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STUDY OF FUTURE TEACHERS' READINESS TO INTERACT WITH CHILDREN EXHIBITING DEVIANT BEHAVIOUR

Abstract

This study investigates the professional readiness of future teachers enrolled in different teacher education programmes to interact with children exhibiting deviant behaviour. The study addresses the important role of teachers in preventing deviant behaviour, identifying early signs of psychological maladjustment, and recognising risks associated with problem behaviour among learners. The aim of the study was to examine and compare self-reported indicators of the cognitive and operational-activity components of professional readiness among future teachers from different fields of teacher education for working with children exhibiting deviant behaviour. Data were collected using an author-developed self-report questionnaire assessing professional knowledge and skills. Statistical analyses were performed using Jamovi (version 2.6). Between-group differences were examined using the Mann-Whitney U test, and the rank-biserial correlation coefficient was additionally calculated to estimate effect size. The results revealed statistically significant between-group differences in several overall and specific self-reported measures. Students enrolled in psychological and pedagogical support programmes reported higher levels of professional knowledge and skills, as well as higher scores on the overall measure. Among the specific skills assessed, the largest between-group difference was observed in instructional design skills ($r = 0.44$). However, statistically significant differences were not observed across all measures, indicating that the differences between the groups were selective and providing only partial support for the study hypothesis. These findings suggest that strengthening the operational-activity component of teacher education may represent a promising avenue for enhancing the professional preparation of future teachers. The self-report nature of the instrument should be considered when interpreting the findings: the observed differences reflect participants' perceptions of their own professional readiness and should not be interpreted as objective differences in their actual level of professional competence.

Keywords: professional readiness, future teachers, self-assessment, psychological and pedagogical support, children exhibiting deviant behaviour, prevention of deviant behaviour, deviantological competence.

Introduction. Many global challenges facing society today are widely discussed in academic research. One of the most important is the education and upbringing of the younger generation. The significance of this issue for Kazakhstan has been emphasised by the Head of State, K.-J. Tokayev, who identified quality education and proper upbringing as key priorities of Kazakhstani society. In this context, teachers have an important role in preventing inappropriate and harmful behaviour among adolescents and young people [1]. Education and upbringing provide young people with important values and guidelines for personal and social development. They help prepare responsible citizens, employees and family members. However, negative behavioural changes are increasingly observed among adolescents and young people. Such changes may affect their thinking, emotions and ability to control their behaviour.

Deviant behaviour among children and young people has become a global concern. This issue affects teachers, psychologists, sociologists, parents and the international community. The authors' study of international approaches to the prevention of deviant behaviour, conducted during research visits to Poland, Slovakia and the United States, as well as an analysis of academic literature, shows that schools in many countries face various forms of problematic behaviour.

Common problems among adolescents include aggression, suicidal behaviour, bullying, violence, vandalism and different forms of addiction, such as drug, alcohol, and internet addiction.

The rapid spread of digital technologies has also created new risks related to dangerous forms of online behaviour and digital deviance. Under these conditions, teachers and trainee teachers need to understand their role in preventing deviant behaviour among children and adolescents. They must also be prepared to respond to the challenges created by a changing social and digital environment. Teachers are in a particularly critical position because they interact with children regularly and may notice early signs of psychological distress or risky behaviour. To identify and prevent such problems effectively, teachers need relevant knowledge, practical skills, and professional competence. The development of this competence should begin during teacher training at university.

The aim of the study is to examine and compare self-assessment indicators of the cognitive and operational-activity components of future teachers' professional readiness to interact with children demonstrating deviant behaviour across different fields of teacher education. The need for this study is driven by the necessity to improve teacher education programs in preparing future teachers to work with children exhibiting deviant behaviour in school.

In the present study, professional readiness is conceptualised in terms of professional knowledge and skills, operationalised through the cognitive and operational-activity blocks of the author-developed questionnaire, designed on the basis of a structural model of teachers' deviantological competence.

The research hypothesis was based on the assumption that there are intergroup differences in self-assessed indicators of professional knowledge and skills among future teachers from different fields of teacher education. It was hypothesised that students enrolled in educational programmes focused on psychological and pedagogical support may demonstrate higher levels of certain indicators of the cognitive and operational-activity components of professional readiness than students enrolled in general teacher education programmes.

The research question was formulated as follows: "What are the characteristics of future teachers' self-assessment of the cognitive and operational-activity components of professional readiness to interact with children demonstrating deviant behaviour, and are there differences in the corresponding indicators among students from different fields of teacher education?"

Literature review and key theoretical aspects of the research problem

In this study, deviant behaviour in children is examined through both psychological and educational lenses. It refers to behaviour by minors that differs from socially accepted norms and is expressed in their relationships, attitudes, values, and patterns of social interaction. Such behaviour may also indicate difficulties in the child's socialisation and personal development.

A review of the academic literature shows that researchers in education and psychology mainly focus on the causes of deviant behaviour among children and adolescents, as well as on humanistic approaches to addressing it. These issues have been examined by E.V. Zmanovskaya, Yu.A. Kleiberg, A.A. Rean and other scholars [2, 3, 4]. Researchers and practitioners have also developed various methods for preventing and correcting deviant behaviour among children and adolescents. Important contributions in this area have been made by A.T. Akazhanova, A.N. Teslenko, Z.M. Sadvakasova, Zh.B. Baiseitova and others [5, 6, 7, 8]. In the context of global digitalisation, increasing attention is focused on integrating artificial intelligence into teacher professional development, particularly in preparing educators to manage child deviant behavior [9].

In international research, behaviours that deviate from socially accepted norms – including defiance of adults, impulsivity, aggression, and conflict with peers and teachers – are commonly examined within the broader frameworks of disruptive and externalising behaviour, verbal aggression, and other forms of maladaptive or non-normative behaviour. Although the terminology and conceptual frameworks differ, these behavioural manifestations broadly correspond to what is referred to as "deviant behaviour" in Kazakhstani scholarship, particularly in the fields of deviantology, pedagogy, and psychology.

International researchers examine this issue from several perspectives. Extensive literature addresses bullying among young people, as well as to adolescents' attitudes, self-stereotypes and social-emotional intelligence [10]. Other studies investigate anxiety and depression among African children and adolescents [11]. The relationship between physical activity and deviant behaviour

among Chinese adolescents has also attracted research interest [12]. International research is valuable because it presents a wide range of approaches to the study of deviant behaviour and offers strategies for its prevention and early intervention. However, despite the growing interest in this topic, the professional readiness of future teachers to work with children exhibiting deviant behaviour remains insufficiently studied. This research gap determined the focus of the present study.

The concept of a teacher's professional readiness has been widely discussed in education and psychology. However, there is still no single and universally accepted definition. In educational research, professional readiness is generally understood as an integrated personal and professional characteristic. It is based on a person's experience and is developed through professional knowledge, practical skills and abilities. A major contribution to the study of professional readiness was made by the Kazakhstani academic school led by N.D. Khmel [13]. According to this approach, a teacher's professional readiness is a complex structure that includes professional qualities, specialised knowledge and practical skills. These elements are reflected in three main components:

- motivational and value-based;
- content-related;
- process-related.

The development of future teachers' readiness to interact with children exhibiting challenging behaviour is also based on the competence-based approach. Most researchers define competence as a combination of professionally important qualities, knowledge and skills that enable teachers to perform their duties successfully. The literature indicates a close relationship between professional readiness and professional competence. Professional readiness provides the basis for future professional activity. Professional competence represents a more advanced level of development and is demonstrated through a teacher's ability to act effectively in both typical and difficult professional situations. Therefore, professional readiness can be viewed as an important stage in the development of professional competence. Competence, in turn, develops through professional education, practical training and work experience. In the context of the present study, a teacher's professional readiness to interact with children exhibiting deviant behaviour is defined as an integrated personal and professional characteristic that enables the teacher to perform relevant professional tasks successfully. It also serves as a necessary basis for the development of deviantological competence.

Professional readiness provides the foundation for the development of deviantological competence during university training and later professional practice. Deviantological competence develops from this readiness and is strengthened through its practical application. For this reason, professional readiness and deviantological competence should be considered as closely related and successive stages of professional development. In this study, a teacher's deviantological competence is defined as a specific type of professional competence that enables the teacher to prevent, identify at an early stage and address deviant behaviour among students.

The original theoretical model of teachers' deviantological competence comprises five interrelated components: cognitive, motivational-value, operational-activity, evaluative-reflective, and personal [14]. In the present study, the quantitative part of the questionnaire primarily operationalises the cognitive and operational-activity components of the model, with the latter represented in the empirical instrument by a separate block assessing respondents' practical professional skills. These components formed the theoretical basis for the development of the authors' questionnaire, "Future Teacher Awareness".

Methods and Materials. Research Design. The study employed a descriptive cross-sectional design to examine future teachers' self-assessed cognitive and practical readiness to work with children who demonstrate deviant behaviour across different teacher education programmes. The empirical data were collected using an author-developed self-report questionnaire grounded in a previously established theoretical model of teachers' deviantological competence.

Participants. The study involved 120 (N = 120) final-year undergraduate students enrolled in teacher education programmes at Karaganda National Research University named after academician Ye.A. Buketov. The sample was homogeneous in terms of the participants' main socio-professional characteristics: gender – female (100%); age – 20-23 years; educational level – undergraduate; stage

of study – final year. At the time of the study, the participants had no experience of independent professional teaching. Their practical experience of interacting with learners was limited to the teaching practicum undertaken as part of their degree programmes.

Based on their field of professional preparation, the participants were divided into two groups of equal size: 60 students (50.0%) enrolled in general teacher education programmes (prospective teachers of general education subjects) – group 1; and 60 students (50.0%) enrolled in programmes focused on psychological and pedagogical support – group 2. Thus, the two groups were comparable in terms of sample size, gender, age range, stage of study, and the absence of independent professional teaching experience. The principal difference between the groups was their field of professional preparation, which corresponded to the aim of the between-group comparative analysis.

The division into groups was based on differences in the content of their professional training. General teacher education programmes mainly focus on subject knowledge and general teaching competence. Psychological and pedagogical support programmes provide more specialised training in developmental psychology, deviant behaviour, psychological and pedagogical assessment, student support and corrective work. Differences in the content of the educational programmes provided a basis for comparing the students' self-assessment scores across the two fields of teacher education.

Research Instrument. The data were collected using an author-developed questionnaire entitled “Future Teacher Awareness”, designed to assess future teachers' self-reported levels of professional readiness to work with children who demonstrate deviant behaviour. The instrument is self-report in nature and assesses respondents' perceptions of their own professional knowledge and skills required for organising psychological and pedagogical interaction with this group of children.

The questionnaire was developed on the basis of a previously theoretically grounded structural model of teachers' deviantological competence [14, p. 159]. The original model comprises five interrelated components: cognitive, motivational-value, operational-activity, evaluative-reflective, and personal. In the present empirical study, however, the questionnaire primarily operationalised two components of professional readiness: the cognitive component, reflecting future teachers' professional knowledge, and the operational-activity component, reflecting the professional skills required to analyse, plan and organise interaction with children who demonstrate deviant behaviour. Thus, the instrument was not intended to provide a comprehensive assessment of all components of deviantological competence, as in our previous study of school teachers' deviantological competence, but rather to examine two key components of future teachers' professional readiness to work with children demonstrating deviant behaviour: the cognitive and operational-activity components. Professional readiness is viewed here as a prerequisite for the development of deviantological competence. During their professional training, future teachers acquire specific professional knowledge and skills that can be assessed independently of their teaching experience. Accordingly, the cognitive and operational-activity components can be assessed through self-report. At the initial stage of professional development, these two components can be identified most directly, whereas the remaining components require separate operationalisation associated with professional experience and were therefore beyond the scope of the present study.

The questionnaire consists of two introductory questions and 38 rated items, grouped into two main content blocks. The introductory section includes an open-ended question about the additional knowledge respondents believe they need to work with children who demonstrate deviant behaviour, as well as a question concerning the types of professional assistance and support they require. For the second question, respondents could select up to three of the most important types of support, including professional development, methodological and staffing support, consultation, opportunities for professional exchange, and internships. Responses to the introductory questions were analysed separately and were not included in the calculation of the quantitative indicators for the two main blocks.

The cognitive block consists of 13 rated items assessing future teachers' self-reported professional knowledge. The items cover knowledge of the basics of psychodiagnostics and the main signs of deviant behaviour; the educational needs and characteristics of children who demonstrate deviant behaviour; psychological patterns of age-related and personal development; specialised

teaching methods; specific tools used in organising the educational process; methods of psychological and didactic planning; ways of organising interaction with learners; and approaches to working with parents. A separate group of five items assesses knowledge of the educational needs of children displaying different forms of deviant behaviour: risk-taking, suicidal, aggressive, addictive, and delinquent behaviour.

The operational-activity block consists of 25 items grouped into five categories of professional skills: analytical and predictive skills – 4 items; planning and design skills – 4 items; organisational skills – 6 items; communication skills – 7 items; and reflective skills – 4 items.

Analytical and predictive skills reflect respondents' self-assessment of their ability to analyse the socio-psychological characteristics of a child's behaviour, identify existing problems and the factors and conditions underlying them; apply professional knowledge to specific methodological problems; analyse pedagogical situations and take the results of such analysis into account when organising interaction; and predict the child's socio-psychological development and the corresponding educational pathway.

Planning and design skills include self-assessed ability to define expected outcomes of pedagogical work, plan pedagogical interventions, formulate objectives and the conditions required to achieve them, select appropriate methods, resources and organisational formats, and design the educational process in accordance with learners' behavioural characteristics.

Organisational skills refer to respondents' self-assessed ability to manage the behaviour and activity of children displaying different forms of deviant behaviour, make decisions in non-routine situations, select appropriate psychological and pedagogical interventions, organise dialogue-based interaction, formulate tasks and requirements clearly, create an appropriate educational environment, and make effective use of the resources available within the educational organisation.

Communication skills reflect respondents' self-assessment of their ability to establish interaction with children while taking their age-related and individual characteristics into account; use different approaches to working with parents; respond to individual needs; perceive and interpret signals arising during joint activities; recognise changes in psychological state through observable behaviour and other outward signs; collaborate with other professionals; and create a supportive and psychologically safe social environment involving the child's family.

Reflective skills refer to respondents' self-assessed ability to evaluate their own professional actions in relation to intended objectives, judge the relative effectiveness of the methods and resources used, analyse achievements and difficulties in professional practice, assess their own professional readiness, and identify areas for further professional development and self-directed learning.

All 38 items were rated using a three-point scale: 1 point – low level, 2 points – satisfactory level, and 3 points – high level. All items were positively keyed, so higher scores indicated higher self-assessed levels of the relevant professional knowledge or skill; no reverse scoring was applied.

Calculation and interpretation of indicators

For the cognitive block, each respondent's mean professional knowledge score was calculated as the arithmetic mean of the ratings across all 13 items. The five items assessing knowledge of the educational needs of children displaying risk-taking, suicidal, aggressive, addictive and delinquent behaviour were additionally combined into a separate indicator entitled "Knowledge of the educational needs of children displaying different forms of deviant behaviour", calculated as the arithmetic mean of the ratings for these five items.

For the operational-activity block, five aggregated indicators of professional skills were calculated – analytical and predictive, planning and design, organisational, communication, and reflective skills – as the arithmetic mean of the items within each category. In addition, each respondent's overall professional skills score was calculated as the arithmetic mean across all 25 items in the block. Each item was given equal weight in this calculation, regardless of the category to which it belonged.

To obtain an overall indicator of the assessed components of professional readiness, the arithmetic mean of the ratings across all 38 questionnaire items was calculated for each respondent, including 13 cognitive items and 25 operational-activity items.

The resulting score retained the original range of 1 to 3 points. For substantive interpretation, the following cut-off ranges were used: 1.00-1.66 – low level; 1.67-2.33 – satisfactory level; 2.34-3.00 – high level. The overall score represented the combined self-assessment of the cognitive and operational-activity components of professional readiness and was not interpreted as a comprehensive objective measure of future teachers' overall professional readiness.

Reliability and content validity of the instrument

The internal consistency of the two main blocks of the author-developed questionnaire was assessed using Cronbach's alpha (α) on the final study sample ($N = 120$). For the cognitive block, consisting of 13 items, $\alpha = 0.858$, indicating good internal consistency. For the operational-activity block, consisting of 25 items, $\alpha = 0.946$, indicating very high internal consistency among the items.

The content validity of the questionnaire was supported by its development on the basis of a previously theoretically grounded and published structural model of teachers' deviantological competence [14, p. 159]. The theoretical constructs of the model were operationalised through a set of professional knowledge and skills directly related to future teachers' interaction with children who demonstrate deviant behaviour.

At the same time, full psychometric validation of the questionnaire, including examination of its factor structure and criterion-related validity, was not conducted as part of the present study. The findings should therefore be regarded as an initial evaluation of the instrument. Further validation should involve testing its structure in independent samples and comparing self-reported scores with performance-based measures such as situational tasks, case analysis, observation, and expert assessment of future teachers' professional practice.

Research Procedure. Data were collected in March and April 2026 as part of the grant-funded project "Psychological and Pedagogical Conditions for Developing School Teachers' Professional Readiness to Interact with Children Exhibiting Deviant Behaviour." The study was conducted at the university's faculties.

The research consisted of three stages:

- 1) preparatory;
- 2) organisational;
- 3) analytical.

At the first stage, the aim and objectives of the study were specified, the study sample was determined, and the research instrument was developed on the basis of a previously theoretically grounded and published structural model of teachers' deviantological competence. The indicators of the two aspects of professional readiness under investigation were defined, and the materials required for administering the questionnaire were prepared.

At the second stage, data were collected through an online survey using Google Forms. Respondents were asked to complete the "Future Teacher Awareness" questionnaire. The electronic questionnaire link was distributed by academic group tutors among students in their final year of teacher education programmes. Participation was voluntary, and respondents completed the questionnaire independently online under conditions of anonymity.

Before completing the questionnaire, respondents were provided with information about the purpose of the study, the voluntary nature of participation, confidentiality, and the intended use of the collected data. Completion of the questionnaire after reviewing this information was treated as informed consent to participate in the study. No personally identifying information was used in the statistical analysis or presentation of the findings.

At the third stage, the collected data were organised, statistically processed, and interpreted. Indicators reflecting future teachers' self-assessed cognitive and operational-activity components of professional readiness to work with children demonstrating deviant behaviour were calculated. Based on these data, a comparative analysis was conducted of the indicators obtained for students from the two teacher education programmes.

Data Analysis. For the between-group analysis, the indicators were calculated separately for students from the two teacher education programmes. The statistical significance of differences between the groups was assessed using the Mann-Whitney U test with a significance level of $p \leq 0.05$. In addition to statistical significance, the magnitude of between-group differences was assessed using the rank-biserial correlation coefficient as a measure of effect size. The use of the Mann-Whitney U test for comparing two independent groups was consistent with the study design. Statistical analyses were conducted using Jamovi software (version 2.6).

Results and their Discussion. As part of the project, the research team conducted an online survey to examine future teachers' self-assessed professional readiness to work with children who demonstrate deviant behaviour across different teacher education programmes.

In line with the study aim and the main research question, the analysis focused on respondents' self-assessed professional knowledge in deviantology and professional skills related to working with children who demonstrate deviant behaviour. The survey also explored respondents' needs for specific types of support, including educational, psychological, and methodological support. The findings provide an overview of how future teachers assess the cognitive and operational-activity components of their own professional readiness to work with children who demonstrate deviant behaviour. The results of the analysis of the cognitive block are presented in Figure 1.

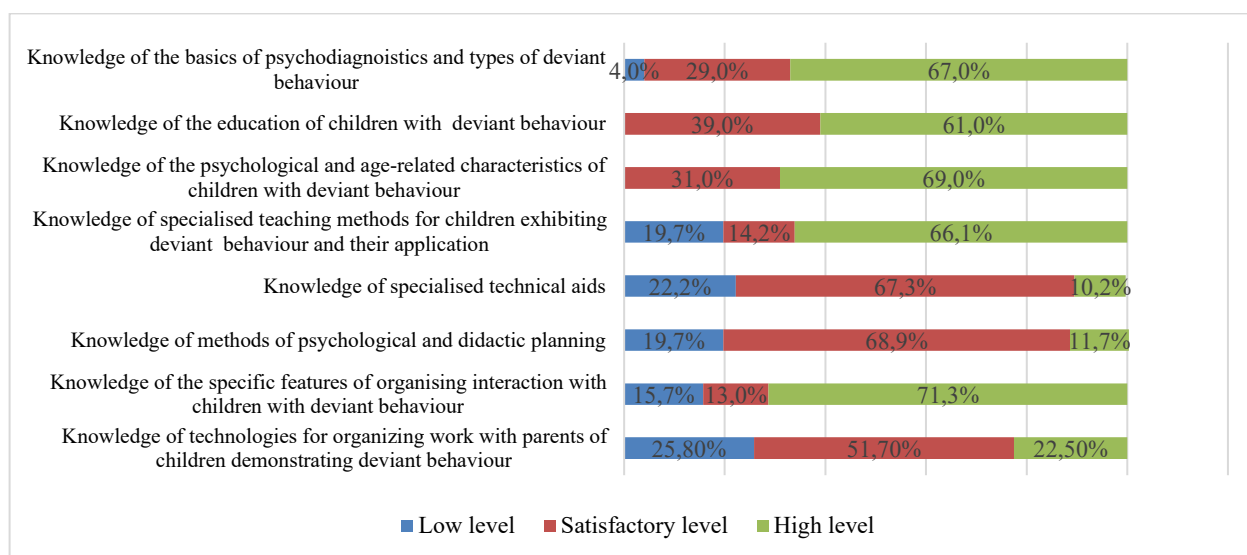


Figure 1. Indicators of self-assessed knowledge levels in deviantology and in working with children who demonstrate deviant behaviour

Source: compiled by the author

As shown in Figure 1, high and satisfactory self-assessments of professional knowledge predominated across most of the areas examined. The highest proportions of high self-assessments were reported for knowledge of how to organise interaction with children exhibiting deviant behaviour (71.3%), knowledge of their age-related and individual personality characteristics (69%), basic knowledge of the psychodiagnosis of behavioural deviations (67%), and specialised intervention methods (66.1%).

At the same time, satisfactory self-assessments predominated in several areas, particularly knowledge of psychological and didactic design methods (68.9%) and specialised technical aids (67.3%). Relatively higher proportions of low self-assessments were observed for knowledge of technologies for working with parents (25.8%) and specialised technical aids (22.2%). Overall, the distribution of self-assessed professional knowledge was heterogeneous: alongside areas characterised by predominantly high self-assessments, several domains showed a greater prevalence of satisfactory and low ratings.

Self-assessed knowledge concerning the educational needs of children exhibiting different forms of deviant behaviour – risk-taking, suicidal, aggressive, addictive, and delinquent behaviour – was also examined separately. The distribution of the findings is presented in Table 1.

Table 1. Distribution of self-assessed knowledge of the educational needs of children with different forms of deviant behaviour

Type of deviant behaviour	Self-assessed knowledge level of educational needs of children exhibiting deviant behaviour		
	High	Satisfactory	Low
Children exhibiting risky behaviour	12.2%	70.9%	16.9%
Children exhibiting suicidal behaviour	12.6%	65.4%	22%
Children with aggressive behaviour	14.2%	70.1%	15.7%
Children with addictive behaviour	16%	61%	23%
Children with delinquent behaviour	9%	57%	34%

Source: compiled by the author

As shown in Table 1, across all types of deviant behaviour examined, satisfactory self-assessments of knowledge of educational needs of children exhibiting deviant behaviour predominated (57.0–70.9%), while the proportion of high self-assessments ranged from 9% to 16%. The highest proportion of low self-assessments was observed in relation to the educational needs of children exhibiting delinquent behaviour (34%); for the other forms of deviant behaviour, this indicator ranged from 15.7% to 23%. Thus, regardless of the specific form of deviant behaviour, moderate self-assessments of knowledge of the educational needs of children exhibiting such behaviour predominated in the overall sample, with the highest proportion of low self-assessments observed in relation to delinquent behaviour.

Within the operational-activity component of professional readiness, the self-assessment of five groups of professional skills among future teachers was examined: analytical and prognostic, design, organisational, communication, and reflective skills. The distribution of self-assessed proficiency levels across these skill groups is presented in Figure 2.

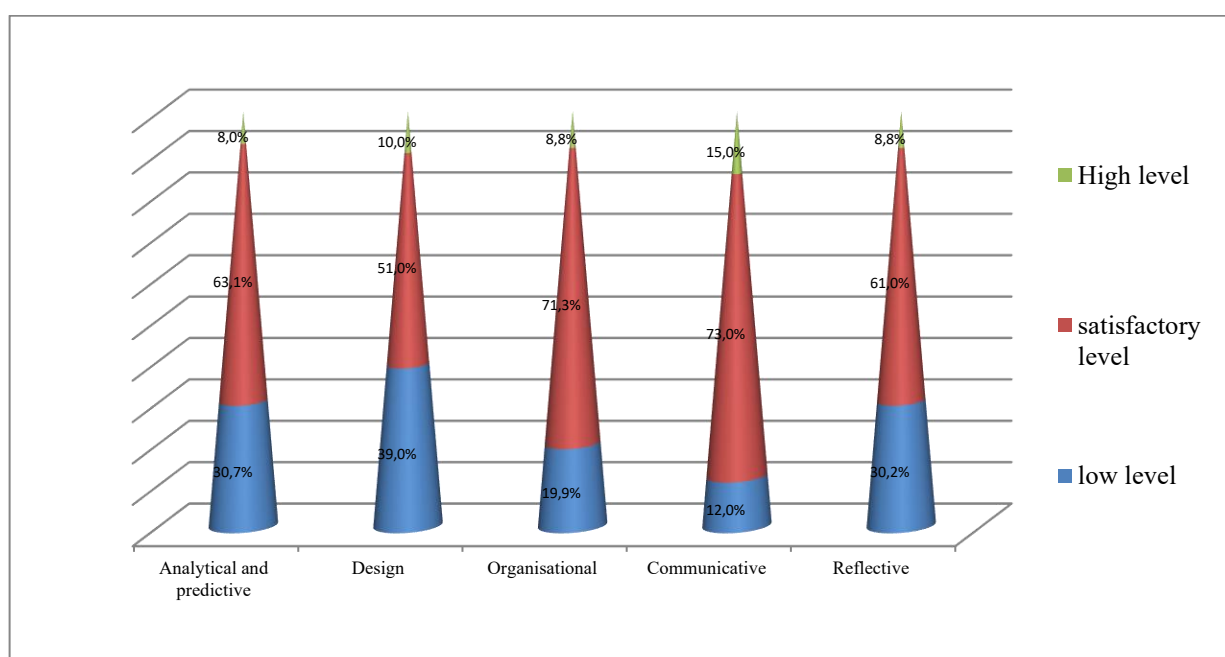


Figure 2. Self-assessed levels of professional skills among students

Source: compiled by the author

As shown in Figure 2, satisfactory self-assessments predominated across all groups of professional skills examined, ranging from 51.0% to 73.0%. The highest proportions of satisfactory self-assessments were observed for communication skills (73.0%) and organisational skills (71.3%). At the same time, the highest proportion of low self-assessments was found for design skills (39.0%), followed by analytical and prognostic skills (30.7%) and reflective skills (30.2%). Thus, although satisfactory self-assessments predominated overall, the distribution varied across the different groups of professional skills, with low self-assessments being most prevalent for design, analytical and prognostic, and reflective skills.

In accordance with the aim and hypothesis of the study, the next stage of the analysis involved comparing students' self-assessed professional readiness across the two educational pathways. The rationale for the between-group comparison was based on differences in the content of the respective educational programmes: general teacher education programmes are primarily oriented towards subject-specific and general pedagogical training, whereas psychological and pedagogical support programmes provide more in-depth preparation in developmental psychology, deviantology, psychological and pedagogical assessment, prevention, and support for learners. Accordingly, the analysis examined the presence and magnitude of between-group differences in self-assessed indicators of the cognitive and operational-activity components of professional readiness.

The comparative analysis included two groups of equal size: students enrolled in general teacher education programmes (Group 1; $n = 60$) and students enrolled in psychological and pedagogical support programmes (Group 2; $n = 60$).

The between-group comparative analysis was conducted at two successive levels. At the first stage, aggregate indicators representing the components of professional readiness under investigation were compared: the mean professional knowledge score, the knowledge score relating to the educational needs of children exhibiting different forms of deviant behaviour, the mean professional skills score, and the composite score for the components of professional readiness examined. This approach made it possible to establish the overall pattern of between-group differences before proceeding to an analysis of individual indicators of professional knowledge and skills.

The statistical significance of between-group differences was assessed using the Mann-Whitney U test, while the magnitude of the differences was estimated using the rank-biserial correlation coefficient (r). The results of the first stage of the comparative analysis based on the aggregate indicators are presented in Table 2.

Table 2. Comparative analysis of aggregated indicators of students' self-assessed professional readiness across different teacher education programmes

Indicator	Group 1 ($n=60$) M	Group 2 ($n=60$) M	U	p	r
Mean indicator of professional knowledge	2.032	2.244	1222.5	0.002	0.321
Indicator of knowledge of the educational needs of children displaying different forms of deviant behaviour	1.820	1.957	1438.0	0.055	0.201
Mean indicator of professional skills	1.765	1.895	1400.0	0.036	0.222
Overall indicator of the assessed components of professional readiness	1.856	2.014	1372.0	0.025	0.237

Source: compiled by the author

The results of the first stage of the between-group analysis revealed statistically significant differences in three of the four aggregate indicators of professional readiness. All statistically significant differences were in the same direction, with higher self-assessed scores observed among students enrolled in psychological and pedagogical support programmes. The most pronounced difference among the aggregate indicators was found for the mean professional knowledge score: M

= 2.244 in the psychological and pedagogical support group and $M = 2.032$ in the general teacher education group ($U = 1222.5$; $p = 0.002$; $r = 0.321$). A statistically significant difference was also identified for the mean professional skills score: $M = 1.895$ and $M = 1.765$, respectively ($U = 1400.0$; $p = 0.036$; $r = 0.222$). A similar pattern was observed for the composite indicator of the components of professional readiness examined, with a mean score of $M = 2.014$ among students enrolled in psychological and pedagogical support programmes and $M = 1.856$ among students in general teacher education programmes ($U = 1372.0$; $p = 0.025$; $r = 0.237$).

Comparison of the effect sizes provided an additional assessment of the magnitude of the observed between-group differences. Among the statistically significant aggregate indicators, the largest rank-biserial correlation coefficient was obtained for the mean professional knowledge score ($r = 0.321$). The effect sizes for the mean professional skills score ($r = 0.222$) and the composite indicator of the components of professional readiness examined ($r = 0.237$) were smaller. Thus, at the level of the aggregate indicators, the differences between the two groups were most pronounced in the self-assessment of professional knowledge, whereas the differences in self-assessed professional skills and the composite indicator were less pronounced. These findings indicate that the statistically significant between-group differences varied in magnitude depending on the component of professional readiness examined.

In contrast to the other three aggregate indicators, no statistically significant between-group difference was found for knowledge of the educational needs of children exhibiting different forms of deviant behaviour ($U = 1438.0$; $p = 0.055$; $r = 0.201$). The mean score for this indicator was somewhat higher in the psychological and pedagogical support group ($M = 1.957$) than in the general teacher education group ($M = 1.820$); however, the observed difference did not reach the conventional threshold for statistical significance. Thus, the pattern of between-group differences identified for the other aggregate indicators did not extend to all characteristics of the cognitive and operational-activity components of professional readiness examined.

At the second stage of the between-group analysis, individual content-specific indicators of professional knowledge and skills were compared. Table 3 presents the arithmetic means (M) and standard deviations (SD) for the indicators showing the most pronounced between-group differences in the study sample. Examining these indicators helped to refine the overall pattern identified through the analysis of the aggregate measures and to determine the specific characteristics of professional readiness for which differences between students from the two educational pathways were most evident.

Table 3. Indicators of differences within the sample according to individual criteria of the cognitive component of professional readiness among future teachers from different training programmes for working with children exhibiting deviant behaviour

Criterion	Group 1 (n=60), $M \pm SD$	Group 2 (n=60), $M \pm SD$	Mann-Whitney U	p	Effect size (r)
Knowledge of the psychological and age-related characteristics of children with deviant behaviour	2.60 ± 0.49	2.78 ± 0.42	1,470.0	0.031	0.18
Knowledge of the educational needs of children with addictive behaviour	1.82 ± 0.65	2.03 ± 0.58	1,478.5	0.053	0.18
Design skills	1.57 ± 0.59	2.15 ± 0.68	1010,5	< 0,001	0,44

Source: compiled by the author

A detailed analysis of the individual content-specific indicators revealed statistically significant between-group differences for two of the three indicators presented in Table 3. Regarding self-assessed knowledge of the psychological and age-related characteristics of children exhibiting deviant behaviour, the mean score was higher among students enrolled in psychological and pedagogical support programmes ($M = 2.78$; $SD = 0.42$) than among students enrolled in general

teacher education programmes ($M = 2.60$; $SD = 0.49$). This difference was statistically significant ($U = 1470.0$; $p = 0.031$; $r = 0.18$).

The most pronounced between-group difference among the individual indicators presented was found for design skills. The mean self-assessment score was $M = 2.15$ ($SD = 0.68$) among students enrolled in psychological and pedagogical support programmes, compared with $M = 1.57$ ($SD = 0.59$) among students in general teacher education programmes. The difference was statistically significant ($U = 1010.5$; $p < 0.001$), and the effect size ($r = 0.44$) was larger than those observed for the other individual indicators presented in Table 3. Thus, the clearest difference between the two groups was found in the self-assessment of design skills.

For self-assessed knowledge of the educational needs of children exhibiting addictive behaviour, the mean score was also higher in the psychological and pedagogical support group ($M = 2.03$; $SD = 0.58$) than in the general teacher education group ($M = 1.82$; $SD = 0.65$). However, the observed between-group difference did not reach the conventional threshold for statistical significance ($U = 1478.5$; $p = 0.053$; $r = 0.18$). Therefore, the findings do not provide sufficient evidence of a statistically significant difference between the two groups on this indicator.

Overall, the analysis of the individual content-specific indicators confirmed the heterogeneous nature of the between-group differences. Statistically significant differences were found in the self-assessment of knowledge of the psychological and age-related characteristics of children exhibiting deviant behaviour and in design skills, with effect sizes of $r = 0.18$ and $r = 0.44$, respectively. No statistically significant between-group difference was identified in self-assessed knowledge of the educational needs of children exhibiting addictive behaviour. Overall, the results of the second stage of the analysis indicate that the between-group differences were selective: among the individual indicators examined, they were most pronounced in relation to design skills, whereas differences in other characteristics were less marked or did not reach statistical significance.

The higher self-assessed scores observed among students enrolled in psychological and pedagogical support programmes for certain characteristics may be associated with the specific content of their professional training. However, the professional readiness of future teachers may also be influenced by other factors that were not directly assessed in the present study, including the amount of teaching practice, experience of interacting with children, professional motivation, and the quality of practice-oriented training. Consequently, the research design does not allow causal relationships to be established between the field of study and the differences identified. The findings should therefore be interpreted as reflecting between-group differences within the study sample rather than as evidence of a determining effect of the educational pathway on future teachers' professional readiness.

Overall, the results of the between-group analysis indicate statistically significant differences in selected self-assessed indicators of the cognitive and operational-activity components of professional readiness among students enrolled in the two educational pathways. However, differences were not observed across all characteristics examined and varied in magnitude, indicating partial support for the proposed hypothesis. To situate these findings within the existing scholarly context, the results are subsequently compared with evidence from Kazakhstani and international studies.

Kazakhstani researchers Zh.B. Baisseitova, B.A. Nurmagambetova and G.B. Akhataeva concluded that higher education programmes in Kazakhstan provide insufficient targeted preparation for working with children exhibiting deviant behaviour. They also noted that teaching practice often lacks tasks designed specifically to prepare future teachers to work with this group of students [8, p. 154]. Similar conclusions were reached by the research team during its analysis of teacher education programmes conducted as part of the project in 2024–2026.

Studies by L.A. Grigorovich, A.A. Gorelov, A.Yu. Chudakov, A.V. Drozdova, M.I. Koshenova and other researchers also indicate that future teachers, psychologists and childcare professionals often lack the competences required to work with children exhibiting deviant behaviour [15, 16]. Most studies describe shortcomings in professional preparation, while relatively few include an intervention or formative stage aimed at improving students' readiness [17].

The problem of teachers' interaction with adolescents who exhibit negative behavioural tendencies has been examined by international researchers from the perspective of cognitive-behavioural approaches [18]. In contemporary American and European scholarship, the term “deviant behaviour” is rarely used in the same sense as it is in Russian-language pedagogy and deviantology. International research commonly uses neutral terms such as *behaviour problems*, *conduct problems*, *disruptive behaviour*, *externalising behaviour* and *at-risk students* rather than the term *deviant behaviour* [19, 20, 21]. This terminology reduces the risk of stigmatising children and focuses attention on specific behavioural manifestations within their social and educational context.

International studies associate behavioural difficulties with limited self-regulation, emotional instability, family problems, high stress levels and insufficient social support. Teacher preparation in this area often includes social and emotional learning programmes (SEL). These programmes focus on five main competences: self-awareness, self-regulation, social awareness, relationship skills and responsible decision-making [22].

International research also indicates the effectiveness of the Positive Behavioural Interventions and Supports model. When implemented effectively, this approach may reduce disciplinary incidents, behavioural problems and school exclusions while contributing to a more supportive school environment. Its effectiveness, however, depends on the quality and consistency of its implementation.

A systematic review by S.N. McGuire et al. (2024) concluded that the preparation of future teachers to work with children experiencing behavioural difficulties remains insufficiently studied. At the same time, the development of relevant professional competences is recognised as an important task in contemporary teacher education [23].

The authors of the present study agree with T.E. Smith, A.M. Thompson and B.R. Maynard (2022), who argue that teacher preparation should include more than theoretical knowledge of behavioural problems. It should also develop social and emotional competence, behaviour-management skills, problem-solving, professional reflection and constructive teacher–student interaction [24].

International studies also report that newly qualified teachers may possess theoretical knowledge but feel unprepared when facing aggression, bullying or other serious behavioural problems in schools. However, several studies have identified difficulties experienced by future and novice teachers in applying their knowledge in practice when managing and preventing students' behavioural difficulties. As a result, they may rely on reactive and situational responses rather than on previously developed professional strategies.

The findings of the present study support this conclusion. Students in both groups demonstrated gaps in their knowledge of specific forms and causes of deviant behaviour. They also showed insufficiently developed practical skills and limited experience of interacting with students exhibiting behavioural difficulties.

The findings of the present study are broadly consistent with these trends. In both groups, alongside high and satisfactory self-assessments, a proportion of respondents reported low levels of self-assessed professional knowledge and skills in specific areas. This was particularly visible in respondents' assessments of their knowledge of the educational needs of children displaying certain forms of deviant behaviour, as well as in several practice-oriented skill areas. At the same time, the self-report nature of the instrument does not allow these findings to be interpreted as objective evidence of deficiencies in professional preparation or an actual lack of practical experience.

The distinctive feature of the present study lies in its comparative analysis of self-assessed indicators of the cognitive and operational-activity components of future teachers' professional readiness to work with children who demonstrate deviant behaviour across different teacher education programmes, drawing on a structural model of teachers' deviantological competence previously developed by the authors [14, p. 159].

Limitations of the study. Several limitations should be taken into account when interpreting the findings. First, the sample was drawn from a single higher education institution and comprised 120

final-year students enrolled in teacher education programmes. This limits the extent to which the findings can be generalised to future teachers studying at other universities or in other regions.

Second, the study employed a cross-sectional design. Therefore, the differences identified between students from the two teacher education programmes reflect characteristics of the study sample and do not allow causal relationships to be established between the field of teacher education and the observed indicators of professional readiness.

Third, the primary method of data collection was self-report questionnaire-based assessment. Consequently, the findings reflect respondents' subjective evaluations of their own professional knowledge and skills and may be influenced by individual self-assessment tendencies and social desirability bias.

Furthermore, the present study did not involve comprehensive psychometric validation of the authors' questionnaire, including an assessment of its factor structure and criterion-related validity. Therefore, the findings obtained using this instrument should primarily be interpreted as self-assessed indicators of the components of professional readiness under investigation rather than as results of a standardised diagnostic assessment.

Future research should examine the psychometric properties of the instrument using larger and independent samples and complement self-report data with objective assessment methods, including situational tasks, case analysis, observation, and expert evaluation of future teachers' professional performance.

Prior to the commencement of empirical data collection, a working meeting was held on 25 February 2026 at the University's Centre for Psychological Support of Educational Activities, with the participation of members of the research team and Centre staff. The meeting addressed the organisational and ethical aspects of the planned study. Particular attention was paid to ensuring the principles of voluntary participation, informed consent, anonymity and confidentiality, as well as to the procedures for collecting, processing and using the data obtained. Following the discussion, the research procedure was agreed upon in accordance with the ethical requirements outlined above.

Before completing the questionnaire, participants were provided with information about the purpose and procedures of the study, the voluntary nature of participation, anonymity, and the use of the data collected. Completion of the questionnaire after reviewing this information was regarded as informed consent to participate in the study. No personally identifiable information was collected or used in the statistical analysis or presentation of the findings.

Empirical data were collected in March - April 2026. Following the completion of data collection and analysis, the study findings and matters relating to compliance with ethical principles were considered and discussed at a meeting of the Council of the Faculty of Philosophy and Psychology of the University (Minutes No. 10, dated 22 May 2026).

Conclusions. The study of future teachers' self-assessed professional readiness to work with children who demonstrate deviant behaviour across different teacher education programmes leads to the following conclusions:

In the cognitive component of professional readiness, satisfactory and high self-assessments of professional knowledge predominated in the overall sample, although a proportion of respondents reported low self-assessed levels in specific content areas. Similarly, satisfactory self-assessments predominated with regard to knowledge of the educational needs of children exhibiting different forms of deviant behaviour, with the highest proportion of low self-assessments relating to the educational needs of children exhibiting delinquent behaviour.

In the operational-activity component, satisfactory self-assessments predominated across all groups of professional skills examined. At the same time, the highest proportions of low self-assessments were observed for design, analytical and prognostic, and reflective skills, indicating heterogeneity in the self-assessed levels of individual components of future teachers' professional skills.

The between-group analysis revealed statistically significant differences in selected self-assessed indicators of professional readiness among students enrolled in the two educational pathways. Higher self-assessed scores for mean professional knowledge, mean professional skills,

and the composite indicator were observed among students enrolled in psychological and pedagogical support programmes. Analysis of the individual content-specific indicators showed that the most pronounced between-group difference was observed in relation to design skills.

The between-group differences were selective and varied in magnitude. No statistically significant differences were identified for the aggregate indicator of knowledge of the educational needs of children exhibiting different forms of deviant behaviour or for the individual indicator of knowledge of the educational needs of children exhibiting addictive behaviour. Thus, higher self-assessed scores among students enrolled in psychological and pedagogical support programmes were not observed across all characteristics of professional readiness examined.

The findings provide partial support for the research hypothesis: statistically significant differences between students enrolled in the two educational pathways were identified for a number of cognitive and operational-activity indicators; however, such differences were not observed across all characteristics of professional readiness examined.

The findings suggest that strengthening the operational-activity component of teacher education aimed at preparing future teachers to interact with children exhibiting deviant behaviour represents a promising direction for the enhancement of educational programmes. Particular attention may be warranted in developing design, analytical and prognostic, and reflective skills, as well as expanding knowledge of the educational needs of children exhibiting different forms of deviant behaviour.

The findings highlight the need for further research into and development of future teachers' professional readiness to interact with children exhibiting deviant behaviour, regardless of their educational pathway. The development of teachers' deviantological competence may be regarded as one of the areas for enhancing the professional preparation of future teachers.

The scientific novelty of the study lies in generating comparative data on the self-assessed cognitive and operational-activity components of professional readiness among final-year students enrolled in different teacher education programmes in relation to their readiness to interact with children exhibiting deviant behaviour. The findings demonstrate that between-group differences are selective and vary in magnitude depending on the specific indicator of professional readiness examined.

The theoretical significance of the study lies in extending current understandings of future teachers' professional readiness to interact with children exhibiting deviant behaviour through a comparative analysis of self-assessed cognitive and operational-activity components among students enrolled in different educational pathways. The findings contribute to understanding the heterogeneous nature of individual components of professional readiness and help to further specify the application of the concept of "teachers' deviantological competence", previously developed by the authors, to the professional preparation of future teachers.

The practical significance of the study lies in the potential application of the findings to the enhancement of future teachers' professional preparation, particularly its operational-activity component. The findings may inform the development of educational modules, scenario-based tasks, case studies, academic courses, and teaching and learning materials aimed at developing design, analytical and prognostic, and reflective skills, as well as expanding future teachers' knowledge of the educational needs of children exhibiting different forms of deviant behaviour.

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БОЛАШАҚ ПЕДАГОГТЕРДІҢ ДЕВИАНТТЫ МІНЕЗ-ҚҰЛЫҚ ТАНЫТАТЫН БАЛАЛАРМЕН ӨЗАРА ӘРЕКЕТТЕСУГЕ ДАЙЫНДЫҒЫН ЗЕРТТЕУ

Аңдатпа

Зерттеуде әртүрлі педагогикалық білім беру бағдарламаларында білім алатын болашақ педагогтердің девиантты мінез-құлық танытатын балалармен өзара әрекеттесуге кәсіби даярлығы қарастырылады. Зерттеудің өзектілігі девиантты мінез-құлықтың алдын алуда, психологиялық қолайсыздықтың алғашқы белгілерін ерте анықтауда және білім алушылардың проблемалық мінез-құлқына байланысты тәуекелдерді айқындауда

педагогтің маңызды рөлімен негізделеді. Зерттеудің мақсаты – әртүрлі педагогикалық даярлық бағыттарында білім алатын болашақ педагогтердің девиантты мінез-құлық танытатын балалармен жұмыс істеуге кәсіби даярлығының когнитивтік және операциялық-іс-әрекеттік компоненттеріне қатысты өзіндік бағалау көрсеткіштерін зерделеу және салыстыру. Деректер кәсіби білімдер мен дағдыларды бағалауға арналған авторлық өзіндік есеп беру сауалнамасы арқылы жиналды. Статистикалық талдау Jamovi бағдарламасының 2.6 нұсқасы арқылы жүргізілді. Топтар арасындағы айырмашылықтарды анықтау үшін Манн-Уитнидің U-критерийі қолданылды, сондай-ақ әсер көлемін бағалау мақсатында рангтік-бисериалдық корреляция коэффициенті есептелді. Зерттеу нәтижелері бірқатар жалпы және жекелеген өзіндік бағалау көрсеткіштері бойынша топтар арасында статистикалық тұрғыдан маңызды айырмашылықтардың бар екенін көрсетті. Психологиялық-педагогикалық сүйемелдеу бағдарламаларында білім алатын студенттер кәсіби білімдері мен дағдыларын жоғарырақ бағалаған, сондай-ақ интегралдық көрсеткіш бойынша да жоғары нәтижелер көрсеткен. Бағаланған жекелеген дағдылардың ішінде топтар арасындағы ең үлкен айырмашылық педагогикалық жобалау дағдылары бойынша анықталды ($r = 0.44$). Алайда зерттелген көрсеткіштердің барлығы бойынша статистикалық тұрғыдан маңызды айырмашылықтар анықталған жоқ. Бұл топтар арасындағы айырмашылықтардың іріктемелі сипатта болғанын көрсетіп, зерттеу гипотезасының ішінара расталғанын айғақтайды. Алынған нәтижелер педагогтерді даярлаудың практикалық бағдарын күшейтуді болашақ педагогтердің кәсіби даярлығын жетілдірудің перспективасы бағыты ретінде қарастыруға мүмкіндік береді. Нәтижелерді түсіндіру кезінде қолданылған құралдың өзіндік есеп беру сипатын ескеру қажет: анықталған айырмашылықтар қатысушылардың өздерінің кәсіби даярлығына берген бағасын көрсетеді және кәсіби құзыреттіліктің нақты деңгейіндегі объективті айырмашылықтар ретінде түсіндірілмеуі тиіс.

Түйінді сөздер: кәсіби даярлық, болашақ педагогтер, өзіндік бағалау, психологиялық-педагогикалық сүйемелдеу, девиантты мінез-құлық танытатын балалар, девиантты мінез-құлықтың алдын алу, девиантологиялық құзыреттілік.

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ИССЛЕДОВАНИЕ ГОТОВНОСТИ БУДУЩИХ ПЕДАГОГОВ К ВЗАИМОДЕЙСТВИЮ С ДЕТЬМИ, ПРОЯВЛЯЮЩИМИ ДЕВИАНТНОЕ ПОВЕДЕНИЕ

Аннотация

В статье рассматривается проблема профессиональной готовности будущих педагогов разных направлений подготовки к взаимодействию с детьми, демонстрирующими девиантное поведение. Актуальность исследования обусловлена значимой ролью педагога в профилактике девиантного поведения детей, раннем выявлении психологического неблагополучия и рисков проблемного поведения обучающихся. Цель исследования - изучить и сопоставить самооценочные показатели когнитивного и операционально-деятельностного компонентов профессиональной готовности будущих педагогов разных направлений подготовки к взаимодействию с детьми, демонстрирующими девиантное поведение. Для сбора данных использовалась авторская самоотчетная анкета, направленная на оценку профессиональных знаний и умений. Статистическая обработка выполнена в программе Jamovi (версия 2.6). Для оценки межгрупповых различий применялся U-критерий Манна-Уитни; дополнительно рассчитывался коэффициент рангово-бисериальной корреляции как показатель величины эффекта. В результате исследования выявлены статистически значимые межгрупповые различия по отдельным обобщенным и частным самооценочным показателям. Более высокие значения среднего показателя профессиональных знаний, среднего показателя профессиональных умений и интегрального показателя наблюдались у студентов образовательных программ психолого-педагогического сопровождения. Среди представленных отдельных характеристик наиболее выраженное межгрупповое различие выявлено по проектировочным умениям ($r = 0.44$). Вместе с тем статистически значимые различия установлены не по всем исследуемым показателям, что свидетельствует об избирательном характере межгрупповых различий и частичном подтверждении гипотезы исследования. Полученные результаты позволяют рассматривать усиление практико-ориентированной составляющей как перспективное направление совершенствования профессиональной подготовки будущих педагогов. При интерпретации результатов следует учитывать самоотчетный характер используемого инструмента: выявленные различия отражают самооценку профессиональной готовности и не могут рассматриваться как объективно установленные различия в фактическом уровне профессиональной компетентности.

Ключевые слова: профессиональная готовность, будущие педагоги, самооценка, психолого-педагогическое сопровождение, дети, проявляющие девиантное поведение, профилактика девиантного поведения, девиантологическая компетентность.

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