total sample size. The resulting indices were interpreted according to Cohen's criteria: $.10$ – $.29$, small effect; $.30$ – $.49$, medium effect; $.50$ – 1.00 , large effect. Given the exploratory nature of the comparative part of the analysis and the multiplicity of comparisons,

the results are interpreted with caution, and the limitations of the sampling design are discussed separately in the Discussion section.

Results

The descriptive statistics of the studied measures, the shape indicators of the empirical distribution, and the results of the normality testing with the Kolmogorov-Smirnov test with the Lilliefors correction are presented in Tabl. 1.

Table 1. Descriptive statistics and parameters of the normal distribution of the sample ($n = 109$)

Scale	M	Me	SD	Normal distribution		
				S	K	K-Sb (p)
“ECQ” (Kuchyna, 2020)						
FD	2.88	2.86	.85	-.061	-.649	.020
FLM	2.53	2.50	.78	.049	-.916	.103
FLO	2.36	2.20	.87	.289	-.626	.045
FIL	2.42	2.25	1.01	.260	-1.024	<.001
“IES-R” (Krupelnyska et al., 2025)						
Int	13.30	13.00	8.08	.059	-1.033	.011
Av	12.73	14.00	8.63	.059	-1.056	.025
Hyp	10.13	11.00	5.62	-.051	-.987	.010
Total	36.15	38.00	20.73	-.097	-1.191	.036
“HADS” (Zigmond, Snaith, 1983)						
Ax	8.72	9.00	4.08	.200	.231	.044
Dep	7.27	7.00	3.33	.065	-.634	.025

Note: M – arithmetic mean; Me – median; SD – standard deviation; S – skewness; K – kurtosis; p – statistical significance level; K-Sb – the Kolmogorov-Smirnov test; FD – fear of death; FLM – fear of loss of meaning; FLO – fear of loneliness; FIL – fear of identity loss; Int – intrusion; Av – avoidance; Hyp – hyperarousal; Total – IES-R total score; Ax – anxiety; Dep – depression.

The structure of existential anxiety revealed a clear hierarchy of severity. The highest severity was recorded for fear of death ($M = 2.88$; $Me = 2.86$), followed by fear of loss of meaning ($M = 2.53$; $Me = 2.50$), fear of identity loss ($M = 2.42$; $Me = 2.25$), and fear of loneliness ($M = 2.36$; $Me = 2.20$). The hierarchy is uneven: fear of death is separated from the normative value of the Ukrainian adaptation of the ECQ (2.41; Kuchyna, 2020) by a gap of .47 points, whereas the other three fears fall within a range of .17. Thus, one leading component stands out in the structure of the respondents’ ontological anxiety, while the rest form a relatively homogeneous background. The greatest dispersion of empirical

values was observed for fear of identity loss ($SD = 1.01$) and the smallest by fear of loss of meaning ($SD = .78$), indicating varying degrees of sample homogeneity across the components of existential anxiety.

For the IES-R symptom clusters (Krupelnyska et al., 2025), the mean values were as follows: intrusion ($M = 13.30$; $Me = 13.00$), avoidance ($M = 12.73$; $Me = 14.00$), and hyperarousal ($M = 10.13$; $Me = 11.00$). The scale’s total score ($M = 36.15$; $Me = 38.00$) exceeded the normative cut-off value (≥ 33), indicating that the level of post-traumatic distress in this sample falls within the range of probable clinical significance. The proportion of respondents with

a score of ≥ 33 was 56.9% ($n = 62$). For three of the four scale measures, the median exceeded the arithmetic mean, reflecting a shift of the bulk of the data toward higher values.

The indicators of the current clinical state fell within the range of elevated psycho-emotional strain: anxiety ($M = 8.72$; $Me = 9.00$) corresponds to the subclinical range (8–10), and depression ($M = 7.27$; $Me = 7.00$) to the upper limit of the normative range (0–7). It was found that 61.5% ($n = 67$) of the respondents on the anxiety scale and 47.7% ($n = 52$) on the depression scale were in the zone of pronounced clinical tension and subclinical risk (≥ 8). A clinically significant level of anxiety (≥ 11) was recorded in 33.9% ($n = 37$) of the respondents, and of depression in 19.3% ($n = 21$). Thus, on both subscales, anxiety symptomatology substantially exceeds depressive symptomatology both in mean severity and in the overall proportion of individuals beyond the normative range.

Verification of the shapes of the empirical distributions showed no critical deviations in skewness: the values of S ranged from $-.097$ to $.289$, i.e., the distributions are practically

symmetric. The kurtosis (K) values, however, displayed a pronounced negative direction for nine of the ten scales. The obtained values indicate platykurtic distributions: the respondents are spread across the entire range of the scales rather than concentrated around the central tendency, which indicates polarization of the sample at the levels of both post-traumatic symptomatology and ontological anxiety. This feature of the empirical distributions substantiates the subsequent division of the sample into contrasting groups. The Kolmogorov-Smirnov test confirmed a statistically significant deviation from the normal distribution for nine of the ten scales ($p < .05$); the only exception was fear of loss of meaning ($p = .103$). This result determined the use of nonparametric methods of statistical processing.

The relationships between the measures of existential anxiety and the symptoms of war-related distress in youth were examined with Spearman's rank correlation coefficient (Tabl. 2).

Table 2. Spearman's rank correlation coefficients between the measures of existential anxiety and the symptoms of war-related distress in youth ($n = 109$)

Scale	Int	Av	Hyp	Total	Ax	Dep
FD	.563**	.519**	.559**	.582**	.555**	.332**
FLM	.516**	.557**	.512**	.571**	.506**	.341**
FLO	.484**	.566**	.458**	.544**	.476**	.475**
FIL	.532**	.594**	.512**	.592**	.680**	.311**

Note: ** – $p < .001$ (two-tailed); FD – fear of death; FLM – fear of loss of meaning; FLO – fear of loneliness; FIL – fear of identity loss; Int – intrusion; Av – avoidance; Hyp – hyperarousal; Total – IES-R total score; Ax – anxiety; Dep – depression.

All twenty-four computed coefficients proved statistically significant at $p < .001$: greater severity of any symptom measure was accompanied by a positive correlation with all components of existential anxiety. The magnitude of the associations ranged from $r_s = .311$ to $.680$.

The strongest association in the entire correlation matrix was recorded between clinical anxiety and fear of identity loss ($r_s = .680$; $p < .001$) – the only value approaching the boundary of

a very strong association. Fear of identity loss also showed strong associations with avoidance ($r_s = .594$; $p < .001$), the IES-R total score (Krupelnyska et al., 2025) ($r_s = .592$; $p < .001$), intrusion ($r_s = .532$; $p < .001$), and hyperarousal ($r_s = .512$; $p < .001$). Fear of death demonstrated strong associations with the IES-R total score ($r_s = .582$; $p < .001$), intrusion ($r_s = .563$; $p < .001$), hyperarousal ($r_s = .559$; $p < .001$), and clinical anxiety ($r_s = .555$; $p < .001$). Fear of loss of

meaning displayed a homogeneous structure of associations, with all coefficients falling within the .506–.571 range. Fear of loneliness was most closely related to avoidance ($r_s = .566$; $p < .001$) and the IES-R total score ($r_s = .544$; $p < .001$).

A distinct configuration of associations was found for depression. For this measure, all four coefficients fell below the boundary of a strong association and belonged to the moderate range: fear of loneliness ($r_s = .475$; $p < .001$), fear of loss of meaning ($r_s = .341$; $p < .001$), fear of death ($r_s = .332$; $p < .001$), and fear of identity loss ($r_s = .311$; $p < .001$). Depression is the only symptom measure for which fear of loneliness occupied the leading position, and the only one for which fear of identity loss was the lowest. The magnitude of depression's associations with existential anxiety ($r_s = .311$ –.475; $p < .001$) is substantially inferior to that of the corresponding associations of clinical anxiety ($r_s = .476$ –.680; $p < .001$).

A comparison of the two clinical subscales for each component of existential anxiety revealed a further regularity. The gap between the coefficient of association with anxiety and the coefficient of association with depression is maximal for fear of identity loss (.680 and .311; a difference of .369), substantial for fear of death (.555 and .332; a difference of .223), and fear of loss of meaning (.506 and .341; a difference of .165), yet practically zero

for fear of loneliness (.476 and .475; a difference of .001). Thus, fear of loneliness is the only component of ontological anxiety represented to a comparable degree in both clinical registers, whereas fear of identity loss shows the maximal specificity toward the anxiety register.

To implement the comparative task of the study, the sample was successively divided into contrasting groups using the median split method across five symptom markers. The sizes of the resulting subsamples were: for intrusion, $n_1 = 55$ (50.5%) and $n_2 = 54$ (49.5%); for avoidance, $n_1 = 61$ (56.0%) and $n_2 = 48$ (44.0%); for hyperarousal, $n_1 = 60$ (55.0%) and $n_2 = 49$ (45.0%); for anxiety, $n_1 = 64$ (58.7%) and $n_2 = 45$ (41.3%); for depression, $n_1 = 57$ (52.3%) and $n_2 = 52$ (47.7%). For the depression subscale, the median split ($Me = 7.00$) exactly reproduced the instrument's normative cut-off point (≥ 8), so that the statistical and clinical grouping criteria coincided: subsample 2 fully corresponds to the range of clinically relevant depressive symptomatology. The results of the comparison are presented in Tabl. 3.

Table 3. Differentiation of the existential fear measures in the contrasting groups of respondents (Mann–Whitney U test, $n = 109$)

Symptom marker	Statistical parameter	FD	FLM	FLO	FIL
Int	Me_1 ($n = 55$)	2.29	2.17	2.00	1.75
	Me_2 ($n = 54$)	3.36	2.83	2.60	3.00
	U	605.0	737.0	765.5	682.0
	r	.51	.44	.42	.47
	p	<.001	<.001	<.001	<.001
Av	Me_1 ($n = 61$)	2.43	2.17	2.00	1.75
	Me_2 ($n = 48$)	3.43	3.00	2.80	3.25
	U	609.5	606.0	619.0	474.5
	r	.50	.50	.50	.58
	p	<.001	<.001	<.001	<.001

Hyp	Me_1 ($n = 60$)	2.43	2.17	2.00	1.75
	Me_2 ($n = 49$)	3.43	3.00	2.60	2.75
	U	691.5	795.0	830.0	779.0
	r	.46	.39	.38	.41
	p	<.001	<.001	<.001	<.001
Ax	Me_1 ($n = 64$)	2.43	2.17	2.00	1.75
	Me_2 ($n = 45$)	3.43	2.83	2.60	2.75
	U	702.5	759.5	913.0	766.0
	r	.44	.40	.31	.40
	p	<.001	<.001	.001	<.001
Dep	Me_1 ($n = 57$)	2.57	2.33	2.00	2.00
	Me_2 ($n = 52$)	2.93	2.83	2.60	2.75
	U	1112.5	1074.5	912.5	1144.5
	r	.22	.24	.33	.20
	p	.025	.013	<.001	.040

Note: Me_1 – median of the existential fear measure in the subsample with a lower level of the symptom marker ($\leq Me$); Me_2 – median in the subsample with a higher level ($> Me$); U – Mann–Whitney test value; p – asymptomatic significance level (two-tailed); r – effect size (.10 – small, .30 – medium, .50 – large); FD – fear of death; FLM – fear of loss of meaning; FLO – fear of loneliness; FIL – fear of identity loss; Int – intrusion; Av – avoidance; Hyp – hyperarousal; Ax – anxiety; Dep – depression.

Across all twenty comparisons, the subsample with a higher level of the symptom marker statistically significantly exceeded the contrasting subsample in the measures of existential anxiety ($p \leq .040$). The effect size, however, varied substantially, from $r = .20$ to $r = .58$, thereby enabling the identification of qualitatively distinct configurations of differentiation.

In the subsample with pronounced intrusion, the greatest differentiation was observed for fear of death ($U = 605.0$; $p < .001$; $r = .51$): the median of this measure increased from 2.29 to 3.36. The next positions were occupied by fear of identity loss ($U = 682.0$; $p < .001$; $r = .47$), fear of loss of meaning ($U = 737.0$; $p < .001$; $r = .44$), and fear of loneliness ($U = 765.5$; $p < .001$; $r = .42$). A similar hierarchy was obtained for the hyperarousal marker, where fear of death likewise took the leading position ($U = 691.5$; $p < .001$; $r = .46$), while the remaining measures clustered compactly in the $r = .38$ –.41 range. The overall level of differentiation for hyperarousal proved lower than for intrusion,

with the same hierarchy of measures preserved.

The highest differentiation values in the entire study were recorded for the post-traumatic avoidance marker. Fear of identity loss demonstrated the largest effect size in the comparison matrix ($U = 474.5$; $p < .001$; $r = .58$), with a median increase from 1.75 to 3.25 – the maximal gap among all twenty comparisons. The remaining measures differentiated uniformly and at the level of large effects: fear of death, fear of loss of meaning, and fear of loneliness ($r = .50$ for all three). Avoidance is the only marker for which all four components of existential anxiety reached the level of a large effect.

The contrasting groups formed by the level of clinical anxiety revealed a configuration built on the opposite principle: here, differentiation is determined not by the dominance of any particular measure but by one lagging behind. Fear of death ($U = 702.5$; $p < .001$; $r = .44$), fear of loss of meaning ($U = 759.5$; $p < .001$; $r = .40$), and fear of identity loss ($U = 766.0$; $p < .001$; $r = .40$)

differentiated the groups practically identically, while fear of loneliness noticeably lagged behind the other measures ($U = 913.0$; $p = .001$; $r = .31$). Thus, an increase in the level of clinical anxiety is accompanied by a uniform rise in three components of ontological anxiety, with a relative lag in the experience of existential isolation. At the same time, the strongest correlation between clinical anxiety and fear of identity loss recorded in the correlation analysis ($r_s = .680$) did not reproduce in the comparative analysis, where this measure ($r = .40$) showed no advantage over fear of death ($r = .44$).

The contrasting groups formed by the level of clinical depression displayed an inversion of the configuration. The only measure to reach the level of a medium effect was fear of loneliness ($U = 912.5$; $p < .001$; $r = .33$). Fear of loss of meaning ($U = 1074.5$; $p = .013$; $r = .24$), fear of death ($U = 1112.5$; $p = .025$; $r = .22$), and fear of identity loss ($U = 1144.5$; $p = .040$; $r = .20$) remained within the range of small effects. Depression is the only marker for which fear of loneliness outpaces the other measures, and the only one for which the effect size for fear of loneliness ($r = .33$) exceeds the corresponding value for clinical anxiety ($r = .31$); for the other three components, the ratio is reversed ($r = .44$ vs. $.22$; $r = .40$ vs. $.24$; $r = .40$ vs. $.20$). Thus, the results of the comparative analysis reproduce the regularity recorded in the correlation matrix: fear of loneliness is the only component of ontological anxiety whose affinity with the depressive register is not inferior to its affinity with the anxiety register.

The structural cause of the weakened differentiation for depression lies in the configuration of medians in the contrasting groups. Whereas in the subsamples with a lower level of the four other markers the medians of the existential fears practically coincide ($Me_1 = 2.29$ – 2.43 for fear of death; 2.17 for fear of loss of meaning; 2.00 for fear of loneliness; 1.75 for fear of identity loss), in the group with a lower level of depression they are noticeably higher ($Me_1 = 2.57$; 2.33 ; 2.00 ; 2.00). In the subsamples with a higher level of clinical anxiety and a higher level of depression, the medians of three of the four measures are identical ($Me_2 = 2.83$; 2.60 ; 2.75) and diverge only for fear of death (3.43 and

2.93 , respectively). Hence, the reduced distance between the contrasting groups for depression is driven not by a lower ontological anxiety in individuals with a higher level of symptomatology, but by its high severity in the subsample with conventionally normative scores.

Comparing the symptom markers by the overall magnitude of the recorded effects allowed us to assess the degree to which each of them differentiates the existential anxiety of youth. The most pronounced differential potential was shown by the post-traumatic avoidance marker, with exclusively large effects across all scales ($r = .50$ – $.58$), and by the intrusion cluster ($r = .42$ – $.51$). Somewhat lower, mostly moderate levels of differences are characteristic of the hyperarousal marker ($r = .38$ – $.46$) and clinical anxiety ($r = .31$ – $.44$); the depression marker showed the weakest differentiation, with a predominance of small effects. Overall, the entire family of IES-R post-traumatic clusters (Krupelnyska et al., 2025) surpassed both clinical HADS subscales (Zigmond & Snaith, 1983) in differentiating power; this indicates that the severity of post-traumatic symptomatology of war-related distress is more closely related to the structure of ontological anxiety in youth than the severity of the current clinical state.

Discussion

The study confirmed the stated hypothesis: the structure of students' existential anxiety differs statistically significantly depending on the severity of the symptoms of clinical anxiety, depression, and post-traumatic intrusion, avoidance, and hyperarousal. In addition, it was established that the leading components of ontological anxiety do not coincide across the contrasting groups: each symptom register has its own configuration of existential vulnerability (see Tabl. 3). Herein lies the novelty of the study: a transition was made from establishing the presence of general distress to identifying the qualitatively distinct profiles of disquiet concealed behind integral indices.

The most informative marker proved to be post-traumatic avoidance, for which all components of existential anxiety reached large effects ($r = .50$ – $.58$), with fear of identity loss showing the maximum value in the entire

comparison matrix ($r = .58$) (see Tabl. 3). This is consistent with the proposition that avoidance blocks the symbolization of traumatic experience (van der Kolk, 2015), and that non-integrated fragments of experience intensify ontological insecurity (Ravn, 2024). It is telling that the deepest vulnerability fell precisely on identity: in young adulthood, for which the war has effectively abolished the psychosocial moratorium (Erikson, 1959), identity construction is in itself the leading developmental task, so the rift between experience and its meaning, conserved by avoidance, strikes this link first of all.

The dominance of fear of death in the intrusion and hyperarousal profiles is consistent with understanding these clusters as a direct breakthrough of the threat to life into consciousness (see Tabl. 3): death anxiety here appears as an immediate response to the actualized given of finitude (Yalom, 1980), which is consonant with the data on the leading fears of Ukrainian youth in wartime (Sachko, 2023).

The clinical anxiety profile is built on the opposite principle: differentiation is determined not by the dominance of a particular component but by a uniform elevation of the fears of death, meaning, and identity ($r = .40-.44$) with a relative lag in existential isolation, which corresponds to the generalized nature of the anxiety register. It is here that the discrepancy between the two methods of analysis emerged: the strongest correlation of anxiety with fear of identity loss ($r_s = .680$; $p < .001$) did not reproduce in the comparative part of the study. The explanation is methodological: r_s describes a monotonic association across the entire range of values, whereas the U test captures the contrast at the point of the median split – which, for the anxiety subscale ($Me = 9$), lies above the normative threshold; the lower-level subsample therefore also included individuals with subclinical symptomatology, which narrowed the between-group contrast.

The depressive register displayed an inversion: the only component with a medium effect was fear of loneliness – the same component represented to an equal degree in both clinical registers of the correlation matrix (see Tabl. 2 and 3). This accords with the treatment of existential isolation

as a given connected with states of deficit rather than mobilization, and with the data on the existential dimensions of subjective social well-being (Halian & Halian, 2025). The weakened differentiation for depression, driven by the high level of fears in the subsample with normative scores, is consistent with the dynamics of chronic traumatization: over longer time horizons, acute anxiety yields to an existential exhaustion that spills beyond the boundaries of clinically significant states (Paraniak-Gieszczyk & Ogłodek, 2025). The transversality of fear of loss of meaning echoes the same pattern: second in severity ($M = 2.53$), it is not tied to any single register, and its associations are the most homogeneous ($r_s = .506-.571$; $p < .001$), which corresponds to the understanding of the existential vacuum as a diffuse background not reducible to specific symptomatology (Frankl, 1992). In the sample, anxiety symptomatology substantially exceeded depressive symptomatology (33.9% vs. 19.3% of clinically significant states) (see Tabl. 1), whereas after twenty months these proportions were approximately equal (Polyvianai et al., 2025); this discrepancy may be explained by the younger age, the self-selection of the participants, and the normalization of chronic stress (Lushchak et al., 2026), while the overall high burden is consistent with review data on Ukrainian youth (Silwal et al., 2026).

The practical contribution of the study lies in substantiating differentiated targets of short-term psychological assistance and the need for precision in identifying which grows under martial law (Frankova et al., 2026). For the post-traumatic avoidance profile, the priority target appears to be the integration of the experience of post-traumatic recovery into a coherent structure of the self, corresponding to practices for developing existential subjectivity that have been tested with Ukrainian youth (Ronzhes & Khmelyova, 2025). For the intrusion and hyperarousal profile, the target is the depathologization of death anxiety (Yalom, 1980) and the restoration of the time perspective, whose deformation is characteristic of students with traumatic experiences (Plokhikh et al., 2025); the relevance of logotherapeutic techniques in the wartime context has been confirmed quasi-experimentally

(Haydabrus & Giménez-Llort, 2026).

For the clinical anxiety profile, the uniformity of the elevation of the fears argues for a two-step logic of assistance: the anxiety subscale serves as an accessible screening entry point, while refining the target requires further differentiation by the post-traumatic clusters. For the depressive profile, the target is the experience of existential isolation, which argues for relationally oriented work and the activation of resource states, notably curiosity as a protector against the existential vacuum (Gawda & Korniluk, 2024).

Limitations

The cross-sectional design precludes causal inferences. Self-selection limits the generalization of the results to Ukrainian students as a whole. The minimization of personal data, justified by considerations of anonymity, made it impossible to control for covariates – region of residence, internally displaced person status, and the nature of traumatic exposure. The identified profiles are an analytical generalization of the configurations of group differences rather than the result of a cluster analysis of the respondents. The lower internal consistency of the HADS depression subscale (Zigmond & Snaith, 1983) ($\alpha = .610$) may have attenuated the corresponding associations; however, measurement error could not have produced the significant effects observed. Longitudinal monitoring of the dynamics of the identified configurations, cluster modeling of the empirical profiles of existential anxiety, analysis of gender differences, and empirical validation of the outlined counseling targets in an interventional design constitute directions for further research.

Conclusions

The study yielded three principal findings that refine the understanding of existential anxiety among student youth in wartime. First, the ontological anxiety of students is not a monolithic phenomenon. Each symptom register of war-related distress marks its own configuration of existential vulnerability, and the leading fears do not coincide across the contrasting groups. The most accurate indicator of this vulnerability proved to be not the current clinical state but post-traumatic symptomatology: the anxiety

and depression subscales yielded to all three IES-R clusters (Krupelnyska et al., 2025) in the power of group discrimination. It follows that screening limited to the assessment of anxiety and depression systematically underestimates the depth of a student's ontological anxiety. Second, the most powerful marker of existential vulnerability was post-traumatic avoidance ($r = .50-.58$): its target proved to be identity – the leading developmental task of young adulthood – so it is avoidance, the least conspicuous component of the symptomatic picture, that signals the deepest ontological affliction. Third, existential tension has transcended clinical categories: an elevated level of the basic fears was recorded already in the subsample with normative depression scores, meaning that ontological anxiety has spread wider than a clinical scale can capture. The study substantiated differentiated targets of short-term psychological assistance for students: in the avoidance profile, the counselor works on restoring the integrity of the self, supporting the integration of post-traumatic recovery experience and the client's subject position; in the intrusion and hyperarousal profile, the counselor normalizes death anxiety as a response to the actualized finitude and restores the time perspective; in the clinical anxiety profile, the counselor applies a two-step logic in which the anxiety subscale serves as the screening entry point and the target is refined by the post-traumatic clusters; in the depressive profile, the counselor restores the experience of connection with the Other and activates the personality's resource states. The results obtained shift the perspective of counseling work with students: from responding to a pronounced symptom toward recognizing the existential given that this symptom marks. The validation of the outlined targets in an interventional design constitutes a direction for further research.

Not Using AI Tools

No AI-assisted technologies were used in the writing, editing, or data analysis for this manuscript. All work is original and completed solely by the listed author.

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The Influence of the Perception of Parent-Child Relationships on the Formation of Codependent Relationships in Adult Women

Вплив сприйняття дитячо-батьківських відносин на формування співзалежних стосунків у дорослих жінок

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Abstract

The purpose of the study is to assess the influence of parental relationships on the specific features of adult women's interaction with a partner, taking into account the level of codependency. **Methods.** The study was conducted with 232 women, who were divided into three groups depending on the length of their romantic relationships and family composition in childhood. The Fischer-Spann Codependency Scale was used to assess the level of codependency in women; the Parental Acceptance-Rejection Questionnaire was used to assess the relationships between the women and their parents in childhood; the R. Janoff-Bulman basic beliefs methodology was used to evaluate women's life and worldview attitudes. Statistical comparison of the results included the Pearson's criterion, Cramer's V, the integral index of psychological deformation, and the percentage loss of resources criterion. **Results.** It was established that a higher moderate level of codependency was observed in women in Group 3 (52.6%) and Group 1 (48.7%), which is associated with the involvement of both parents in upbringing during childhood. The highest level of markedly expressed codependency was observed in women in Group 2 (51.8%), whose parents were divorced, which affected self-sacrifice and disregard of their own needs in

Анотація

Мета дослідження – оцінка впливу сприйняття батьківських відносин на специфіку взаємодії дорослих жінок із партнером з урахуванням рівня співзалежності. **Методи.** Дослідження реалізовано за допомогою 232 жінок, яких було розподілено на три групи в залежності від строку тривалості стосунків та складу сім'ї в дитинстві. Використання тесту на співзалежність Фішера-Спанна сприяло оцінці рівня співзалежності в жінок; методики Parental Acceptance-Rejection Questionnaire – визначенню відносин у дитинстві між жінками та їхніми батьками; методики дослідження базисних переконань особистості Р. Янофф-Булмана – оцінці життєвих та світоглядних установок жінок. Статистичне порівняння результатів включало використання критерію Пірсона, показника V Крамера, інтегрального індексу психологічної деформації та критерію відсоткової втрати ресурсу. **Результати.** Встановлено, що вищий помірний рівень співзалежності спостерігався в жінок групи 3 (52.6%) та групи 1 (48.7%), що пов'язано із залученістю обох батьків у виховання в дитинстві. Найвищий рівень різко вираженої співзалежності спостерігався в жінок групи 2 (51.8%), батьки яких були розлучені, що вплинуло на самопожертву та ігнорування

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adulthood. The study established that there is a difference in the perception of mother and father by all respondents: the level of rejection of the father was lower, while the mother's additional care was perceived as control (especially in Group 2), which resulted in a more pronounced hostile attitude toward the mother (12.8 points) than toward the father overall. Respondents' answers revealed a higher level of neglect by the father in the absence of regular interaction with him and emotional support. Statistical assessment of basic beliefs made it possible to determine that a less stable self-image was evident in women with a high level of codependency. **Discussion and conclusions.** Codependency in women is associated with the influence of relationships with parents in childhood. A markedly expressed level of codependency is observed in the group of women whose parents were divorced; it may be assumed that in such a family, the perception of the father and mother became polarized. This perception of parent-child relationships among these women also affected a lowered self-image, reduced benevolent perception of the surrounding world, and low levels of justice and luck. The study showed that the presence of optimal control and involvement (as the opposite of indifference) of both parents during childhood contributed to a more harmonious formation of personal boundaries in adulthood, thereby enabling more independent relationship building.

Keywords: codependency in women, perception of parents, family relationships, father's involvement, level of rejection, level of neglect, emotional closeness, basic beliefs.

Introduction

Relationships with parents in childhood can affect a person's psychological balance and interpersonal relationships in adulthood. Studying the specific features of both parents' participation in upbringing, emotional openness toward children, and the degree of control affects the formation of behavioral strategies with a partner and the general self-concept (Huri et al., 2024). Analysis of parent-child relationships contributes to an in-depth study of the specific features of codependent relationships, understanding

власними потребами в дорослому віці. Дослідженням встановлено, що простежується різниця у сприйнятті матері та батька всіма респондентками: рівень неприйняття батька був нижчим, а додаткова турбота матері сприймалася як контроль (особливо у групі 2), що вплинуло на більш виражене вороже ставлення до матері (12.8 балів), ніж до батька в цілому. Серед відповідей респонденток виявлено вищий рівень ігнорування батьком за відсутності постійної взаємодії з ним та емоційної підтримки. Статистична оцінка базових переконань дозволила визначити, що менш стабільний образ "Я" був помітний у жінок з високим рівнем співзалежності. **Дискусія та висновки.** Співзалежність у жінок пов'язана з впливом відносин із батьками у дитинстві. Рівень різко вираженої співзалежності прослідковується в групі жінок, чиї батьки були розлучені. Можна припустити, що в такій родині сприйняття батька і матері поляризувалося. Така перцепція дитячо-батьківських відносин у цих жінок мала також вплив на занижений образ "Я", знижене доброзичливе сприйняття довколишнього світу, низький рівень справедливості та везіння. Дослідження показало, що наявність оптимального контролю та залученості (як антипод байдужості) з боку обох батьків у дитинстві сприяло більш гармонійному встановленню власних кордонів у дорослому віці, що дозволяє більш незалежно будувати стосунки.

Ключові слова: співзалежність у жінок, сприйняття батьків, сімейні стосунки, залученість батька, рівень неприйняття, рівень ігнорування, емоційна близькість, базові переконання. approaches to therapeutic sessions, and affects the relevance of the topic and the novelty of the study.

Codependent relationships reflect a type of relationship between people that includes excessive self-devotion and one person's dependence on another (Momeñe et al., 2024). Codependent relationships are associated with a high level of emotional dependence, which does not allow awareness of one's own boundaries due to low self-esteem. This type of relationship is characterized by jealousy and systematic control

resulting from concerns about losing a partner (Ali et al., 2025). Therefore, codependent partners often ignore personal aspirations in order to satisfy another person's needs. Codependent relationships may develop due to failure to recognize one's own value and fear of rejection and loneliness. Lack of readiness to establish one's own boundaries affects the tendency to adapt to the partner's needs and difficulty refusing (Popovic et al., 2024; Ünver, Önürme, 2025). Such patterns often depend on parent-child relationships, the family model of parental behavior, and the child's personal perception of their own relationships with both parents. In the absence of a father in the child's life, the mother's increased control is considered excessive and highly intrusive, with a distorted perception of the mother that feels like an intrusion into personal space. At the same time, the father's noninvolvement may be romanticized, while the child blames the mother for the parents' divorce. Behavioral patterns among parents affect children's perception of emotional models. As a result of unstable emotional behavior in the parents, the individual in adulthood perceives the need for relationships through constant compromise, silence, and protest (Happ et al., 2023; Cantekin & Ozen, 2024). Personal boundaries are violated because of toxic parental relationships and constant conflicts, which also affects impaired self-esteem. This is reflected in the modeling of scenarios of interaction with a partner aimed at constantly maintaining closeness even in toxic relationships. Riggs (2010) emphasized that excessive parental control and parental role reversal cause the development of an insecure attachment style, reflected in reduced independence and constant anxiety. An insecure attachment style is characterized by the constant search for comfort and social support. Developing personal confidence promotes flexible and emotional expression, which makes it possible to avoid dependence in relationships (Bespalov et al., 2024). A. B. D'Rozario and P. D. Pilkington (2022) confirmed that parental indifference can affect a child's psychosocial development in adulthood and interaction with their own partner. Parental divorce is reflected in the formation

of anxious and avoidant attachment styles in adulthood. A woman's development is not limited to biological indicators and also depends on the influence of family relationships in childhood. Parents' emotional coldness contributes to the suppression of one's own identity and to internal tension, which may lead to emotional dependence and a striving for acceptance (Mordas, 2018). To study the influence of parental relationships on women in adulthood, it is necessary to consider more broadly the relationship between the father and mother and the influence of each of them on the formation of women's self-esteem in adulthood.

Emotional abuse in childhood affects the manifestation of difficulties in interpersonal relationships (Kaya et al., 2024). This is associated with a lack of understanding of how to establish personal boundaries and ignore one's own needs. Therefore, the development of anxious attachment is reflected in self-sacrifice in dysfunctional relationships. Negative parenting in childhood affects one's own relationships in adulthood. Women who had positive emotional contact with their parents in childhood had healthy relationships and positive self-perceptions. This was reflected in their assessment of themselves and others based solely on certain actions. The negative influence of parents affected problems in their own relationships and self-rejection (Luo, 2025). However, studies do not provide details on the concept of "negative parenting" and its influence on personal development, particularly regarding the possibility of building harmonious relationships with a partner.

The development of attachment in adulthood is a manifestation of the negative influence of parental relationships in childhood. Negative interaction with parents in childhood may have individual psychological consequences based on emotional dependence and reduced self-esteem (Chung & Ahn, 2025). Another study examined the specific features of the development of an insecure attachment style due to the absence of emotional contact with the father (Coffman et al., 2024). An insecure attachment style in adulthood may depend on the negative example of a father

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in one's own childhood who used psychotropic substances. This is associated with the absence of a safe environment in childhood, which creates a need for emotional support from a partner and may be reflected in emotional discomfort in one's own relationships (Coffman et al., 2024). These aspects influence the development of attachment in adulthood. However, additional study of negative interactions with parents and assessment of control and hostile attitudes will make it possible to determine a stronger relationship between parental behavioral styles and attachment to one's own partner.

T. Bahmani et al. (2023) indicated that the nature of an individual's codependency in adulthood is influenced by parenting style. Emotional abuse by parents causes the formation of distrust in adulthood and the need for constant control of the partner. This occurs as a result of copying parental actions, which, in one's own relationships, become constant vigilance. Similar results are evident in the work of J. Chang et al. (2023), which analyzes the influence of upbringing on interpersonal relationships in adulthood. A direct relationship was identified between parental strictness and excessive interference and the lack of understanding of normal behavior with one's own partner, which affected an excessive type of attachment. Excessive attachment prevents a person from recognizing their own value or initiating social contact with others. Studies note the general nature of codependency stemming from family relationships, but do not examine the specific features of interaction with parents and the extent of their influence on attachment to a partner in adulthood.

In the analyzed literature sources, greater attention is focused on studying the influence of emotional abuse of children, which affects the development of codependency in adulthood. The relationship between a family type (complete or incomplete family) and the level of women's attachment to their partners remains insufficiently studied. For an in-depth examination of the topic, attention should be paid to the duration of the relationships in which the women are involved and to assessing basic beliefs to determine their self-

perceptions and perception of the surrounding world.

The purpose of the study is to assess the influence of parental relationships on the specific features of adult women's interaction with a partner, taking into account the level of codependency.

Research hypothesis: the development of codependent relationships in adult women is associated with the absence of positive emotional interaction with parents: the mother is perceived as more hostile and controlling, while the father is perceived as absent or indifferent.

Methods

Participants. The study was designed to involve women who had different types of interactions with their parents in childhood and different relationship durations with a partner to assess the unconscious influence of scenarios perceived in childhood on the formation of codependent relationships. The sample of women was selected from participants in a psychology blog, who were divided into three groups. The selection criteria for women in Group 1 included having a relationship with a partner lasting more than two years and having grown up in a complete family. Group 2 included women who were also in long-term relationships (from 2 years), but whose parents were divorced. Group 3 consisted of women who had no experience of long-term relationships (more than 3 months) and had a living father. A common criterion for forming the three groups of women was having a living father and being aged 25 to 35 years. The distribution of respondents by group is shown in Tabl. 1. The study became possible after consent to participate in the study was obtained from all respondents in accordance with ethical standards for scientific publications.

Table 1. Specific features of respondent classification depending on the group

Group name	Number of participants	Family type in childhood	Relationship duration
Group 1	119	Complete family	Long-term (more than 2 years)
Group 2	56	Parents divorced	Long-term (more than 2 years)
Group 3	57	Living father present	Short-term (no more than 3 months)

After assessing the level of codependency among women using the Fischer-Spann scale, the main groups were further divided into subgroups. A normative level of codependency was identified among a small number of women, and the results were borderline; therefore, this part of respondents was transferred to the group with moderately expressed codependency. Thus, each group contained a subgroup with moderately expressed codependency and another with markedly expressed codependency.

Variables. The study was conducted using the following variables: the nature of the influence of parent-child relationships, taking into account the acceptance/rejection, hostility, control, and beliefs scales, was adopted as the independent variable. The dependent variable included the level of women's codependency with their own partner based on psychoanalytic analysis of parent-child relationships. The variables that could be controlled through specific respondent sampling strategies were the women's age, family composition in childhood, and duration of their own relationships. The variables contributed to the psychoanalytic assessment of codependent relationships, which are a mechanism for the unconscious projection of experiences gained during parent-child interaction.

Procedure and Instruments. The study involved standardized scales to assess the levels of codependent relationships, parent-child relationships, and basic beliefs. The Fischer-Spann scale was used to assess the level of codependency in women (Fischer & Spann, 1991). The survey included questions designed to assess the extent of excessive care among women, the development of emotional manifestations of dependence (dependence on approval, disregard for one's own interests), and the level of established personal boundaries. The use of the scale was aimed at

determining the level of codependency while taking into account respondents' anxiety and ways of suppressing emotions. Respondents' answers were assessed using a Likert scale, allowing scores from 1 (completely disagree) to 6 (completely agree). If the obtained scores ranged from 16 to 32, an adaptive (normal) type of codependency in women was observed; from 33 to 60, moderately expressed codependency; from 61 to 96, markedly expressed codependency.

The Parental Acceptance-Rejection Questionnaire (PARQ) was used to assess the child's perception of their parents (Rohner & Ali, 2025). It is important to note that the actual level of parental "objectivity" was not considered; assessment was based exclusively on the child's perception of the parents. The questionnaire considered acceptance/rejection, hostility toward parents, and the level of parental control and neglect as assessed by the respondents. The level of acceptance was assessed in terms of the parents' sense of support and emotional closeness. Hostility was assessed in terms of constant criticism, strictness, parental aggressiveness, and devaluation of the child's feelings; control included assessment of ways of regulating the child's behavior, the presence of prohibitions, and the establishment of boundaries. Neglect included emotional coldness by the parents and devaluation of the child's actions. Scores were assigned on a 6-point Likert scale and combined. The mean score was presented in the study results. Thus, the higher the score, the higher the level of negative assessment of parent-child relationships.

R. Janoff-Bulman's methodology was used to determine the basic beliefs that had formed in women under the influence of interaction with their mother and father in childhood and their perception of them (van Bruggen et al., 2018). According to the methodology, a

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person's perception of the surrounding world is determined by considering its safety, people's benevolence, the influence of individual events on the person, and one's own value. The basic-beliefs methodology determined the extent to which basic beliefs influenced respondents' sense of psychological safety. The results are based on personal experience and take into account ideas about other people's behavioral models and the fairness of certain events, which contribute to determining the stability of one's worldview. A Likert scale was also used for scoring, with scores from 1 (least positive) to 6 (most positive). A higher score reflected the presence of favorable basic beliefs associated with a sense of safety and self-confidence. The predominance of low scores is likely associated with the predominance of traumatic experiences that may be acquired in childhood.

The procedure for surveying the women used the Survey platform, which facilitated the questionnaire development and the collection and processing of respondents' answers. Using the platform made it possible to standardize the survey process, monitor the responses received, and conduct basic statistical analysis.

Organization of Research. The study focused on identifying the relationship between impaired relationships with parents in childhood (as perceived by respondents) and their influence on the development of codependent relationships, excluding the author's intervention in the results obtained. The correlational design helped assess the relationship between the variables. The study was organized in stages, including the selection of women for the study, familiarization with the study structure, confirmation of consent to participate, implementation of the survey, and processing of the results.

The use of the Survey platform enabled electronic collection of data from respondents, allowing answers to be grouped by respondent subgroups. Completion of the survey included informing respondents of the results, enabling the formulation of practical recommendations for psychological work with codependent relationships arising from parent-child relationships. When developing the recommendations, it was taken into account that,

according to respondents' answers, the mother was perceived as more hostile than the father.

Statistical Analysis. A set of coefficients adapted to a particular stage of the study was used for statistical analysis in the present study. For statistical comparison of the results on the established level of codependency in women, the Pearson criterion and Cramer's V were used (Thompson et al., 2025). The Pearson criterion (χ^2) was aimed at identifying differences between groups based on the established categorical data. Cramer's V was calculated to assess the strength of the relationship between the level of codependency among women in the three groups. Statistical comparison of the level of codependency in women using the Pearson criterion, which in fact reflects the influence of parent-child relationships on the obtained results. With 4 degrees of freedom (df), the critical χ^2 value is 9.46 ($p=.05$); exceeding it would indicate a statistically significant difference between the groups. If Cramer's effect size approaches 0, the indicators reflect complete independence between the variables; if it approaches 1, absolute dependence.

Pearson's correlation coefficient was used to assess the correlation between respondents' levels of rejection and hostility toward the mother and father. The correlation coefficient was used to determine the strength of the influence of the indicator of parents' rejection of their own children (in the respondents' opinion) on the level of hostile attitude toward the mother or father. The highest level of association between the obtained results was observed when the calculated data approached 1.

To assess the relationship between basic beliefs within one group but at different levels of codependency, the integral index of psychological deformation (IPDI) was calculated. The IPDI reflects deviations from a normal behavioral state, taking into account increased tension, anxiety, stress, and other indicators arising from specific events (Rehman et al., 2025). In the present case, the variable events were the child's perception of the parents, without taking into account the actual level of parental objectivity and their attitude toward the respondents in childhood. If the calculated IPDI value is less than .9, greater personal vulnerability develops in response to

the surrounding world as a result of self-rejection. This made it possible to determine the influence of parent-child relationships on a woman's integrity and inner support. Calculation of the intermediate value ΔM was aimed at assessing the difference between moderate and high levels of women's codependency. Thus, the percentage loss of resources ($\% \Delta$) reflects an indicator of changes in an individual's basic beliefs.

The validity of respondents' answers was checked using Cronbach's alpha (Edelsbrunner et al., 2025). The data obtained were based on an analysis of respondents' answers, including the logic of responses to related questions and the degree of contradiction among answers. The calculated Cronbach's alpha was $\alpha = .82$, indicating a high level of consistency of the obtained data.

Results

The assessment of codependency in adult women was determined based on the Fischer-Spann Codependency Scale. Codependency in women manifests itself in different forms (fear of loss, excessive care for others, lack of personal boundaries, etc.), which negatively affects comfort in life and the general emotional state. Based on survey results from respondents across the three groups, a relationship between the groups was identified using the Pearson criterion and the effect size was determined using Cramer's V. The analysis was aimed at determining the dependence between family type and interaction with parents while assessing the level of codependency in women (Tabl. 2).

Table 2. Distribution of the level of codependency in women with different types of parental relationships and relationship duration

Group distribution	Adaptive (normal) codependency			Moderately expressed codependency			Markedly expressed codependency		
	Frequency distribution of responses, % (persons)	Expected frequency, E	χ^2	Frequency distribution of responses, % (persons)	Expected frequency, E	χ^2	Frequency distribution of responses, % (persons)	Expected frequency, E	χ^2
Group 1	5.0% (6)	4.62	.41	48.7% (58)	57.42	.01	46.2% (55)	56.96	.07
Group 2	5.4% (3)	2.17	.32	42.9% (24)	27.03	.34	51.8% (29)	26.79	.18
Group 3	-	2.21	2.21	52.6% (30)	27.55	.22	47.4% (27)	27.25	.00
χ^2_{total}	3.76								
Cramer's V	.09								

The obtained results made it possible to determine that markedly expressed codependency was most pronounced among women in Group 2 (51.8%). The obtained data are associated with the absence of a complete family example, because the parents were divorced and communication between the parents and between the child and the parents did not take place in a generally accepted form. Fear of losing a partner is associated with impaired emotional stability of the mother and projection of the mother's negative relationship with the father onto her

own family. The mother's emotional state may have been associated with exhaustion, concern about the future, and additional responsibility for life (financial and parental). Therefore, pronounced emotional responsibility may have been observed in childhood, which was associated with concealing one's own emotions, self-sacrifice, and neglect of personal needs. In childhood, the respondents observed a perception of women as hyper-responsible for relationships, which, in adulthood, led to a pronounced focus on the partner's needs. Therefore, they have a

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pronounced tendency to control the partner in order to avoid the fear of being left alone, an inability to refuse, and a tendency to care for their own needs only after the partner's needs. Moderately expressed codependency is more pronounced among women in Groups 3 (52.6%) and 1 (48.7%), which is associated with the example of a complete family and the availability of resources for regulating one's own emotions. Moderately expressed codependency reflects the need for emotional closeness with a partner and partial independence.

The percentage of markedly expressed codependency among respondents in Group 1 (46.2%) and Group 3 (47.4%) is almost identical, which is associated with the presence of a positive example of a complete family among respondents in Group 1. Respondents in Group 3 were not in long-term relationships, so there was no possibility of controlling a partner. However, adaptive (normal) codependency was not expressed in them. Adaptive codependency was manifested only among a small number of respondents in Groups 1 (5%) and 2 (5.4%). This type of relationship was expressed in the absence of self-sacrifice, constant imposition, and anxiety. Despite the complete family among respondents

in Group 1, conflictual relationships with parents and a lack of emotional closeness could occur, thereby affecting the formation of another type of attachment. Respondents in Group 2 did not have an example of a complete family, which was reflected in emotional sensitivity. Calculation of the Pearson χ^2 criterion showed that the obtained results between the groups were not statistically significant, because the calculated $\chi^2=3.76$ did not exceed the critical $\chi^2=9.49$ at $df = 4$; $p > .05$. Cramer's effect size was also weak, because the calculated value $V=.09$ did not exceed 1. However, the obtained results confirm the influence of parent-child relationships on codependency.

The respondents' perceptions of their own parents were assessed among women in the three groups who had moderately or markedly expressed codependency. The level of parental perception (rejection) was associated with the hostility scale, which reflects the emotional attitude toward parents and is a factor in the formation of codependent patterns. The relationship between the two scales was considered separately for the perception of the mother and father in order to assess the influence of family relationships on interaction with partners (Tabl. 3).

Table 3. Relationship between acceptance/rejection and hostility toward one's own parents according to the PARQ scale

Group distribution	PARQ acceptance/rejection scale		PARQ hostility scale		Correlation assessment (mother)		Correlation assessment (father)	
	Mother	Father	Mother	Father	r	p	r	p
Group 1 – moderately expressed codependency	22.7	20.2	10.6	9.9	-.31	.02	-.42	.04
Group 1 – markedly expressed codependency	20.9	17.7	12.4	10.1	-.25	.01	-.35	.03
Group 2 – moderately expressed codependency	21.5	20.5	11.3	9.5	-.26	.02	-.44	.04

Group 2 – markedly expressed codependency	20.2	16.7	12.8	9.8	-.24	.02	-.31	.03
Group 3 – moderately expressed codependency	20.7	19.0	10.8	9.5	-.25	.01	-.30	.02
Group 3 – markedly expressed codependency	21.9	17.0	11.7	10.6	-.27	.02	-.31	.03

The summary data showed that respondents' level of rejection of the mother was higher than that of the father (a higher score reflects a higher level of rejection). A more positive perception of the father is associated with the presence of emotional support and minor rejection. In Group 1, with moderately expressed codependency, the level of rejection of the mother was the highest, which is associated with maternal anxiety and partial emotional detachment. Therefore, a moderately expressed level of codependency was associated with the need to reproduce and correct childhood experiences. Greater rejection of the mother in Groups 1 (22.7) and 2 (21.5), with moderately expressed codependency, is associated with a moderately expressed dyadic bond with the mother, which is projected onto one's own relationship with a partner and lower idealization of the mother. In Group 1, with moderately expressed codependency (22.7), the mother's care in the absence of the father was perceived as control, which affected greater rejection of the mother than of the father (20.2). The father interfered less with the women's upbringing, which led to greater acceptance despite reduced emotional closeness. However, in this group, the mother is perceived with a lower level of hostility (10.6), because the women understood the mother's behavior and actions and recognized her importance. Pronounced rejection and hostility toward parents indicate moderately and markedly expressed codependency in one's own relationships, including emotional swings in the relationship, a need to control the partner, and fear of losing the relationship. Pronounced

parental rejection affects the need to split the image of the father or mother in order to preserve mental balance. Self-perception through parental rejection affects the suppression of primary vulnerability and the absence of experience of support.

In Group 3, with moderately expressed codependency, the levels of rejection toward the mother (20.7) and the father (19.0) are almost the same, which may manifest as avoidance of relationships in order to preserve one's own freedom. It was established that the pronounced rejection of the mother by women in Groups 2 and 3, with markedly expressed codependency, compared with the father, is associated with his idealization. Therefore, the difficulty of building long-term relationships is caused by the partner's lack of traits similar to the father's. The mother, meanwhile, is perceived as a competitor, which affects a more hostile attitude toward her. The highest level of hostility toward the father was manifested among women in Groups 1 (10.1) and 3 (10.6), with markedly expressed codependency, which may be associated with some women having weak fathers and others having aggressive fathers. In Group 3, with markedly expressed codependency, the father was perceived more hostilely, which may be interpreted in terms of his aggressiveness or inadequacy. This affects the formation of internal fear, constant anxiety, and an unfair attitude toward oneself. Statistical comparison of the results using Pearson's coefficient (r) showed a weak-to-moderate relationship between the indicators of rejection and hostility reported by the respondents, but

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without taking into account actual objectivity regarding parental adequacy. However, an increase in the mother's or father's level of acceptance is associated with a lower level of perceived hostile attitude.

The level of parental neglect was assessed alongside the level of control, which is associated

with the influence on independence in childhood and on respondents' emotional security. Such data are necessary for understanding how this parental influence affects codependency and the establishment of personal boundaries. The results are shown in Fig. I.

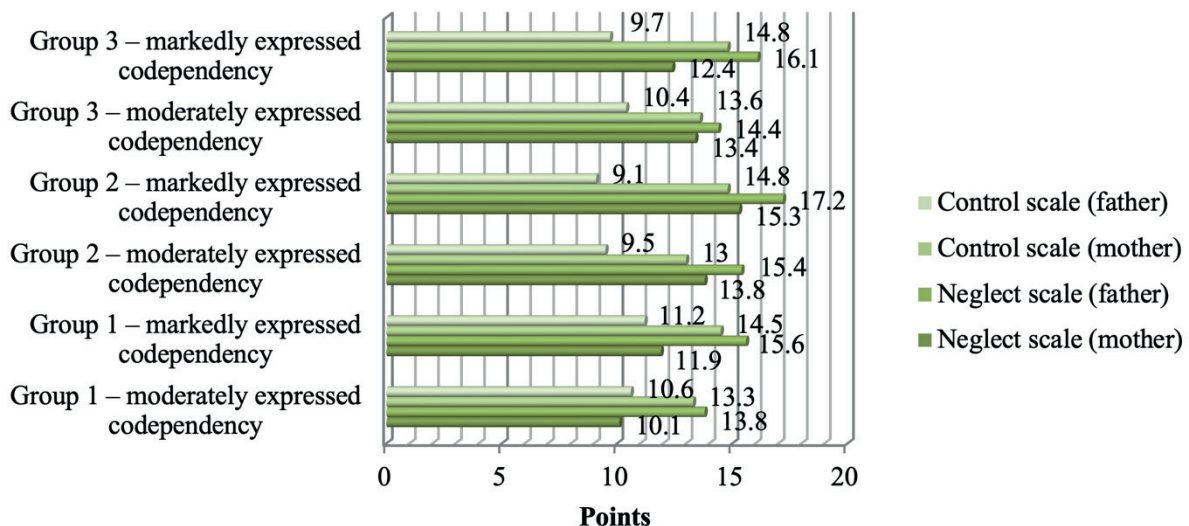


Fig. I. Assessment of the level of control and neglect of respondents in childhood by the father and mother

According to the neglect scale, the scores indicated greater expression by the father across all groups. This is associated with the presence of emotional detachment, which was perceived as neglect. In Group 1, in which the women grew up in complete families, the absence of an emotional response was perceived by the father as a detached attitude, which led to greater distance from the partner. In Group 2, where the parents were divorced, neglect by the father was associated with the absence of regular interaction with him. A high level of neglect by the mother in Group 2 (15.3) was perceived as indifference, which may be associated with greater attention being paid to the family's financial support and to raising the children in the father's absence. Respondents also perceived the mother as having lower emotional resources on the part of as a result of tension during interactions with the father, which led to greater dependence on their own partner and the desire to preserve the relationship, given experiences with the mother. Concern about the mother's emotional unavailability in adult relationships led to excessive attachment and abandonment of one's own interests for the sake of the partner. At the same time, however, the

mother's control was felt (13,0), which increased the need for the partner's constant approval of one's own actions. In groups with a high level of codependency, strict control by the mother and minor control by the father were perceived as a hypercontrolling mother and a neglectful father. This did not break the dyadic bond between the girl and her mother, which could have influenced the development of codependency (Green, 2007).

Overall, the level of control by the father was lower in women with a high level of codependency (Group 1) than that by the mother, especially among women whose mothers were divorced. Insufficient attention from the father affected women's dependence on their own mothers and subsequently on their partners. Because the father did not perform the function of separating the mother and child or provide an example of healthy relationships, the women were not emotionally separated in their own relationships, which they perceived as the norm. In Group 3, with a high level of codependency, a high level of control by the mother was observed, which affected the absence of long-term relationships due to the need for constant emotional closeness and fear of aggression or inadequacy on the part of the

partner, by analogy with the father. The identified indicators showed that a moderate level of control by the mother and father had the most positive influence on the formation of personal boundaries and on achieving a lower level of codependency with the partner. Thus, the presence of even a weak paternal role influenced the development of a triadic structure rather than a dyadic one, thereby enabling the formation of partner relationships

(Green, 2007).

To understand the influence of cognitive-emotional attitudes on the perception of oneself and others that were formed in parent-child relationships, basic beliefs were assessed. Basic beliefs affect codependency in relationships by shaping certain attitudes in interactions with a partner. The results are presented in Tabl. 4.

Table 4. Assessment of basic beliefs in women identified as a result of moderate and high levels of codependency

Group distributi on	Benevole nce of the surround ing world	Δ M	Fairne ss	Δ M	Self- ima ge	Δ M	Luc k	Δ M	Belie fs about t contr ol	Δ M	IP DI	% Δ
Group 1 – moderately expressed codepende ncy	32.3		22.0		31.7		26.8		28.4			
Group 1 – markedly expressed codepende ncy		-3.3		-1.8		-5.3		-1.3		-3.0	0.9	-16.7
Group 2 – moderately expressed codepende ncy	29.0		20.2		26.4		25.5		25.4			
Group 2 – moderately expressed codepende ncy		-0.8		-1.8		-4.3		-3.4		-1.7	0.91	-14.1
Group 2 – markedly expressed codepende ncy	28.7		20.0		26.2		25.0		26.3			
Group 3 – moderately expressed codepende ncy	27.0		21.5		29.9		26.0		28.4			
Group 3 – markedly expressed codepende ncy		-2.7		-2.0		-4.8		-2.4		-3.4	0.88	-16.1
Group 3 – markedly expressed codepende ncy	24.3		19.5		25.1		23.6		25.0			

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A benevolent perception of the surrounding world was less pronounced in women who had a high level of codependency, because they believed that they were treated more unfairly in different life situations. For example, the experience of unstable relationships between the mother and father among respondents in Group 2, with a high level of codependency (28.7), led to increased anxiety and the absence of a safe perception of the surrounding world. The girls perceived emotional interaction between the parents, unexpressed hostility, and constant tension as an unstable and dangerous surrounding world, which affects the perception of threat in its objective absence. In Group 1, with a moderate level of codependency (32.3) and a high level of codependency (29.5), benevolent perception of the surrounding world was higher, which is associated with growing up in a complete family and understanding possible expectations in relationships.

The lowest level of fair treatment of oneself is observed in Groups 3 (19.5) and 2 (20.0), with a high level of codependency. The absence of long-term relationships among respondents in Group 3 was associated with presumed fartherly aggressiveness or inadequacy and with an impaired perception of one's own attractiveness and self-confidence. The father is a key figure for girls' perception of the surrounding world and trust in it. However, the father's aggressiveness hinders the formation of a fair attitude toward oneself by instilling danger, fear, and constant tension. Therefore, the women developed internal attitudes about how others perceive them when they show tolerance and disregard their own needs. These results may be confirmed by the analysis of psychoanalytic literature conducted by E. S. Mordas (2018), which states that the father contributes to the perception of one's own value and bodily awareness, which affects the development of primary self-respect. An aggressive and inadequate father fails to fulfill the protective function, which leads to an internal sense of inferiority and a greater influence by the mother. This may affect the development of close relationships that are not associated with support and the need for control, because there is no perception of relationships as stable (Mordas, 2018). Among respondents in Group 2, a reduced

sense of fairness was perceived as an unfair attitude toward them and was associated with external influences. This may be associated with the need to control life events and achieve results through one's own efforts.

Such data were established as a result of the manifestation of a weak paternal role or his complete absence, in which he does not perform his function as a third person in breaking the dyadic bond between the child and the mother. Weak paternal participation may lead to an internal distortion of the law of fairness, a sense of insecurity, and a feeling of being captivated by an omnipotent mother, which is expressed as hypercontrol.

A high level of codependency in women affected an unstable perception of their own "Self", which, in their opinion, was reflected in a lower level of luck and influenced the need for increased control in regulating the behavior of others. An unstable perception of one's own "Self" is associated with the absence of normal relationships with parents, which affects the failure to break the dyadic bond with the mother (Mordas, 2018). Identification with the mother could manifest as anxious or ambivalent, which did not contribute to an internal understanding of femininity and, moreover, reinforced the absence of one's own integrated perception. Therefore, such women develop dependence on other people and a lack of their own desires and boundaries. With a weak paternal role or his absence, the girl's identification does not separate from the mother, which affects the unstable formation of the image of the "Self". A reduced level of luck was also reflected in fewer opportunities and reduced self-esteem. Therefore, a sense of integrity and identity was not characteristic of this group of women. Beliefs about control were also expressed in groups of women with a high level of codependency, which affected the need to control their own lives and interfere in the lives of others. This approach affected the reduction of anxiety through controlling the actions of others, which often transformed into hypercontrol as a result of the presence of a controlling mother and a weak paternal role. According to the respondents, beliefs about control are a protective function for preserving relationships and avoiding the fear of

abandonment.

Thus, the integral index of psychological deformation showed that the lowest value was observed in Group 3 (IPDI=.88), reflecting in a greater impairment of basic beliefs. It is assumed that such results are associated with the father's direct aggression or inadequacy and fear of dependence. The father is perceived as a traumatic personality, which in adult women is manifested in impairment of basic beliefs through constant anxiety and the absence of a sense of fairness and one's own value. The presence of such a father

affects the formation of a sense of danger and the independent experience of these emotions.

Taking into account the results of the study, recommendations were formulated for psychological work with adult women in codependent relationships. Attention was paid to a multidimensional approach that involves the analysis of emotional experiences acquired in childhood and the formation of personal boundaries in interpersonal interaction. The recommendations are shown in Fig. II.

Assessment of the level of codependency	• Implementation is possible using the Fischer-Spann Codependency Scale
Analysis of parent-child relationships to understand the adopted model of codependent relationships	• Implementation is possible using the Parental Acceptance-Rejection Questionnaire and assessment of the relationship between childhood roles and behavior with one's own partner
Formation of personal autonomy	• It is necessary to ensure understanding of one's own emotions and the partner's emotions based on understanding the specific features of women's perception of the father and mother in childhood and to provide practical modeling of life situations for forming personal boundaries and avoiding feelings of guilt
Formation of self-esteem and the image of the "Self"	• Implementation is possible through understanding one's own resources and values, self-acceptance, and avoidance of dysfunctional attitudes that were formed in childhood
Minimization of fear of losing the relationship	• Emphasis on awareness of the fear of a partner's absence and formation of a sense of emotional closeness without constant interaction with the partner.
Formation of approaches to healthy interaction with a partner	• Development of skills for recognizing one's own needs while avoiding manipulation and self-sacrifice based on modeling real situations

Fig. II. Practical recommendations for psychological work with adult women in codependent relationships

The proposed recommendations for avoiding codependent relationships were implemented through awareness of one's own situation and by constructing life models to work through different scenarios. Acceptance of relationships with parents was important, as it affected attachment in adulthood and the avoidance of codependency.

Emphasis should be placed on understanding the situations that shaped a more accepting perception of the father, which in turn affected the expression of codependent relationships. It is also necessary to assess real examples from childhood that influenced the perception of the mother as more rejecting, which was also reflected in

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increased codependency among women. The interaction between women with a pronounced type of codependency and a psychologist should consist of establishing personal boundaries and the ability to refuse, even under the condition of losing the relationship. Emphasis should be placed on forming the image of the “Self”, which will make it possible to develop one’s own value and self-control skills in interpersonal relationships.

Discussion

The study shows that pronounced control by the mother and minor control by the father prevent the girl from moving beyond dyadic interaction with the mother, which may affect codependency. These results were established at the beginning of the study, reflecting an assessment of the manifestation of codependency in women aged 25 to 35 years. The study demonstrated a relationship among the three study groups, as the calculated value did not exceed the critical value ($\chi^2=3.76 > \chi^2=9.49$). The study by S. H. Kim et al. (2021) reflected similar conclusions regarding the influence of parents on attachment style in adults. The study found that attachment style depends on specific aspects of functioning, perceptions of relationships with parents, and adverse childhood experiences. Parental neglect of children and the presence of psychological abuse had an especially negative influence on codependency (Kim et al., 2021). Similar results are also presented in the study by E. Tadros and A. M. Gregorash (2022), which reflects attachment styles in dyadic relationships. This is reflected in the ability to adapt to changes and influence others. The studies by S. H. Kim et al. (2021) and E. Tadros and A. M. Gregorash (2022) reveal the specific features of the relationship between parental influence and codependent relationships. However, there is no correlation analysis between different aspects of parental perception and its influence on attachment styles, which were considered in the present study.

The results of the present study showed that the mother’s rejection was higher in Groups 1 (22.7 points) and 2 (21.5 points), with moderately expressed codependency, which is associated with a pronounced dyadic bond with the mother. In all groups, the perception of the mother was more

hostile than that of the father, reflecting ambivalent feelings toward the mother. For girls, the process of separation from the mother often creates internal dissonance between the search for one’s own “Self” and the need for the mother, resulting from identification with her, which may be perceived as hostility. Perceiving the mother as more hostile affects an increased level of aggressiveness and the formation of fears and phobias. The study by V. Johar (2024) highlighted that adverse childhood circumstances affect perceptions of parents. Parents influence the development of self-identification and the formation of views. Adverse periods in childhood affect increased impulsivity (especially in men), which is reflected in codependency in adults. Gender characteristics were not taken into account in the present study; however, a detailed analysis was conducted of respondents’ perceptions of their own parents across different criteria (rejection, hostility, assessment of parental control and neglect), which were not considered in the cited study.

D. N. Powell and M. J. Hamilton (2025) noted that feelings of alienation, egocentrism, distorted reality, and uncertainty in childhood lead to negative perceptions of parents and difficulty in social interaction with others. Emotional vulnerability formed in childhood is reflected in a negative attitude toward parents and pronounced dependence in adults. The influence of family interactions in childhood with others was also considered by D. Han and J. Wang (2022). Close relationships with parents exclude a hostile attitude toward them in the absence of restrictions or prohibitions, and this is positively reflected in interpersonal communication with one’s own partner. Published studies have examined indicators that lead to a negative attitude toward parents, but there is no detailed consideration of how perceptions of the mother and father differ depending on the type of family relationship.

Processing the results for basic beliefs showed that in Group 1, with moderately and markedly expressed codependency, a borderline level of impairment of basic beliefs was observed (IPDI=.90). The results are associated with a lack of understanding of the styles of behavior between parents, but with a more hostile perception of the mother and increased control on her part.

Thus, an emotionally unavailable and controlling mother influenced the unconscious formation of the early experience of hostility. In Group 3, the highest level of impairment of basic beliefs was observed ($IPDI=.88$) as a result of reduced self-esteem, a sense of unfairness, and reduced benevolence of the surrounding world, which affects the absence of long-term relationships. In the study by A. Lymanina (2023), basic beliefs were considered from the perspective of studying self-esteem and anxiety in women, which contributes to codependency in middle-aged women. Codependency manifests itself through cognitive, behavioral, emotional, and activity-related indicators, which affect women's destructive behavior. K. Bach et al. (2025) highlighted that lower anxiety and greater responsibility facilitate the development of long-term relationships. A. Abid and I. Suneel (2023) also noted that neglect of one's own self-esteem, independence, and value affects negative codependency, which is manifested in an impaired form of emotional interaction. The analyzed sources assess individual aspects of basic beliefs, but do not consider the reasons for their emergence. This does not make it possible to identify the relationship between the causes of low self-esteem resulting from parent-child relationships, which is reflected in codependency in women.

Published scientific studies reflect the influence of the parent-child relationship system on the perception of the surrounding world and the development of codependency in adulthood. However, issues related to the perceptions of parents in childhood and the study of basic beliefs, which were analyzed in the present study, remain insufficiently considered. Therefore, the theoretical significance of the present study lies in examining parent-child relationships based on women's perceptions of their own parents, as reflected in the level of codependency, by taking into account contrasts in perceptions of the mother versus the father and their influence on basic beliefs. The practical significance of the article is associated with understanding the influence of parental relationships on the formation of dependence in women and the role of the mother and father, which affects the development of practical recommendations for

psychological work with women with different types of codependent relationships.

Conclusions

The study reflects the role of family interaction in childhood in shaping one's future interactions with a partner and self-perceptions. It was found that respondents' perceptions of the mother were more hostile across all three groups. The results obtained are associated with a girl's ambivalent attitude toward her mother during her development, reflecting a combination of contradictory feelings (love and hostility). This could manifest itself in a desire to resemble the mother while simultaneously competing with her for the father's attention. The study results showed that the mother was perceived as more controlling by respondents whose families had a complete absent father or whose involvement was inconsistent. Pronounced maternal control was perceived through the performance of different functions by the mother (care, regulation of routine, checking homework, etc.), which was regarded as a loss of independence and intrusion into personal space. In groups of women with a high level of codependency, strict maternal control and mild control by the father did not contribute to separating the girls' autonomy from dyadic interaction with the mother, which could have influenced the development of codependency.

The father's emotional detachment affected the perception of the mother as more hostile and the formation of a model of basic danger in relationships. The absence (or weak role) of the father did not contribute to the separation of the child from the mother and ensured the perception of the mother in a contradictory role. The father acts as a third object, enabling the development of a high level of autonomy from the mother. Girls develop separation from excessive emotional dependence and projective relationships, which may affect tendencies toward a distorted, paranoid perception of reality due to excessive maternal control. Balanced control by the father and mother was reflected in the lowest level of codependency among respondents.

The present study confirms the need to examine the specific features of women's perceptions of their parents in childhood that influence the

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development of self-esteem and perceptions of relationships with a partner. Further research may focus on determining the perception of one's own parents not only by women but also by men in order to determine the nature of codependent relationships.

Not Using AI Tools

No AI-assisted technologies were used in the writing, editing, or data analysis for this manuscript. All work is original and completed solely by the listed author.

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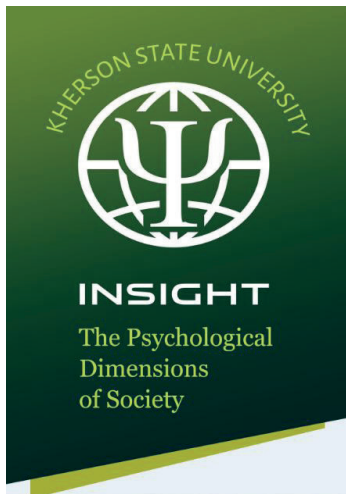
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**Legal
Psychology**

**Юридична
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Resilience and Occupational Functioning of Police in Frontline Kherson

Резильєнтність і професійне функціонування поліцейських прифронтового Херсона

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Abstract

Purpose. This study examined the associations of resilience with perceived stress, occupational burnout, and individual work performance among police officers serving in frontline Kherson.

Methods. The empirical study was conducted in 2026 and included 51 serving officers of the National Police of Ukraine aged 26–45 years (48 men and 3 women). Overall, 94.1% had at least eight years of service; 94.1% rated their workload as elevated, high, or very high, and 88.3% reported frequent, very frequent, or constant exposure to danger or uncertainty. The Brief

Анотація

Мета – емпірично встановити характер взаємозв'язків резильєнтності зі сприйнятим стресом, професійним вигоранням та індивідуальною робочою ефективністю поліцейських, які безпосередньо здійснюють службову діяльність у прифронтовому Херсоні. **Методи.** Емпіричне дослідження проведено у 2026 році. Вибірку склали 51 чинний працівник Національної поліції України віком 26–45 років, серед яких було 48 чоловіків і 3 жінки. 94.1% учасників мали стаж служби щонайменше вісім років; 94.1% оцінювали службове навантаження як підвищене, високе або дуже високе, а 88.3% повідомили про часте, дуже

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Resilience Scale (Smith et al., 2008), Perceived Stress Scale-10 (Cohen et al., 1983), Copenhagen Burnout Inventory (Kristensen et al., 2005), Individual Work Performance Questionnaire (Koopmans et al., 2014), and a socio-professional questionnaire were administered. Descriptive statistics, Cronbach's alpha, and Spearman's rank correlations were used. **Results.** Mean resilience was $M = 4.02$, $SD = .61$; perceived stress, $M = 10.82$, $SD = 6.06$; overall burnout, $M = 28.31$, $SD = 16.82$; and overall work performance, $M = 2.89$, $SD = .76$. Low perceived stress was observed in 58.8% of participants and moderate stress in 41.2%; 88.2% showed low or non-pronounced overall burnout. Internal consistency ranged from acceptable to excellent ($\alpha = .800-.954$). Resilience was negatively associated with perceived stress ($r_s = -.560$; $p < .001$), burnout related to interactions with people ($r_s = -.448$; $p < .001$), and overall burnout ($r_s = -.310$; $p = .027$), and positively associated with task performance ($r_s = .482$; $p < .001$), contextual performance ($r_s = .423$; $p = .002$), and overall work performance ($r_s = .465$; $p < .001$). **Conclusions.** Among police officers serving in frontline Kherson, a greater capacity to recover from stress was associated with lower subjective stress, less pronounced manifestations of burnout, and more favorable behavioral indicators of occupational functioning. The correlational design precludes causal inference.

Keywords: perceived stress; psychological recovery; emotional exhaustion; task performance; contextual performance; occupational adaptation.

Introduction

Police work is characterized by substantial psychological and emotional demands, in which operational risks coexist with responsibility for the safety of others, rapid decision-making, the regulation of one's own emotional responses, and intensive interpersonal interactions. Under conditions of full-scale war, this demand structure has become considerably more complex: conventional operational and organizational

часте або постійне перебування у ситуаціях небезпеки чи невизначеності. Застосовано Brief Resilience Scale (Smith et al., 2008), Perceived Stress Scale-10 (Cohen et al., 1983), Copenhagen Burnout Inventory (Kristensen et al., 2005), Individual Work Performance Questionnaire (Koopmans et al., 2014) та соціально-професійну анкету. Використано описову статистику, коефіцієнт α Кронбаха та кореляційний аналіз Спірмена. **Результати.** Середній показник резилієнтності становив $M = 4.02$, $SD = .61$; сприйнятого стресу – $M = 10.82$, $SD = 6.06$; інтегрального вигорання – $M = 28.31$, $SD = 16.82$; інтегральної робочої ефективності – $M = 2.89$, $SD = .76$. У 58.8% учасників зафіксовано низький, у 41.2% – помірний рівень сприйнятого стресу; 88.2% мали низький або невиражений інтегральний рівень вигорання. Внутрішня узгодженість використаних шкал була прийнятною або високою ($\alpha = .800-.954$). Резильєнтність мала негативний зв'язок зі сприйнятим стресом ($r_s = -.560$; $p < .001$), вигоранням у взаємодії з людьми ($r_s = -.448$; $p < .001$) та інтегральним вигоранням ($r_s = -.310$; $p = .027$), а також позитивні зв'язки з виконанням завдань ($r_s = .482$; $p < .001$), контекстною ефективністю ($r_s = .423$; $p = .002$) та інтегральною робочою ефективністю ($r_s = .465$; $p < .001$). **Висновки.** У поліцейських прифронтового Херсона вища здатність до психологічного відновлення пов'язана з нижчим суб'єктивним стресом, меншою вираженістю окремих проявів вигорання та більш сприятливими поведінковими характеристиками професійної діяльності. Кореляційний дизайн не дає підстав для причинно-наслідкової інтерпретації встановлених зв'язків.

Ключові слова: сприйнятий стрес; психологічне відновлення; емоційне виснаження; виконання завдань; контекстна поведінка; професійна адаптація.

stressors are compounded by persistent threats to life and health, exposure to the consequences of hostilities, uncertainty regarding the security environment, and the need to sustain occupational functioning in a setting where the primary stressor has no clearly defined endpoint. Recent Ukrainian research has highlighted the increasing importance of self-regulation, proactive coping, psychological resilience, and organizational resources in police work during

wartime (Honcharova, 2024; Ponomarenko, 2024; Voloshyn, 2026). Organizational transformations and security challenges faced by the National Police during the war have also been documented in interdisciplinary research (Vyhivskiy & Trembetskiy, 2024; Sokurenko & Jarczewski, 2024).

These demands are particularly concentrated among police officers serving in frontline areas. In this occupational context, the critical issue is not merely the presence or absence of psychological distress, but the capacity to remain functionally effective under recurrent and prolonged threat. Studying officers who continue to serve directly in Kherson, therefore, raises a broader question: which psychological characteristics are associated with preserved occupational functioning when the principal external stressor cannot objectively be removed?

International systematic reviews have shown that operational and organizational stressors in policing are associated with psychological distress, post-traumatic symptoms, anxiety, depressive symptoms, and exhaustion (Sherwood et al., 2019; Syed et al., 2020). Research on police occupational stress further indicates that psychological burden is shaped not only by discrete critical incidents but also by the cumulative effects of routine job demands, interpersonal strain, and organizational constraints. In wartime, these streams of stress may operate concurrently.

Contemporary Ukrainian studies likewise indicate that police work under martial law requires substantial resources for adaptation, self-regulation, and recovery. Proactive coping, self-regulatory capacity, and personal resources have been identified as relevant to police behavior under demanding conditions (Honcharova, 2024; Vorobiova & Okhrimenko, 2025). A separate line of research has addressed occupational burnout among law-enforcement personnel during the war, demonstrating heterogeneity in exhaustion as a function of occupational role, length of service, and other contextual characteristics (Ponomarenko et al., 2025; Botnarenko & Dziurbel, 2025; Bolshakova et al., 2025). Researchers have also emphasized risks of professional deformation and the need to sustain the psychological resources of police personnel (Shvets & Kisil, 2023; Ponomarenko et

al., 2026).

Resilience is one such resource. Contemporary psychology increasingly avoids construing resilience as a static trait that confers “invulnerability” to adversity. Instead, it is understood in terms of adaptive and recovery processes that enable individuals to maintain or regain functioning following significant stressors (Southwick et al., 2014; Ungar, 2018). In the present study, resilience was operationalized in accordance with the Brief Resilience Scale as the capacity to recover from stressful and difficult events (Smith et al., 2008). This conceptualization is particularly relevant to police work in a frontline city: the practically meaningful question is not whether stress responses can be eliminated, but whether officers can restore emotional and behavioral regulation after repeated exposure and continue to perform their occupational roles.

Research on resilience among law-enforcement personnel has revealed considerable variability in conceptualization and measurement and has also demonstrated the construct’s potential to explain individual differences in responses to occupational stressors (Janssens et al., 2021). Higher resilience among police officers has been associated with more favorable individuals’ functioning and protective resources (Angehrn et al., 2023). A recent systematic review of resilience-training programs for police found that interventions most commonly incorporated stress management, emotion regulation, mindfulness, and cognitive-behavioral strategies, with most included studies reporting improvements in selected psychological or occupational outcomes (Moreno et al., 2024). Police trauma, loss, and resilience also remain prominent themes in current international scholarship (Schlosser et al., 2024).

Ukrainian wartime research similarly conceptualizes resilience as a resource for adaptation under uncertainty and prolonged threat (Chykhantsova, 2023, 2025; Medianova et al., 2023). Studies of young people and volunteers have documented context-sensitive manifestations of psychological resilience under wartime conditions (Kostruba & Liashko, 2023; Shcherbak, 2024). For police populations, however, a particularly important question is whether recovery capacity is associated not only

with how officers feel, but also with how effectively they function in their occupational role.

In the present study, occupational functioning was treated as a multidimensional empirical construct encompassing three related but non-equivalent domains: the subjective experience of stress, accumulated psychological and emotional exhaustion, and the behavioral dimension of individual work performance. This operationalization avoids reducing occupational functioning to either psychological well-being alone or productivity alone.

Perceived stress reflects the individual's appraisal of current circumstances as unpredictable, uncontrollable, and overwhelming (Cohen et al., 1983). Occupational burnout, by contrast, reflects cumulative physical and psychological exhaustion. The Copenhagen Burnout Inventory differentiates personal burnout, work-related burnout, and exhaustion associated with interpersonal occupational interactions (Kristensen et al., 2005). The Job Demands–Resources framework provides a useful account of how occupational demands and resources may interact: excessive demands increase the likelihood of exhaustion, whereas personal and organizational resources may support adaptation and work functioning (Bakker & Demerouti, 2017).

At the same time, an employee's psychological state cannot fully represent occupational performance. The Individual Work Performance Questionnaire distinguishes task performance, contextual performance, and counterproductive work behavior (Koopmans et al., 2013, 2014, 2016). This framework makes it possible to assess not only the execution of core job duties, but also behavioral patterns that support or impede broader organizational functioning.

Accordingly, the scientific problem is not simply whether policing during war is stressful, but why psychological and occupational functioning varies among officers who remain exposed to sustained high risk. The simultaneous relationship of recovery capacity with perceived stress, distinct dimensions of burnout, and behavioral indicators of individual work performance remains insufficiently examined among police officers who continue to serve directly in a Ukrainian frontline

city. Addressing this gap constituted the principal novelty of the study.

Hypothesis. Higher resilience among police officers serving in frontline Kherson was expected to be significantly associated with a more favorable profile of occupational functioning: lower perceived stress and less pronounced occupational burnout, as well as higher individual work performance. The overarching hypothesis was specified in three assumptions: (1) higher resilience would be associated with lower perceived stress; (2) higher resilience would be associated with lower occupational burnout; and (3) higher resilience would be associated with better task performance, higher contextual performance, and higher overall individual work performance.

Purpose. To determine empirically the direction and strength of the correlations of resilience with perceived stress, occupational burnout, and individual work performance among police officers who were directly serving in frontline Kherson in 2026.

Methods

Participants. The empirical study was conducted in 2026. The sample comprised 51 serving officers of the National Police of Ukraine who, at the time of data collection, were directly performing their duties in Kherson. The principal inclusion criterion was active performance of professional duties in a frontline city under martial law.

The sample included 48 men (94.1%) and 3 women (5.9%), aged 26–45 years. The largest age group was 36–40 years ($n=30$; 58.8%); 12 participants (23.5%) were aged 31–35 years, 6 (11.8%) were aged 41–45 years, and 3 (5.9%) were aged 26–30 years.

The sample was characterized by substantial professional experience. Twenty-seven officers (52.9%) had more than 12 years of service, 21 (41.2%) had 8–12 years, and 3 (5.9%) had 4–7 years. Thus, 94.1% of participants had at least eight years of police service.

Mixed professional duties predominated ($n=39$; 76.5%). Six participants (11.8%) performed administrative and organizational duties, 3 (5.9%) served in special police units, and

a further 3 (5.9%) performed functions involving public communication and informational support for police activities.

Workload was rated as elevated by 27 participants (52.9%), high by 15 (29.4%), very high by 6 (11.8%), and moderate by 3 (5.9%); consequently, 94.1% reported at least an elevated workload. Frequent exposure to situations of heightened danger or uncertainty was reported by 24 officers (47.1%), very frequent exposure by 6 (11.8%), and constant exposure by 15 (29.4%); only 6 participants (11.8%) selected “rarely” or “sometimes.” Overall, 88.3% of the sample

reported frequent, very frequent, or constant exposure to danger or uncertainty.

During the preceding year, 27 participants (52.9%) had completed training in psychological resilience, stress tolerance, or self-regulation; 18 (35.3%) had not received such training, and 6 (11.8%) selected “difficult to say.”

Participation was voluntary and anonymous. Data were analyzed exclusively in aggregate form, and no information that could identify individual police officers was included in the research dataset. The sample’s socio-professional characteristics are summarized in Table 1.

Table 1. Socio-professional characteristics of the police officers

Characteristic	Category	n	%
Sex	Male	48	94.1
	Female	3	5.9
Age	26–30 years	3	5.9
	31–35 years	12	23.5
	36–40 years	30	58.8
	41–45 years	6	11.8
Length of service	4–7 years	3	5.9
	8–12 years	21	41.2
	>12 years	27	52.9
Workload	Moderate	3	5.9
	Elevated	27	52.9
	High	15	29.4
	Very high	6	11.8
Danger/uncertainty	Rarely/sometimes	6	11.8
	Frequently	24	47.1
	Very frequently/constantly	21	41.2
Training in preceding year	Yes	27	52.9
	No	18	35.3
	Difficult to say	6	11.8

Variables. The focal study variable was resilience, operationalized as the capacity to recover following stressful and adverse events. Its quantitative indicator was the total Brief Resilience Scale score.

Occupational functioning was operationalized across three domains. The first was perceived stress, defined as the subjective appraisal of current circumstances as unpredictable, uncontrollable, and overwhelming. The second was occupational burnout, represented by personal burnout,

work-related burnout, burnout associated with interactions with people, and an overall burnout index. The third was individual work performance, represented by task performance, contextual performance, counterproductive work behavior, and an overall work-performance index.

Sex, age, length of service, type of duty, workload, frequency of exposure to dangerous or uncertain situations, and participation in psychological training were used to characterize the sample and were not modeled as independent

predictors in the primary hypothesis tests.

Procedures and instruments. The assessment battery comprised four psychodiagnostic instruments and a socio-professional questionnaire. Instrument selection followed the study logic: the BRS indexed recovery capacity; the PSS-10 assessed current subjective stress; the CBI assessed accumulated exhaustion; and the IWPQ captured the behavioral dimension of occupational functioning.

Resilience was assessed using the Brief Resilience Scale (BRS) developed by B. W. Smith and colleagues (Smith et al., 2008). The BRS contains six items rated on a five-point response scale. Items 2, 4, and 6 are reverse-scored. The total score was calculated as the mean of the six items after reverse coding; higher scores indicated greater capacity to recover from stress. Internal consistency in the present sample was $\alpha = .800$.

Perceived stress was assessed using the 10-item Perceived Stress Scale (PSS-10) developed by S. Cohen, T. Kamarck, and R. Mermelstein (Cohen et al., 1983). Responses range from 0 ("never") to 4 ("very often"), and the scale captures the extent to which circumstances during the previous month were experienced as unpredictable, overwhelming, and insufficiently controllable. Items 4, 5, 7, and 8 are reverse-scored. Total scores range from 0 to 40, with higher scores indicating greater perceived stress. Internal consistency in this sample was $\alpha = .817$.

Burnout was assessed with the Copenhagen Burnout Inventory (CBI) developed by T. S. Kristensen and colleagues (Kristensen et al., 2005). The 19-item version used in this study yielded indices of personal burnout, work-related burnout, and burnout associated with professional interactions with other people. Responses were converted to a 0–100 scale, with higher values indicating greater exhaustion. To improve contextual relevance for policing, the original client-related burnout subscale was semantically adapted as "burnout related to interactions with people encountered during police duties." Internal consistency was $\alpha = .936$ for personal burnout, $\alpha = .846$ for work-related burnout, and $\alpha = .893$ for burnout related to interactions with people.

Individual work performance was assessed using the Individual Work Performance

Questionnaire (IWPQ), conceptually developed by L. Koopmans and colleagues (Koopmans et al., 2013, 2014, 2016). The 18 items were grouped into task performance, contextual performance, and counterproductive work behavior. Higher scores on the first two scales indicated better performance, whereas higher scores on the counterproductive-work-behavior scale indicated more frequent undesirable workplace behaviors. Internal consistency was $\alpha = .954$ for task performance, $\alpha = .940$ for contextual performance, and $\alpha = .908$ for counterproductive work behavior.

The socio-professional questionnaire covered sex, age, length of service, type of professional duties, workload, frequency of exposure to danger or uncertainty, and participation in training focused on psychological resilience, stress tolerance, or self-regulation during the preceding year. The questionnaire was used solely to characterize the sample.

Organization of research. A cross-sectional correlational design was used. This strategy was consistent with the study purpose because it enabled examination of naturally occurring variation in resilience and its statistical associations with indicators of occupational functioning without experimental manipulation of service conditions.

Data were collected in 2026 from police officers who were directly serving in Kherson at the time of participation. The protocol involved sequential completion of the socio-professional questionnaire, BRS, PSS-10, CBI, and IWPQ. Particular care was taken to minimize the risk of participant identification, given the professional group and wartime context. The survey was anonymous, and results were used only in aggregate form. No experimental induction of stress or other deliberate psychological manipulation was employed.

The analytical procedure comprised three stages: description of the socio-professional context and principal psychological indicators; assessment of the internal consistency of the scales; and hypothesis testing through correlations of resilience with perceived stress, burnout dimensions, and individual work-performance indicators.

Statistical analysis. The dataset was prepared

and statistically processed in Microsoft Excel. Absolute frequencies (n) and percentages (%) were used to characterize the sample. Quantitative variables were summarized using the mean (M), standard deviation (SD), median (Me), minimum (min), and maximum (max).

Scale reliability was assessed using Cronbach's alpha. Values of $\alpha \geq .70$ were considered acceptable for research purposes (Tavakol & Dennick, 2011). The primary hypothesis was tested using Spearman's rank correlation coefficient (r_s). A non-parametric coefficient was selected because of the sample size, the ordinal nature of the underlying item responses, and the absence of a requirement to assume normality for all study variables.

Statistical significance was evaluated at $p < .05$, $p < .01$, and $p < .001$. Correlation coefficients were interpreted jointly in terms of direction, magnitude, and statistical significance; findings with $p > .05$ were treated as not statistically supported. Given the cross-sectional correlational design, observed associations were not interpreted causally.

Results

Empirical analyses followed the logic of the study hypothesis. Psychometric reliability and the overall profile of psychological and occupational indicators were examined first, followed by tests of the associations of resilience with perceived stress, burnout dimensions, and individual work performance.

Internal consistency was acceptable to excellent across the instruments: BRS, $\alpha = .800$; PSS-10, $\alpha = .817$; CBI subscales, $\alpha = .846-.936$; and IWPQ components, $\alpha = .908-.954$. Thus, all principal scales demonstrated adequate internal consistency for subsequent analyses. Descriptive statistics and reliability coefficients are presented in Table 2.

Mean BRS resilience was $M = 4.02$, $SD = .61$, $Me = 4.00$, with observed scores ranging from 3.00 to 5.00. Based on the interpretive thresholds used in the study, 33 participants (64.7%) had a moderate/normal level of resilience, and 18 (35.3%) had a high level; no low scores were observed.

Perceived stress on the PSS-10 was $M = 10.82$, $SD = 6.06$, $Me = 10.00$, with scores ranging from 2

to 20. Thirty participants (58.8%) were classified as having low perceived stress, and 21 (41.2%) as having moderate stress; no high scores were observed. This pattern is especially noteworthy in the occupational context: 94.1% of officers reported at least an elevated workload and 88.3% reported frequent or more persistent exposure to danger or uncertainty. Thus, the relatively low group-level PSS-10 scores did not occur in the absence of occupational stressors.

CBI scores were heterogeneous across dimensions. Personal burnout was $M = 26.96$, $SD = 21.07$; work-related burnout, $M = 32.98$, $SD = 18.91$; and burnout related to interactions with people, $M = 25.00$, $SD = 18.82$. The overall burnout index was $M = 28.31$, $SD = 16.82$, $Me = 27.78$. On the overall index, 45 participants (88.2%) had low or non-pronounced burnout, and 6 (11.8%) had moderate burnout. Nevertheless, maximum scores reached 75.00 for personal burnout, 67.86 for work-related burnout, 62.50 for people-related burnout, and 65.67 for overall burnout. Thus, despite the more favorable group-level pattern, some officers displayed markedly elevated exhaustion.

For the IWPQ, the highest mean was observed for task performance ($M = 3.11$, $SD = 1.02$) on a scale with a maximum of 4. Contextual performance was $M = 2.51$, $SD = 1.12$; counterproductive work behavior, $M = .94$, $SD = .77$; and overall work performance, $M = 2.89$, $SD = .76$. At the descriptive level, the sample combined relatively strong recovery capacity and task performance with comparatively low group-level stress, burnout, and counterproductive work behavior

Table 2. Descriptive statistics and internal consistency of the main study variables

Variable	M	SD	Me	min	max	α
Resilience (BRS)	4.02	.61	4.00	3.00	5.00	.800
Perceived stress (PSS-10)	10.82	6.06	10.00	2.00	20.00	.817
CBI: personal burnout	26.96	21.07	29.17	0	75.00	.936
CBI: work-related burnout	32.98	18.91	32.14	7.14	67.86	.846
CBI: burnout related to interactions with people	25.00	18.82	25.00	0	62.50	.893
CBI: overall burnout	28.31	16.82	27.78	9.13	65.67	–
IWPQ: task performance	3.11	1.02	3.60	1.00	4.00	.954
IWPQ: contextual performance	2.51	1.12	2.25	.75	4.00	.940
IWPQ: counterproductive work behavior	.94	.77	1.00	0	2.00	.908
IWPQ: overall work performance	2.89	.76	2.67	1.67	4.00	–

Note: n = 51; M = mean; SD = standard deviation; Me = median; min = minimum; max = maximum; α = Cronbach's alpha.

Spearman correlation analysis was used to test the hypotheses directly. The first specific assumption was supported: BRS resilience was significantly and negatively associated with PSS-10 perceived stress ($r_s = -.560$; $p < .001$). This was the strongest association observed between resilience and any indicator of occupational functioning.

The second specific assumption received partial support. Resilience was not significantly associated with personal burnout ($r_s = .063$; $p = .661$) or work-related burnout ($r_s = -.234$; $p = .098$). In contrast, significant negative correlations were found with burnout related to interactions with people ($r_s = -.448$; $p < .001$) and with overall burnout ($r_s = -.310$; $p = .027$).

The third assumption was largely supported. Resilience was positively associated with task performance ($r_s = .482$; $p < .001$), contextual performance ($r_s = .423$; $p = .002$), and overall work performance ($r_s = .465$; $p < .001$). Counterproductive work behavior showed a negative coefficient ($r_s = -.269$), but the association did not reach the predefined threshold for statistical significance ($p = .056$).

The principal correlations are summarized in Table 3. Taken together, the results revealed a differentiated empirical profile. Resilience was most consistently associated with lower subjective

stress and with the preservation of positive behavioral indicators of work performance. At the same time, the absence of significant associations with personal burnout, work-related burnout, and counterproductive work behavior indicates that resilience is not a universal marker of all dimensions of occupational functioning.

Overall, the findings supported the primary hypothesis, with qualifications regarding specific burnout dimensions and counterproductive work behavior.

Table 3. Associations of resilience with indicators of occupational functioning among police officers

Variables	r_s	p	Statistical result
BRS ↔ PSS-10	-.560	< .001	significant negative
BRS ↔ personal burnout	.063	.661	not significant
BRS ↔ work-related burnout	-.234	.098	not significant
BRS ↔ burnout related to interactions with people	-.448	< .001	significant negative
BRS ↔ overall burnout	-.310	.027	significant negative
BRS ↔ task performance	.482	< .001	significant positive
BRS ↔ contextual performance	.423	.002	significant positive
BRS ↔ counterproductive work behavior	-.269	.056	not significant
BRS ↔ overall work performance	.465	< .001	significant positive

Note: n = 51; r_s = Spearman's rank correlation coefficient.

Discussion

The most pronounced finding was the negative association between resilience and perceived stress ($r_s = -.560$; $p < .001$). Officers with a greater capacity to recover from difficult events appraised their current life and work circumstances as less overwhelming, unpredictable, and uncontrollable. This pattern is consistent with the conceptual basis of the BRS, in which resilience reflects the capacity to regain functioning following stress rather than the absence of stressful experience (Smith et al., 2008).

This distinction is particularly important in the present sample. A total of 94.1% of participants described their workload as elevated, high, or very high, while 88.3% reported frequent, very frequent, or constant exposure to danger or uncertainty. Accordingly, the relatively low PSS-10 scores should not be interpreted as evidence of an absence of stressors; rather, they reflect participants' subjective appraisal of the psychological burden associated with those stressors. In a frontline environment, resilience does not remove objective danger, but may be associated with the capacity to restore regulation and maintain functional performance.

This interpretation is consistent with systemic accounts of resilience as a dynamic process emerging from interactions among individual, social, and occupational resources (Southwick et al., 2014; Ungar, 2018). Police research similarly links resilience to a broader configuration of

protective factors and personality functioning (Angehrn et al., 2023). BRS scores should therefore not be interpreted independently of professional experience, organizational conditions, and access to psychological preparation.

One plausible explanation for the comparatively favorable group profile is the substantial professional experience of the sample: 94.1% had served for at least eight years, and more than half for over 12 years. Extended professional socialization may be associated with more effective risk appraisal and self-regulation. Contemporary Ukrainian research also emphasizes the relevance of self-regulation and length of service in police work (Vorobiova & Okhrimenko, 2025). At the same time, a selection effect cannot be ruled out: officers who remain in highly stressful environments over prolonged periods may differ systematically from those who leave service or change roles. The cross-sectional design does not permit this possibility to be tested.

More than half of participants (52.9%) reported receiving training in psychological resilience, stress tolerance, or self-regulation during the preceding year. The present design does not permit the conclusion that such training led to higher resilience or lower stress. Nevertheless, this is an important contextual characteristic. The systematic review by Moreno et al. (2024) showed that police resilience programs vary considerably in theoretical orientation and format. However, most included studies reported favorable changes

in at least some psychological or occupational outcomes.

An alternative explanation for the comparatively low subjective-stress scores should also be considered. Prolonged exposure to wartime danger may shift the individual reference point for evaluating stressful situations: events that would be appraised as extremely stressful in another occupational context may gradually become incorporated into the perceived norm of the service environment. A low PSS-10 score should therefore not be equated automatically with an absence of psychophysiological costs. Future research would benefit from complementing self-report measures with external or psychophysiological indicators.

The burnout findings were more differentiated. Resilience correlated negatively with overall CBI burnout ($r_s = -.310$; $p = .027$) and, more strongly, with burnout related to interactions with people ($r_s = -.448$; $p < .001$), whereas associations with personal and work-related burnout were not significant. This pattern is inconsistent with a simplistic assumption that resilience is equally related to all manifestations of exhaustion.

The stronger association with burnout arising from interactions with people may reflect the importance of recovery following emotionally demanding professional encounters. Police work involves contact with victims, members of the public in crisis, colleagues, and other participants in potentially conflictual or traumatic situations; in a frontline environment, the intensity of such encounters may increase further. This interpretation is consistent with Ponomarenko et al. (2025), who conceptualized wartime police burnout as a multifactorial phenomenon contingent on the nature of professional duties. Recent Ukrainian studies likewise indicate associations between burnout, processual resilience, and the resources available to police personnel (Bolshakova et al., 2025; Ponomarenko et al., 2026).

Notably, work-related burnout had the highest mean among the CBI dimensions ($M = 32.98$), yet its association with BRS resilience was not statistically significant. This suggests that exhaustion arising directly from work organization, duty schedules, and sustained workload cannot be adequately explained by an individual's recovery capacity

alone. Such an interpretation accords with Job Demands–Resources Theory, according to which personal resources are consequential but do not eliminate the effects of excessive job demands (Bakker & Demerouti, 2017).

From a practical perspective, resilience development should therefore not become a means of shifting responsibility for occupational well-being exclusively onto individual officers. Under sustained high workload, personal resources need to be complemented by organizational resources, including adequate work–recovery arrangements, accessible psychological support, supportive leadership, and effective team functioning. This position is consistent with recent research on police occupational functioning under martial law (Voloshyn, 2026; Ponomarenko et al., 2026).

A further important finding was the positive association of resilience with task performance ($r_s = .482$; $p < .001$), contextual performance ($r_s = .423$; $p = .002$), and overall work performance ($r_s = .465$; $p < .001$). These results extend the interpretation of resilience beyond its role as a mental-health resource. Recovery capacity was related to the behavioral dimension of occupational functioning, including planning, prioritization, goal-directed performance, initiative, professional development, and constructive participation in work-related interactions.

This finding constitutes a central element of the study's scientific contribution. Much of the previous literature on police resilience has focused on psychological distress, stress, or post-traumatic symptoms (Janssens et al., 2021; Sherwood et al., 2019; Syed et al., 2020). In the present study, resilience was simultaneously associated with adverse psychological indicators and with positive behavioral characteristics of occupational performance. This supports the use of the broader construct of “occupational functioning.”

The association between BRS resilience and counterproductive work behavior was negative, as hypothesized ($r_s = -.269$), but did not reach statistical significance ($p = .056$). One possible explanation is the limited variability of this scale in the sample ($M = .94$), together with the susceptibility of self-reported socially undesirable work behavior to social desirability bias. Likewise,

the non-significant findings for personal and work-related burnout demonstrate that the empirical pattern does not conform to a simple “more resilience – less of every adverse outcome” model.

The association between resilience and overall burnout ($r_s = -.310$; $p = .027$) also warrants cautious interpretation. Although it met the nominal $p < .05$ criterion, multiple correlations were tested. This finding should therefore be replicated in a larger independent sample. By contrast, associations with perceived stress, burnout related to interactions with people, task performance, contextual performance, and overall work performance yielded substantially smaller p -values and form a more robust core of the observed empirical profile.

The scientific novelty of the study lies in three features. First, it examines a distinctive occupational group: serving police officers who continued to work directly in frontline Kherson in 2026. Here, the frontline context is not merely a geographical descriptor but an occupational environment characterized by prolonged danger and uncertainty. Second, resilience was examined across three domains of occupational functioning: subjective stress, exhaustion, and behavioral work performance. Third, substantial occupational demands coexisted with relatively strong recovery capacity and a comparatively favorable group-level profile of work performance.

The findings have practical implications for the comprehensive monitoring of police psychological functioning. Assessing stress or burnout alone does not fully capture occupational functioning; indicators of psychological burden should be considered alongside recovery capacity and behavioral work-performance characteristics. Psychological programs should address recovery after stressful events, emotion regulation, stress management, the maintenance of effective professional interactions, and the early recognition of exhaustion, while remaining embedded in a broader system of organizational support.

Study limitations. First, the sample size was $n = 51$, limiting generalization to the wider National Police of Ukraine. Second, the gender distribution was markedly unbalanced, with men

comprising 94.1% of participants. Third, most participants had extensive service experience, and the observed profile may therefore partly reflect characteristics of experienced officers. Fourth, the cross-sectional correlational design does not establish causal direction. Fifth, the principal variables were assessed via self-report, creating potential for social desirability bias and common method variance. Sixth, the semantic adaptation of the CBI client-related component to interactions with people encountered during police duties requires further psychometric evaluation. Seventh, the study was conducted in a single frontline city without a comparison group of officers serving in areas with different levels of wartime threat.

Future research should employ multi-regional samples, compare officers serving in frontline and relatively safer areas, use longitudinal designs, and examine the roles of organizational and social support, length of service, duty type, and participation in psychological training. Testing mediation and moderation models may further clarify the conditions under which resilience is most strongly associated with preserved occupational functioning.

Conclusions

1. The 2026 study of police officers directly serving in frontline Kherson showed that high occupational demands and regular exposure to danger coexisted with a comparatively favorable group-level profile of psychological and occupational functioning. Mean resilience was $M = 4.02$, $SD = .61$; perceived stress, $M = 10.82$, $SD = 6.06$; overall burnout, $M = 28.31$, $SD = 16.82$; and overall work performance, $M = 2.89$, $SD = .76$.

2. The strongest association was observed between resilience and perceived stress ($r_s = -.560$; $p < .001$): greater capacity for psychological recovery was associated with lower subjective overload and lower perceived uncontrollability of current circumstances. The first specific hypothesis was supported.

3. The relationship between resilience and occupational burnout was differentiated across dimensions. Resilience was negatively associated with burnout related to interactions with people ($r_s = -.448$; $p < .001$) and with overall burnout

($r_s = -.310$; $p = .027$), whereas associations with personal and work-related burnout were not statistically significant. The second specific hypothesis was therefore partially supported.

4. Resilience was positively associated with task performance ($r_s = .482$; $p < .001$), contextual performance ($r_s = .423$; $p = .002$), and overall individual work performance ($r_s = .465$; $p < .001$). Its association with counterproductive work behavior was not statistically significant ($r_s = -.269$; $p = .056$). The third specific hypothesis was largely supported.

5. Taken together, the findings generally supported the primary hypothesis: higher resilience among police officers serving in frontline Kherson was associated with a more favorable profile of occupational functioning. Practical implementation should combine individual recovery, self-regulation, and stress-management skills with systemic organizational measures for the psychological support of police personnel serving for prolonged periods under heightened wartime threat.

Not Using AI Tools

No AI-assisted technologies were used in the writing, editing, or data analysis for this manuscript. All work is original and completed solely by the listed authors.

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