

Study on the retention of Border Guard officers in the context of staff level security within the formation

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Abstract

The aim of the study was to determine the extent to which individual and organisational factors influence the retention of Border Guard officers. The impact of job satisfaction, organisational commitment, and perseverance on the intention to remain in service and the intention to leave service was analysed. The study was conducted among 184 Border Guard officers using a questionnaire survey. Partial least squares structural equation modeling (PLS-SEM) was used, which enabled the simultaneous analysis of multiple relationships. The developed model is characterised by a good fit and high explanatory power – the variables included in the model explain over 50% of the variance in the intention to leave the service. It was found that job satisfaction, organisational commitment, and perseverance significantly increase the intention to remain in the force, which should be taken into account in solutions to counteract the departure of officers.

Keywords

retention, organisational commitment, satisfaction, perseverance, PLS-SEM, Border Guard

Introduction

Demographic changes in Poland related to population decline and ageing are reducing the pool of people of working age. These changes are resulting in competition for job and service candidates as well as creating solutions to improve staff retention (Latin: *retentio*). Ensuring that there are sufficient numbers of properly trained personnel to carry out the statutory tasks of individual uniformed services is therefore a challenge in terms of personnel security, which is a prerequisite for national security. The issue of staff retention is universal and affects both domestic and foreign uniformed services, which struggle with premature departures from service and staff vacancies. This situation prompts a search for solutions that not only increase interest in serving in uniformed services, but also optimise conditions for long-term service. These intentions are reflected, among other things, in the content of the command issued by the U.S. Army Chief of Staff¹ and in the order of the Secretary of State of the Ministry of the Interior and Administration of the Republic of Poland², relating to the problem of the staff retention. The need to ensure personnel security has led to various initiatives and research projects being taken in the uniformed services. The US Army is conducting retention studies involving several million soldiers³, aimed at determining the reasons for leaving the service. On the other hand, factors influencing graduation or dropping out were identified among the cadets at the elite West Point Academy⁴. Furthermore, NATO task force worked to fully investigate the mechanisms influencing recruitment and retention outcomes⁵.

¹ W.J. Strickland, *A Longitudinal Examination of First Term Attrition and Reenlistment Among FY1999 Enlisted Accessions*, <https://apps.dtic.mil/sti/tr/pdf/ADA448564.pdf>, p. V [accessed: 10 I 2025].

² Najwyższa Izba Kontroli (Eng. The Supreme Audit Office), *Informacja o wynikach kontroli pt. Realizacja programu modernizacji Policji, Straży Granicznej, Państwowej Straży Pożarnej i Służby Ochrony Państwa w latach 2017–2020* (Eng. Information on the results of the audit entitled Implementation of the modernisation programme of the Police, the Border Guard, the State Fire Service, the State Protection Service in 2017–2020), <https://www.nik.gov.pl/plik/id,21396,vp,24037.pdf> [accessed: 12 II 2025].

³ J.V. Marrone, *Predicting 36-Month Attrition in the U.S. Military. A Comparison Across Service Branches*, Santa Monica 2020, p. 11. <https://doi.org/10.7249/RR4258>.

⁴ D.R. Kelly, M.D. Matthews, P.T. Bartone, *Grit and Hardiness as Predictors of Performance Among West Point Cadets*, “Military Psychology” 2014, vol. 26, no. 4, pp. 327–342. <https://doi.org/10.1037/mil0000050>.

⁵ North Atlantic Treaty Organisation, Research and Technology Organisation, *Recruiting and Retention of Military Personnel. Final Report of Research Task Group HFM-107*, <https://apps.dtic.mil/sti/tr/pdf/ADA476488.pdf> [accessed: 11 I 2025].

There is a lack of similar studies in Polish uniformed services, which is why addressing this issue seems highly justified in relation to the security of the personnel of the formation and the state, as well as the expenditure of significant budgetary resources for this purpose. The article describes research conducted at the Border Guard Higher School among 184 officers, taking into account their opinions, assessments and intentions related to continuing or terminating their service. The research problem is the question: what individual and organisational factors influence the intention to remain in service and the intention to leave service? The aim of the study was to identify and measure the variables that influence the intention to remain in service and the intention to leave it. The objective was achieved by using a partially structured questionnaire survey method and partial least squares structural equation modeling (PLS-SEM).

Literature review

A review of the literature on staff retention in the civil service and civilian entities allowed for the selection of an appropriate methodology and variables. The analysis showed that a two-way approach is used in staff retention studies, in which factors influencing the willingness to remain in the organisation are identified, and factors influencing the willingness to leave it are revealed⁶. This approach to the issue is based on the assumptions of a theory of planned behaviour⁷ that links behavioural intentions with actual behaviour – which has been empirically confirmed⁸. The research is conducted among people currently working in the institution or performing service, who are asked about their intentions to remain in or leave the organisation and about the factors influencing this. This solution was adopted due to experience indicating that individuals who have resigned from an organisation are reluctant to discuss the reasons for their decision.

⁶ See for example: M.C. Lytell, F. Drasgow, "Timely" Methods: Examining Turnover Rates in the U.S. Military, "Military Psychology" 2009, vol. 21, no. 3, pp. 334–350. <https://doi.org/10.1080/08995600902914693>; T.W. Lee, T.R. Mitchell, *The unfolding effects of organizational commitment and anticipated job satisfaction on voluntary employee turnover*, "Motivation and Emotion" 1991, vol. 15, no. 1, pp. 99–121. <https://doi.org/10.1007/BF00991478>.

⁷ I. Ajzen, *From Intentions to Actions: A Theory of Planned Behavior*, in: *Action Control: From Cognition to Behavior*, J. Kuhl, J. Beckmann (eds.), Berlin 1985, pp. 11–39. https://doi.org/10.1007/978-3-642-69746-3_2.

⁸ B.H. Sheppard, J. Hartwick, P.R. Warshaw, *The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research*, "Journal of Consumer Research" 1988, vol. 15, no. 3, pp. 325–343. <https://doi.org/10.1086/209170>.

Staff retention is therefore determined on the basis of declared intention to stay, understood – according to Robert P. Tett and John P. Meyer – as the conscious and deliberate desire of employees to remain in the organisation⁹, and intention to leave, defined by William H. Mobley, Stanley O. Horner, Abner T. Hollingsworth as the conscious and deliberate desire to leave the organisation in the near future¹⁰. Intention to leave is considered a direct predictor of actual turnover in retention models¹¹, which has also been empirically confirmed¹².

The best-researched and statistically confirmed variables influencing the intention to stay or leave (both in the military and civilian entities) are job satisfaction and organisational commitment¹³. There is no single generally accepted definition of these concepts in the literature, and their meanings vary. Paul E. Spector defines job satisfaction as a feeling about work and its various

⁹ R.P. Tett, J.P. Meyer, *Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytic findings*, “Personnel Psychology” 1993, vol. 46, no. 2, pp. 259–293. <https://doi.org/10.1111/j.1744-6570.1993.tb00874.x>.

¹⁰ W.H. Mobley, S.O. Horner, A.T. Hollingsworth, *An evaluation of precursors of hospital employee turnover*, “Journal of Applied Psychology” 1978, vol. 63, no. 4, pp. 408–414. <https://doi.org/10.1037/0021-9010.63.4.408>.

¹¹ D. Pitts, J. Marvel, S. Fernandez, *So Hard to Say Goodbye? Turnover Intention among U.S. Federal Employees*, “Public Administration Review” 2011, vol. 71, no. 5, pp. 751–760. <https://doi.org/10.1111/j.1540-6210.2011.02414.x>; R.W. Griffeth, P.W. Hom, S. Gaertner, *A Meta-Analysis of Antecedents and Correlates of Employee Turnover: Update, Moderator Tests, and Research Implications for the Next Millennium*, “Journal of Management” 2000, vol. 26, no. 3, pp. 463–488. <https://doi.org/10.1177/014920630002600305>.

¹² Y.J. Cho, G.B. Lewis, *Turnover Intention and Turnover Behavior: Implications for Retaining Federal Employees*, “Review of Public Personnel Administration” 2011, vol. 32, no. 1, pp. 4–23. <https://doi.org/10.1177/0734371X11408701>; A.H. Huffman et al., *The Impact of Operations Tempo on Turnover Intentions of Army Personnel*, “Military Psychology” 2005, vol. 17, no. 3, pp. 175–202. https://doi.org/10.1207/s15327876mp1703_4.

¹³ See for example: North Atlantic Treaty Organisation, Research and Technology Organisation, *Recruiting and Retention of Military Personnel...*, p. 329; H.M. Weiss et al., *Retention in the Armed Forces: Past Approaches and New Research Directions*, <https://www.mfri.purdue.edu/wp-content/uploads/2018/03/Retention-in-the-Armed-Forces.pdf> [accessed: 17 I 2025]; W.J. Strickland, *A Longitudinal Examination...*, p. 9; R.W. Griffeth, P.W. Hom, S. Gaertner, *A Meta-Analysis of Antecedents...*; D.B. Currivan, *The Causal Order of Job Satisfaction and Organizational Commitment in Models of Employee Turnover*, “Human Resource Management Review” 1999, vol. 9, no. 4, pp. 495–524. [https://doi.org/10.1016/S1053-4822\(99\)00031-5](https://doi.org/10.1016/S1053-4822(99)00031-5); T.W. Lee, T.R. Mitchell, *The unfolding effects of organizational commitment...*; S. Gaertner, *Structural Determinants of Job Satisfaction and Organizational Commitment in Turnover Models*, “Human Resource Management Review” 1999, vol. 9, no. 4, pp. 479–493. [https://doi.org/10.1016/S1053-4822\(99\)00030-3](https://doi.org/10.1016/S1053-4822(99)00030-3); P.W. Hom et al., *A meta-analytical structural equations analysis of a model of employee turnover*, “Journal of Applied Psychology” 1992, vol. 77, no. 6, pp. 890–909. <https://doi.org/10.1037/0021-9010.77.6.890>.

aspects¹⁴, which, according to Edwin A. Locke, depends on whether the work allows the employee to satisfy their important needs¹⁵. Job satisfaction studies often refer to Frederick Herzberg's motivation-hygiene theory that points to the influence of motivating factors (motivators) on the level of satisfaction and hygiene factors (demotivators) on dissatisfaction, which together influence staff retention¹⁶. John P. Meyer and Natalie J. Allen define organisational commitment as a psychological state that characterises the employee's relationship with the organisation and influences the decision to continue or terminate membership in the organisation¹⁷. It consists of three dimensions: affective, continuance, and normative. The affective component refers to the employee's emotional attachment to the organisation, identification with it, and commitment to its activities. The continuance (calculative) component concerns attachment based on the costs that the employee associates with leaving the organisation, while the normative component is related to the sense of duty to remain in the organisation¹⁸. Furthermore, Richard T. Mowday, Richard M. Steers and Lyman W. Porter pointed out that organisational commitment includes a willingness to make an effort for the organisation, belief in its values and acceptance of its goals¹⁹.

In addition to the factors traditionally considered in staff retention studies, such as job satisfaction and organisational commitment, new factors have emerged that are being investigated both in the services and in civilian entities. One of them is perseverance. This construct was defined as the pursuit of long-term goals with

¹⁴ P.E. Spector, *The Nature of Job Satisfaction*, in: idem, *Job Satisfaction: Application, Assessment, Causes, and Consequences*, London 1997, p. 2. <https://doi.org/10.4135/9781452231549.n1>.

¹⁵ E.A. Locke, *The Nature and Causes of Job Satisfaction*, College Park 1976, https://www.researchgate.net/publication/238742406_The_Nature_and_Causes_of_Job_Satisfaction, p. 1307 [accessed: 13 I 2025].

¹⁶ F. Herzberg, B. Mausner, B.B. Snyderman, *The Motivation to Work*, New York 1959, https://api.pageplace.de/preview/DT0400.9781351504430_A30546568/preview-9781351504430_A30546568.pdf [accessed: 18 I 2025]; H. Dogonyaro, F. Nwosu, *Exploring Employee Retention in the Hospitality Industry Through Herzberg's Two-Factor Motivation Theory*, preprint. <https://doi.org/10.13140/RG.2.2.34721.93287>; L.C. Chiat, S.A. Panatik, *Perceptions of Employee Turnover Intention by Herzberg's Motivation-Hygiene Theory: A Systematic Literature Review*, "Journal of Research in Psychology" 2019, vol. 1, no. 2, pp. 10–15. <https://doi.org/10.31580/jrp.v1i2.949>.

¹⁷ J.P. Meyer, N.J. Allen, *A three-component conceptualization of organizational commitment*, "Human Resource Management Review" 1991, vol. 1, no. 1, pp. 61–89. [https://doi.org/10.1016/1053-4822\(91\)90011-Z](https://doi.org/10.1016/1053-4822(91)90011-Z).

¹⁸ N.J. Allen, J.P. Meyer, *The measurement and antecedents of affective, continuance and normative commitment to the organization*, "Journal of Occupational Psychology" 1990, vol. 63, no. 1, pp. 1–18. <https://doi.org/10.1111/j.2044-8325.1990.tb00506.x>.

¹⁹ R.T. Mowday, R.M. Steers, L.W. Porter, *The measurement of organizational commitment*, "Journal of Vocational Behavior" 1979, vol. 14, no. 2, pp. 224–247. [https://doi.org/10.1016/0001-8791\(79\)90072-1](https://doi.org/10.1016/0001-8791(79)90072-1).

perseverance and passion²⁰, and the results of the study showed that individuals with higher levels of perseverance were significantly less likely to voluntarily drop out of the demanding 24-day Army Special Operations Forces (ARSOF) course²¹ than individuals with lower levels of perseverance²². A study conducted among 1558 cadets at the West Point Academy also confirmed that perseverance was a reliable predictor of resignation – a higher level of perseverance significantly increased the chance of completing the four-year training program at the academy²³. Perseverance is therefore identified as a promising predictor of retention that could be used in the uniformed services, although further research is needed for full confirmation²⁴.

The variables characterised were also adopted in a research project carried out in the Border Guard Higher School and compiled in Table 1.

Table 1. Definitions of the variables used in the study.

Variable name	Definition	Sources
Job satisfaction	Feeling about work and its various aspects. Depends on whether the work allows the employee to satisfy their important needs	P.E. Spector (1997) E.A. Locke (1976) F. Herzberg (1959)
Organisational commitment	Psychological state that characterises the employee's relationship with the organisation and influences the decision to continue or terminate membership in the organisation. Readiness to make an effort for the organisation and belief in its values and acceptance of its goals	J.P. Meyer, N.J. Allen (1991) R.T. Mowday, R.M. Steers, L.W. Porter (1979)
Perseverance	Pursuit of long-term goals with perseverance and passion	A.L. Duckworth, C. Peterson, M.D. Matthews, D.R. Kelly (2007)

²⁰ A.L. Duckworth et al., *Grit: Perseverance and passion for long-term goals*, "Journal of Personality and Social Psychology" 2007, vol. 92, no. 6, pp. 1087–1101. <https://doi.org/10.1037/0022-3514.92.6.1087>.

²¹ ARSOF training focuses on intensive physical and mental fitness tests, leadership, problem solving, and cultural adaptation in order to select candidates who are ready for the unique demands of special forces. Its essence is rigorous selection and identification of individuals capable of mastering irregular warfare, unconventional tactics, and operating globally.

²² L. Eskreis-Winkler et al., *The grit effect: predicting retention in the military, the workplace, school and marriage*, "Frontiers in Psychology" 2014, vol. 5, no. 36. <https://doi.org/10.3389/fpsyg.2014.00036>.

²³ D.R. Kelly, M.D. Matthews, P.T. Bartone, *Grit and Hardiness...*

²⁴ K.N. Roach, *Leveraging Grit in Military Research: A Comprehensive Review*, <https://apps.dtic.mil/sti/trecms/pdf/AD1211251.pdf> [accessed: 20 I 2025].

Variable name	Definition	Sources
Intention to stay in organisation	Intention relating to conscious and deliberate desire of employees to remain in the organisation	R.P. Tett, J.P. Meyer (1993)
Intention to leave the organisation	Conscious and deliberate desire of employees to leave the organisation	W.H. Mobley, S.O. Horner, A.T. Hollingsworth (1978)

Source: own elaboration based on the literature on the subject.

Research methodology

The methodology and organisation of the research were inspired by the project A Longitudinal Examination of First Term Attrition and Reenlistment among FY1999 Enlisted Accessions implemented in the U.S. Army by the United States Army Research Institute for the Behavioral and Social Sciences. The project described the research approach and tools, as well as the most important results of staff retention management. The research project, formally approved by the Border Guard Higher School, covered permanent officers training at the university. The criterion for selection for the research sample was availability, and the ethical conditions of the study were voluntary participation and anonymity of respondents. The final research sample included 184 officers with at least three years' service, a diverse in terms of gender, age, length of service, as well as units and posts they represent. The research data was collected between February and September 2024.

The review of the literature on the subject, ongoing projects and professional needs in the area of staff retention made it possible to set the main objective of the study: to identify and measure variables influencing the intention to remain in service and the intention to leave it.

The directions of the research were reflected in the following hypotheses and the presented conceptual model (Figure 1):

H1: Satisfaction, organisational commitment, perseverance will have a significant and positive impact on the intention to remain in service.

H2: Satisfaction, organisational commitment, perseverance will have a significant and negative impact on the intention to leave service.

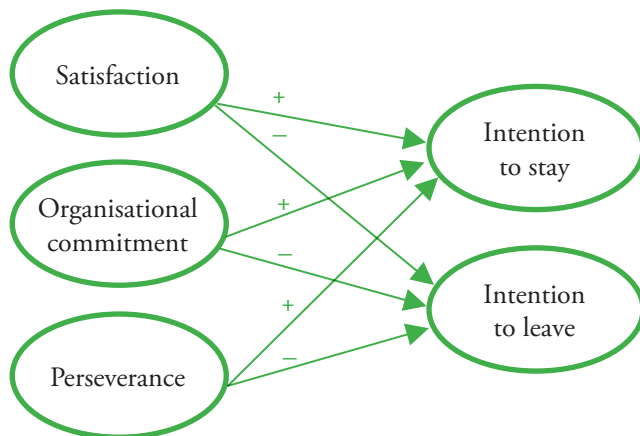


Figure 1. Basic conceptual model for studying Border Guard officer retention.

Source: own elaboration based on the literature review.

The research utilised a partially structured questionnaire survey method and partial least squares structural equation modeling (PLS-SEM).

The survey questionnaire included the following variables with the original number of questions associated with them: job satisfaction (45 items), organisational commitment (18 items), perseverance (12 items), intention to stay in organisation (3 items), intention to leave the organisation (3 items). In addition, the survey questionnaire included a semi-open catalogue of 45 potential reasons for resigning from service, with the option to enter other reasons not listed and for respondents to express themselves freely.

All questions were rated on a 5-point Likert-type scale, where 1 meant an extremely negative opinion or complete disagreement with the statement, 3 meant a neutral attitude, and 5 meant an extremely positive opinion or complete agreement with the statement. The content of the research tool was consulted with psychologists affiliated with the service in terms of comprehensibility, completeness and correctness of the wording used.

The target study was preceded by a pilot questionnaire among 50 officers studying at the Border Guard Higher School who were not included in the final research sample. Respondents confirmed that the questions and statements contained in the survey were understandable, which was reflected in the high consistency of responses with a repeat test conducted two weeks later (Table 2), demonstrating the good stability of a tool²⁵.

²⁵ K.S. Jankowski, M. Zajenkowski, *Metody szacowania rzetelności pomiaru testem* (Eng. Methods for estimating measurement reliability using a test), in: *Psychometria – podstawowe zagadnienia*, K. Fronczyk (ed.), Warszawa 2009, pp. 84–110.

Table 2. Test-retest correlation results for the components of the research tool.

Construct name	Test-retest (pilot study) n = 50
Job satisfaction	0.83
Affective commitment	0.65
Normative commitment	0.84
Continuance commitment	0.96
Perseverance	0.65
Intention to stay in organisation	0.77
Intention to leave organisation	0.68

Source: own elaboration based on a statistical test.

Guided by the principle of research economy, the number of questions in the survey was reduced without compromising its cognitive value and statistical parameters, which made it possible to shorten the time needed to complete the survey and reduced the amount of work involved. First, the Kaiser–Meyer–Olkin (KMO) coefficient was calculated. Its high value ($> 0,8$) confirmed the validity of the exploratory factor analysis (EFA), on the basis of which six factors were identified for the variable job satisfaction: S1 – interpersonal relations, S2 – remuneration, S3 – job stability, S4 – promotion opportunities, S5 – self-fulfilment, S6 – sense of security. The number of questions related to this variable was reduced from 45 to the 18 most relevant items. Similarly, the number of questions concerning organisational commitment was reduced from 18 to 9, and three factors of this commitment were identified: affective commitment, normative commitment, continuance commitment. A similar approach was taken in the case of perseverance, for which the number of questions was reduced from 12 to 5 most important ones. The dimensions for individual variables were selected using factor analysis that yielded satisfactory parameters – all factor loadings exceeded 0.5, and the cumulative explained variance exceeded 60%. Due to the one-dimensional nature of the intention to stay and the intention to leave, and the small number of questions concerning them, their number was not reduced. In the catalogue of potential reasons for leaving the service, no factors were identified and the number of questions was not reduced due to the diversity of open-ended responses obtained in this area.

The intention to build a structural model of officer retention, distributions that deviate from the normal, and the need to analyse multiple relationships simultaneously led to the use of PLS-SEM in the study. The application of PLS-SEM to study staff behaviour is currently recommended by leading

European management journals (e.g. *Journal of Business Research*, *European Management Journal*)²⁶. The structural equation model allows us to illustrate and measure the impact of variables such as satisfaction, organisational commitment and perseverance on the intention to stay or the intention to leave the service – which can be used to explain and predict the behaviour of officers in relation to staying with or leaving the Border Guard. All calculations were performed in the R environment²⁷, and the higher-order construct was reflective-reflective in nature and was estimated using a disjoint two-stage approach. Unlike many other statistical techniques, PLS-SEM remains relatively resistant to violations of the assumption of normality of distributions and works well with moderate sample sizes, which made it a suitable tool for these analyses.

Research results

Satisfaction with individual motivational factors

An analysis of the results obtained for individual motivators indicates that the most satisfying factor for officers is job stability, while the least satisfying factor is remuneration, which scored 3.11 (Table 3). The overall level of satisfaction with all 18 motivators surveyed is 3.51 on a five-point scale, which means that respondents generally had a positive opinion of the incentive system consisting of the analysed elements. Against this background, the level of satisfaction with remuneration may suggest a potential risk to staff retention and be a basis for considering improvements.

Table 3. Level of satisfaction with individual motivational factors (n = 184).

Satisfaction factors	Arithmetic mean	Standard deviation
Job stability (3 motivators)	3.88	0.99
Self-fulfilment (3 motivators)	3.74	0.88
Interpersonal relations (3 motivators)	3.60	1.02

²⁶ See: M. Ratzmann, S.P. Gudergan, R. Bouncken, *Capturing heterogeneity and PLS-SEM prediction ability: Alliance governance and innovation*, “*Journal of Business Research*” 2016, vol. 69, no. 10, pp. 4593–4603. <https://doi.org/10.1016/j.jbusres.2016.03.051>; N.F. Richter et al., *European management research using partial least squares structural equation modeling (PLS-SEM)*, “*European Management Journal*” 2016, vol. 34, no. 6, pp. 589–597. <https://doi.org/10.1016/j.emj.2016.08.001>.

²⁷ R – interpreted programming language and environment for statistical computing and data visualisation. Version 4.5.1 and the SEMinR package version 2.3.4 were used.

Satisfaction factors	Arithmetic mean	Standard deviation
Sense of security (3 motivators)	3.56	1.05
Promotion opportunities (3 motivators)	3.19	1.16
Remuneration (3 motivators)	3.11	1.12
Overall satisfaction level with all 18 motivators surveyed	3.51	1.04

Source: own elaboration based on the research conducted.

Organisational commitment and perseverance

The level of organisational commitment among the officers surveyed was moderate – it achieved an average of 2.93, which is close to the neutral value of 3.00 (Table 4). This result suggests that respondents' overall sense of connection to the organisation was neither clearly positive nor clearly negative. Within the individual dimensions of organisational commitment, the highest level was recorded for affective commitment – average 3.41. This dimension – measured, among other things, by statements such as: *The Border Guard is very important to me personally, I feel a strong sense of belonging to the Border Guard, I feel an emotional connection to the Border Guard* – indicates that respondents have a fairly strong emotional connection to the organisation and identify with its values. In turn, continuance commitment and normative commitment achieved significantly lower averages, respectively: 2.72 and 2.67. This result may indicate a relatively weak sense of loyalty to the organisation (normative dimension) and attachment resulting from the costs of leaving (continuance dimension).

The average declared level of perseverance in action was 4.05, which means that the respondents assessed themselves as people striving to achieve long-term goals with slightly above-average passion and determination. This is a moderately high level of perseverance, which may bode well in terms of continuing service in the Border Guard and a lack of desire to leave it – more persevering individuals are generally less likely to be discouraged from pursuing their chosen career path.

Table 4. Level of organisational commitment and perseverance (n = 184).

Construct name	Arithmetic mean	Standard deviation
Total organisational commitment	2.93	1.12
Affective commitment	3.41	1.01
Continuance commitment	2.72	1.21

Construct name	Arithmetic mean	Standard deviation
Normative commitment	2.67	1.13
Perseverance	4.05	0.83

Source: own elaboration based on the research conducted.

The results presented indicate critical areas for the Border Guard officers surveyed, which should be monitored and taken into account in management activities to avoid undesirable high staff turnover. On the one hand, the relatively low level of organisational commitment (of normative and continuance type) suggests the need to strengthen the sense of loyalty and attachment of officers to the formation by various means. On the other hand, relatively high perseverance of the respondents is a positive sign – it may encourage them to remain in service despite possible difficulties.

Potential reasons for leaving the service

According to the officers surveyed, the most significant potential reason for resigning from the service (the so-called demotivator) in the Border Guard is an unfavourable change in the regulations concerning salaries, benefits or the pension system (Table 5). Three of the top ten reasons for resignation were related to the remuneration system (the aforementioned unfavourable change in pay regulations; too low remuneration; infrequent and low pay rises). Two reasons belong to the category related to work-life balance: lack of time for private life (due to an excessive number of work tasks) and difficulties in reconciling work responsibilities with family life (constant tension when trying to balance these spheres). Two further reasons can be linked to relationships with superiors: unfair punishment and unequal treatment. Furthermore, one interpersonal reason was indicated: lack of respect from superiors and colleagues, as well as one related to job stability: transfers between the Border Guard organisational units/departments (forced relocations). The list is completed by one market factor – a better job offer from another employer.

Table 5. The ten most important potential reasons for officers resigning from service in the Border Guard (n = 184).

No.	Potential reason for leaving the Border Guard	Arithmetic mean	Standard deviation
1.	Unfavourable changes to regulations concerning salaries/benefits/pensions, etc.	4.29	1.00

No.	Potential reason for leaving the Border Guard	Arithmetic mean	Standard deviation
2.	Transfers between Border Guard organisational units/departments	4.06	1.07
3.	Unfair punishment	4.06	1.13
4.	No time for a private life due to an excessive number of tasks	4.05	1.05
5.	Stress related to balancing family relationships and work demands	4.02	1.02
6.	Unequal treatment	3.96	1.11
7.	Insufficient remuneration	3.95	1.07
8.	Infrequent and low pay rises	3.91	1.20
9.	A better job offer from another employer	3.91	1.04
10.	Lack of respect towards me from my superior and colleagues	3.91	1.05

Source: own elaboration based on the research conducted.

The results concerning the reasons for leaving indicate problem areas that the Border Guard, as an employer, should focus on in order to reduce the risk of losing officers. The issue of remuneration and benefits is particularly prominent – as many as three of the ten most important reasons relate to financial matters. The remuneration system and the predictability of career paths (problem of transfers) as well as relations with superiors require attention from decision-makers. Identifying these factors creates an opportunity to take targeted management actions to prevent staff turnover.

Intention to stay and intention to leave

The desire to remain in service or leave it was surveyed by examining officers' declarations in this regard, which made it possible to measure both the potential level of retention and staff turnover, which were not treated as complementary to each other. In accordance with the five-point scale used in the research tool, the neutral threshold separating the responses was value 3.00 (Table 6). Intention to stay (level of retention) was at a good level – the average declaration was 3.89, which is clearly above the threshold of 3.00. Of the 184 people surveyed, 38 had intention to stay below the neutral level, which translates into a percentage of 21% and determines retention at 79%.

The levels of intention to leave and turnover were low, because the average value for intention to leave was 2.00. Only 25 out of 184 people had intention to leave above the neutral level, which sets turnover at a level of 14%.

Table 6. The level of intention to stay/to leave and retention/turnover of the Border Guard officers.

Specification of measures	Intention to stay	Intention to leave
Arithmetic mean	3.89	2.00
Retention level in %	79	-
Turnover level in %	-	14
Standard deviation	1.08	1.06

Source: own elaboration based on the research conducted.

The presented results indicate that the Border Guard has a high capacity to retain officers, as the vast majority plan to remain in service, with few individuals considering leaving.

Results of PLS-SEM structural model

The most important research objective was to apply PLS-SEM structural modeling to the study of staff retention in Polish uniformed services and to develop a model (Figure 2).

The elliptical shapes in the model represent latent variables: satisfaction, organisational commitment, perseverance, intention to stay, intention to leave, and R^2 values entered in the intention indicate the percentage to which they are explained by variables that affect them. The direction of this influence is indicated by the arrows, while positive or negative β values correspond to the strength of the influence.

The rectangular shapes in yellow represent individual dimensions identified in the structure of a given variable. For instance, organisational commitment variable is reflected in three dimensions, of which normative commitment dimension has the largest share ($\lambda = 0.846$) in organisational commitment level compared to affective commitment ($\lambda = 0.833$) and continuance commitment ($\lambda = 0.723$). In turn, the dimensions of self-fulfilment ($\lambda = 0.785$) and sense of security ($\lambda = 0.783$) have the greatest impact on the overall level of job satisfaction.

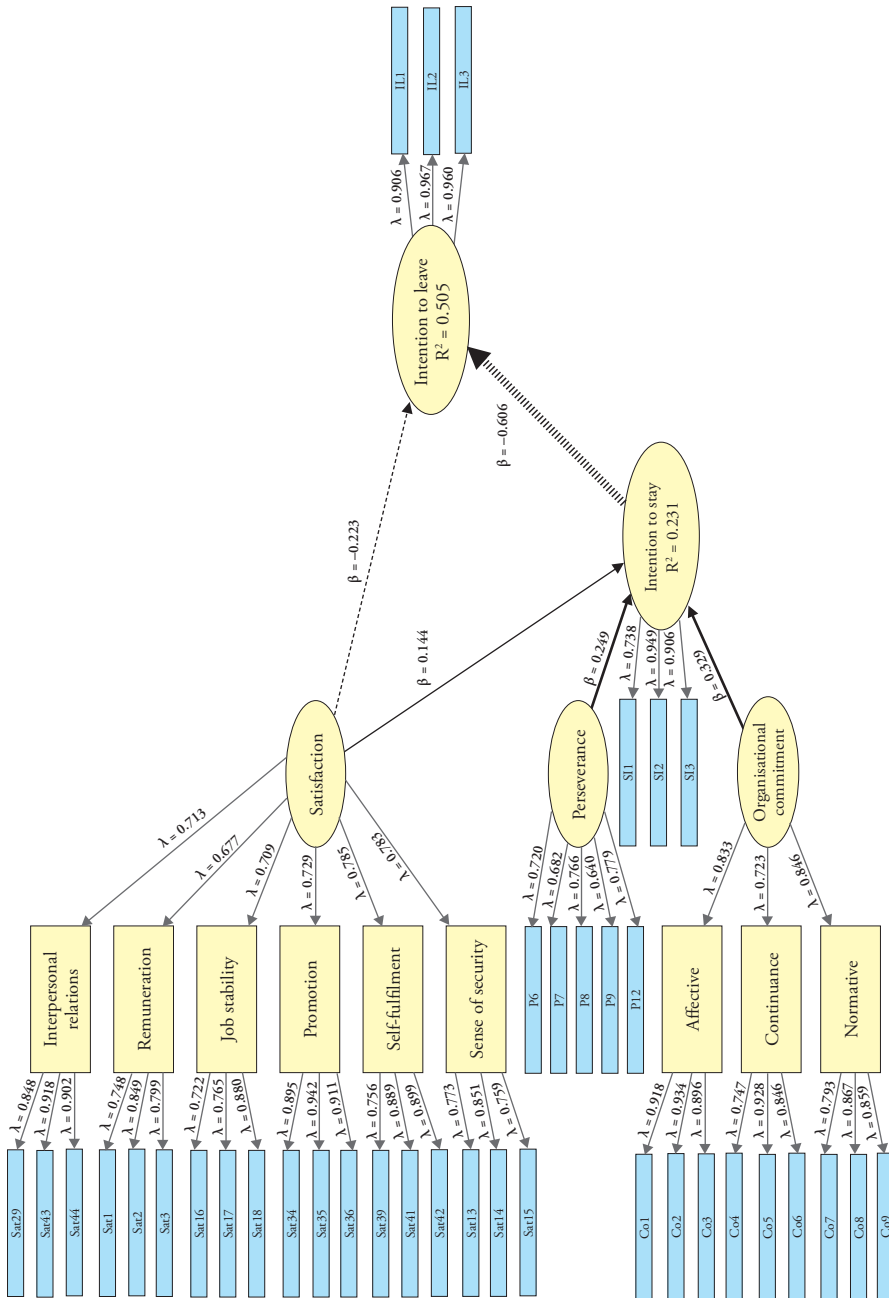


Figure 2. The PLS-SEM structural model of retention of Border Guard officers.

Source: own elaboration based on the research conducted.

The results obtained in the retention model of the Border Guard officers are satisfactory, as all R^2 determination coefficients exceeded the threshold of 0.20²⁸, and the examined key variable – the intention to leave – was explained in over 50% ($R^2 = 0.505$) by the variables: intention to stay and job satisfaction as well as indirectly by organisational commitment and perseverance. This means that more than half of the variation in the propensity to leave in this group can be explained by the measured variables, which confirms the validity of their selection and significance.

The results of the study indicated a very strong negative influence of intention to stay on intention to leave, because an increase of intention to stay by 1 standard deviation translates into a decrease in intention to leave by 0.606 standard deviations. This confirms the logic that fostering a desire to stay in the Border Guard among officers directly reduces the risk of them leaving. It also turned out that intention to leave is determined by both intention to stay and job satisfaction level ($\beta = -0.223$), with intention to stay having a stronger effect on intention to leave than satisfaction. This can be interpreted as follows: the more someone is dissatisfied with the conditions, the more they think about leaving, but even more important is the general attitude – the very intention to stay in service. People who, despite certain dissatisfactions, want to stay, e.g., out of loyalty or a sense of mission, are less likely to think about leaving. High satisfaction, on the other hand, can deter those who intended to leave. Intention to stay in this model is explained by more than 23% ($R^2 = 0.231$) by the following variables: organisational commitment ($\beta = 0.329$), perseverance ($\beta = 0.249$) and job satisfaction ($\beta = 0.144$), of which organisational commitment has the strongest effect. This is a significant, albeit moderate effect, suggesting that for officers, building identification with the organisation and loyalty is a factor that has a stronger influence on actual plans to remain in service than perseverance and job satisfaction. To sum up this part of the study, it can be concluded that the structural model for officers confirmed the important role of organisational commitment and satisfaction in staff retention. It also indicated that the strongest factor preventing people from leaving the service is their strong desire to remain attached to it. Therefore, measures that strengthen identification of the Border Guard

²⁸ A. Kacprzak, *Modelowanie strukturalne w analizie zachowań konsumentów: porównanie metod opartych na analizie kowariancji (CB-SEM) i częściowych najmniejszych kwadratów (PLS-SEM)* (Eng. Structural equation modeling in the consumer behaviour analysis: the comparison of covariance-based (CB-SEM) and partial least square (PLS-SEM) methods), "Handel Wewnętrzny" 2018, vol. 1, no. 6, p. 255; R.F. Frank, N.B. Miller, *A Primer for Soft Modeling*, Ohio 1992; J.F. Hair et al., *An assessment of the use of partial least squares structural equation modeling in marketing research*, "Journal of the Academy of Marketing Science" 2012, vol. 40, pp. 414–433. <https://doi.org/10.1007/s11747-011-0261-6>; J.F. Hair Jr. et al., *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*, series: Classroom Companion: Business, Cham 2021, pp. 76–78. <https://doi.org/10.1007/978-3-030-80519-7>.

officers (sense of mission, pride, bonds) and ensure their satisfaction in various aspects can reduce the phenomenon of leaving the service.

Evaluation of statistical parameters of the PLS-SEM structural model

Testing the reliability and measurement accuracy of the PLS-SEM structural model used confirmed that it has good psychometric parameters, as shown in the Table 7. The reliability measures – both Cronbach’s Alpha, the rho_A index and composite reliability (CR) – for most constructs were in the range of 0.70–0.95²⁹. The exception was the construct of intention to leave, for which the CR value was 0.961. Such a high result may suggest redundancy of indicators, i.e. their excessive similarity in content. However, considering that intention to leave is a homogeneous construct measured using three indicators, and the value of rho_A remains at an acceptable level, this result can be considered justified and unobjectionable. In addition, average variance extracted (AVE) for each construct was above 0.50³⁰, which indicates a high degree of convergence between the indicators contained therein.

Table 7. Validity and reliability of the PLS-SEM structural model measures – indicators for latent constructs.

Specification of measures	Cronbach’s Alpha	rho_A	CR	AVE
Intention to leave	0.939	0.944	0.961	0.892
Intention to stay	0.837	0.888	0.902	0.756
Satisfaction	0.829	0.834	0.875	0.538
Perseverance	0.771	0.790	0.842	0.517
Organisational commitment	0.723	0.732	0.844	0.644

Source: own elaboration based on the research conducted.

In order to verify the discriminant validity of the constructs, heterotrait-monotrait (heterotrait-monotrait ratio of correlations, HTMT) coefficients were also calculated for each pair of latent variables. The Table 8 presents HTMT values – in all cases, they are clearly below the accepted criterion of 0.85³¹, which indicates

²⁹ J.F. Hair Jr. et al., *Partial Least Squares...*, pp. 77–78, 80.

³⁰ *Ibid.*, p. 78, 80.

³¹ J. Henseler, Ch.M. Ringle, M. Sarstedt, *A new criterion for assessing discriminant validity in variance-based structural equation modeling*, “Journal of the Academy of Marketing Science” 2015, vol. 43, pp. 115–135. <https://doi.org/10.1007/s11747-014-0403-8>.

good separability of individual constructs – none of them measure the same phenomenon. In other words, the latent variables used in the model are mutually discrete and there is no undesirable overlap in their meanings.

Table 8. HTMT coefficient matrix – discriminant validity of the PLS-SEM structural model constructs.

Construct name	Organisational commitment	Satisfaction	Perseverance	Intention to stay	Intention to leave	Interpersonal relations	Remuneration	Job stability	Promotion	Self-fulfilment	Sense of security	Affective commitment	Continuance commitment
Satisfaction	0.59												
Perseverance	0.27	0.18											
Intention to stay	0.44	0.37	0.28										
Intention to leave	0.46	0.47	0.20	0.76									
Interpersonal relations	0.38	*	0.13	0.20	0.34								
Remuneration	0.55	*	0.12	0.35	0.30	0.43							
Job stability	0.40	*	0.24	0.31	0.41	0.46	0.54						
Promotion	0.37	*	0.06	0.22	0.31	0.52	0.57	0.41					
Self-fulfilment	0.46	*	0.15	0.27	0.32	0.72	0.62	0.50	0.68				
Sense of security	0.55	*	0.20	0.34	0.46	0.57	0.51	0.81	0.57	0.65			
Affective commitment	*	0.47	0.20	0.36	0.30	0.29	0.43	0.30	0.24	0.42	0.49		
Continuance commitment	*	0.30	0.33	0.32	0.38	0.17	0.36	0.21	0.23	0.17	0.26	0.34	
Normative commitment	*	0.53	0.14	0.28	0.31	0.37	0.43	0.38	0.35	0.45	0.44	0.74	0.57

* We do not assess the differential validity between satisfaction and organisational commitment and their lower-order component, because a violation of differential validity between these constructs is expected.

Source: own elaboration based on the research conducted.

All values of the variance inflation factor (VIF) for the internal model³² (Table 9) are well below generally accepted thresholds³³, indicating that there is no significant collinearity between constructs in the PLS-SEM structural model. Low VIF values for the internal model suggest that the constructs are relatively independent of each other, which allows for a more reliable interpretation of the path coefficients.

Table 9. VIF values – assessment of the collinearity of the internal model.

Specification of measures	VIF
Intention to stay → intention to leave	1.12
Satisfaction → intention to leave	1.12
Satisfaction → intention to stay	1.31
Perseverance → intention to stay	1.04
Organisational commitment → intention to stay	1.30

Source: own elaboration based on the research conducted.

In the PLS-SEM structural model, using bootstrapping (10 000 iterations), a 95% confidence interval (CI) was estimated for all paths, whose values are presented in Table 10. The interpretation of these intervals confirms the significance of most of the links in the model. For each path, if the entire confidence interval is above or below zero, this indicates a statistically significant effect (when $p < 0.05$). In the analysed model, all main paths proved to be important.

Table 10. Path coefficients, significance level, confidence interval of the PLS-SEM structural model.

Path	Original sample	Average of samples	Standard deviation	Stat. t	2.5% CI	97.5% CI
Organisational commitment → intention to stay	0.329	0.342	0.079	4.184	0.196	0.494

³² The presented PLS-SEM structural model consists of an external and internal model. The external model includes lower-order constructs that influence higher-order constructs. The internal model includes higher-order constructs: satisfaction, commitment, perseverance, intention to leave, intention to stay.

³³ J.-M. Becker et al., *How collinearity affects mixture regression results*, "Marketing Letters" 2015, vol. 26, no. 4, pp. 643–659. <https://doi.org/10.1007/s11002-014-9299-9>.

Path	Original sample	Average of samples	Standard deviation	Stat. t	2.5% CI	97.5% CI
Satisfaction → intention to stay	0.144	0.151	0.073	1.962	0.007	0.293
Satisfaction → intention to leave	-0.223	-0.228	0.075	-2.972	-0.375	-0.082
Perseverance → intention to stay	0.249	0.259	0.083	2.994	0.110	0.407
Intention to stay → intention to leave	-0.606	-0.605	0.077	-7.867	-0.751	-0.450

Source: own elaboration based on the research conducted.

In addition to the direct effects included in the model, the indirect effects (mediations) of key predictive variables on outcome variables were also analysed. The results of this analysis are presented in Table 11. The data shows that job satisfaction has a significant indirect effect on both intention to leave and intention to stay. The indirect effect of satisfaction on intention to leave is -0.087 , which means that satisfaction reduces the propensity to leave through its impact on intention to stay.

Organisational commitment and perseverance also show negative indirect effects on intention to leave, -0.199 and -0.151 respectively, which indicates that these factors reduce the propensity to leave service indirectly, by reinforcing the intention to stay.

Table 11. Indirect effects of selected variables in the PLS-SEM structural model.

Path	Indirect effect
Organisational commitment → intention to leave	-0.199
Satisfaction → intention to leave	-0.087
Perseverance → intention to leave	-0.151

Source: own elaboration based on the research conducted.

According to the data presented in Table 12, the greatest overall impact on the intention to leave is exerted by, in order: intention to stay (-0.606), satisfaction (-0.310), organisational commitment (-0.199) and perseverance (-0.151).

Table 12. Total effects of selected variables in the PLS-SEM structural model (bootstrapping – 10 000 iterations, $p < 0.05$).

Path	Original sample	Sample mean	Standard deviation	T statistics	2.5% CI	97.5% CI
Organisational commitment → intention to stay	0.329	0.342	0.079	4.18	0.196	0.494
Organisational commitment → intention to leave	-0.199	-0.210	0.065	-3.05	-0.347	-0.097
Satisfaction → intention to stay	0.144	0.151	0.073	1.96	0.007	0.293
Satisfaction → intention to leave	-0.310	-0.320	0.076	-4.07	-0.465	-0.166
Perseverance → intention to stay	0.249	0.259	0.083	2.99	0.110	0.407
Perseverance → intention to leave	-0.151	-0.157	0.056	-2.71	-0.266	-0.061
Intention to stay → intention to leave	-0.606	-0.605	0.077	-7.87	-0.751	-0.450

Source: own elaboration based on the research conducted.

The f^2 -index measures how much the R^2 of the dependent variable increases when we include or remove a specific predictor. All f^2 values reached the threshold value of 0.02 indicated by Jacob Cohen³⁴, which proves their practical significance (Table 13).

Table 13. Strength of f^2 effects for relations in the PLS-SEM structural model.

Construct name	Intention to stay	Intention to leave
Organisational commitment	0.111	-
Satisfaction	0.020	0.089

³⁴ J. Cohen, *Statistical Power Analysis for the Behavioral Sciences*, New York 1988, p. 413. <https://doi.org/10.4324/9780203771587>.

Construct name	Intention to stay	Intention to leave
Perseverance	0.077	-
Intention to stay	-	0.663

Source: own elaboration based on the research conducted.

These results confirm the need to include intention to stay, satisfaction, organisational commitment and perseverance in the model as predictors that directly or indirectly influence on intention to leave.

Using the PLSpredict function – direct antecedents approach, 10-fold cross-validation was performed. The obtained prediction error values RMSE (root mean square error) and MAE (mean absolute error) for the PLS-SEM structural model were lower than in the linear regression model, which indicates high predictive power³⁵. The results are presented in Table 14.

Table 14. Results of cross-validation performed using the PLSpredict function.

PLS prediction quality measures for out-of-sample data						
	IP1	IP2	IP3	IO1	IO2	IO3
RMSE	1.067	0.980	0.966	0.969	0.688	0.717
MAE	0.774	0.734	0.767	0.718	0.502	0.521
Measures of prediction quality for linear regression model (LM) for out-of-sample data						
	IP1	IP2	IP3	IO1	IO2	IO3
RMSE	1.096	1.001	0.974	1.004	0.714	0.728
MAE	0.815	0.757	0.767	0.759	0.522	0.532

Source: own elaboration based on the research conducted.

³⁵ G. Shmueli et al., *Predictive model assessment in PLS-SEM: guidelines for using PLSpredict*, “European Journal of Marketing” 2019, vol. 53, no. 11, pp. 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>.

Comparison of the PLS-SEM structural model results with other studies

The correlation of higher-order constructs was calculated and a comparative analysis was performed to assess the strength and direction of the relationship between variables (Table 15) in order to relate the results of this study to studies conducted in foreign uniformed services.

Table 15. Higher-order construct correlation matrix.

Construct name	Organisational commitment	Satisfaction	Perseverance	Intention to stay	Intention to leave
Organisational commitment	1.000	-	-	-	-
Satisfaction	0.463	1.000	-	-	-
Perseverance	-0.075	0.118	1.000	-	-
Intention to stay	0.377	0.325	0.241	1.000	-
Intention to leave	-0.378	-0.420	-0.180	-0.679	1.000

Source: own elaboration based on the research conducted.

Analysis of the correlation of data from Table 15 indicates that the specific directions of dependence are consistent with the directions adopted in the research hypotheses. The results indicate that intention to leave – the key construct of the study – is most strongly correlated negatively with intention to stay (-0.679), followed by satisfaction (-0.420) and organisational commitment (-0.378) and perseverance (-0.180). This means that as any of the constructs increase – intention to stay, satisfaction, organisational commitment or perseverance – intention to leave will decrease significantly or moderately. This finding provides statistical evidence of the possibility of reducing the number of unwanted departures of officers from service by optimisation of the conditions of service that affect these constructs.

Due to the lack of information on national research in this area, the project results could only be compared with the results of foreign projects. A study of 400 New Zealand police officers showed a significant correlation between job

satisfaction and intention to leave, which was $r = -0.43^{36}$, a result very similar to that obtained in this project, $r = -0.42$. In turn, in a study involving 3580 Dutch soldiers, the correlation of organisational commitment and intention to leave was $r = -0.34^{37}$, which is also a result similar to the result of the present study, $r = -0.38$.

In a study of 450 Canadian soldiers, the multiple regression coefficient between satisfaction and intention to leave was $\beta = -0.28^{38}$, while in this model the path coefficient was $\beta = -0.22$ and the total effect was -0.31 . These results confirm the negative direction of the relationship and the similar order of magnitude of the effect obtained in this study.

Based on a comparison of the results, it can be assumed that satisfaction and organisational commitment significantly influence the intention to leave in the entire population of people working in the uniformed services, and the directions and magnitude of the impact of key variables on each other will be similar.

Summary and conclusions

The results of the PLS-SEM structural modeling positively verify hypotheses H1 and H2. Job satisfaction, organisational commitment and perseverance significantly encourage remaining in service – they have a positive impact on the intention to remain and counteract departure – they have a negative impact (directly or indirectly) on the intention to leave. Furthermore, the model highlights the key role of the intention to stay as a factor that directly reduces the intention to leave.

In view of the results of the survey conducted among the Border Guard officers, the following practical solutions may be considered:

1. Increasing staff retention by focusing on solutions addressing the most important potential reasons for leaving the service, as well as ensuring the stability of regulations governing salaries/benefits/pensions and the indexation of their amounts. This is achieved by applying objective and

³⁶ P. Brough, R. Frame, *Predicting Police Job Satisfaction and Turnover Intentions: The role of social support and police organisational variables*, “New Zealand Journal of Psychology” 2004, vol. 33, no. 1, <https://www.psychology.org.nz/journal-archive/NZJP-Vol331-2004-2-Brough.pdf>, pp. 8–16 [accessed: 5 V 2025].

³⁷ M.W. van Eetveldt et al., *The Importance of Career Insecurity for Turnover Intentions in the Dutch Military*, “Military Psychology” 2013, vol. 25, no. 5, pp. 489–501. <https://psycnet.apa.org/doi/10.1037/mil0000016>.

³⁸ K.E. Duprè, A.L. Day, *The effects of supportive management and job quality on the turnover intentions and health of military personnel*, “Human Resource Management” 2007, vol. 46, no. 2, pp. 185–201. <https://doi.org/10.1002/hrm.20156>.

fair criteria for transfers, taking into account the situation of the officer before the transfer decision is made, as well as training for managers and an assessment by their subordinates of their soft skills. Work planning should take into account the needs of officers including their recovery.

2. Proposing to Border Guard organisational units and other Polish uniformed services that they adopt the presented methodology and research tool for conducting cyclical surveys concerning job satisfaction, organisational commitment, perseverance, and intentions to stay or leave among officers and soldiers in permanent service. Regular monitoring of these indicators will allow for quick identification of problems and optimisation of management solutions related to retention, which will have a positive impact on personnel and state security.
3. Emphasising the importance of organisational commitment (and its individual components) in training intended for management as a variable that can have a measurable impact on the willingness to continue service. The competences of management staff should be developed in the area of shaping and strengthening the organisational commitment of subordinates – especially in the affective dimension – through appropriate leadership style and communication as well as building identification with the mission of the formation.
4. Inclusion of elements assessing the perseverance of candidates for service in recruitment and selection procedures, e.g. development of behavioural questions or tests to assess the level of perseverance of candidates already at the recruitment stage. Perseverance is a predictor of remaining in service, and people with high perseverance are better able to endure the hardships of service and are less likely to resign prematurely.
5. Analysing factors influencing the intention to leave and the intention to stay in individual Border Guard units. Border Guard organisational units could periodically analyse which factors (e.g. identified in this study) have the strongest impact on their officers' plans to leave and which encourage them to stay. This will allow them to adapt and improve internal HR solutions (e.g. motivation programmes, trainings, psychological support).
6. Consider changes to the remuneration system for Border Guard officers. The results clearly indicate that pay issues are a significant weak point affecting officer dissatisfaction and their propensity to leave. Adjusting the remuneration system – so that they feel that their pay is fair and that they receive a real increase in remuneration in line with their seniority and achievements – can significantly improve retention rates.

Retention staff research is a challenge. It is worth taking it on, as the results obtained can help to increase personnel security and the achievement of goals within a given formation. National security therefore requires the implementation of research projects that use statistical methods to monitor variables that influence whether staff remain in service or resign.

Achieving the research objective of identifying and measuring variables influencing the intention to remain in service and the intention to leave service made it possible to identify the following significant variables: satisfaction, organisational commitment, perseverance and link them to the reasons for the decisions and suggest initiatives to support management actions.

The methodology, the structural model constructed and the recommended solutions presented in the article can serve as guidelines for Polish uniformed services in overcoming current challenges and minimising future ones concerning staff retention. The implementation of the proposed initiatives, such as systematic monitoring of satisfaction, organisational commitment and perseverance, improvement of service conditions and development of leadership skills among staff – should translate into improved retention of the Border Guard officers and, consequently, strengthen the capacity of this formation to ensure security of the state.

The described research could be implemented in all Polish uniformed services, taking into account their specific characteristics, which on national scale would allow for synergies to be achieved in the area of security.

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