SILESIAN UNIVERSITY OF TECHNOLOGY PUBLISHING HOUSE

SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY 2026
ORGANIZATION AND MANAGEMENT SERIES NO. 252

STRUCTURE AND DETERMINANTS OF REASONS FOR SOLDIERS LEAVING MILITARY SERVICE: CLUSTER ANALYSIS AND STRUCTURAL EQUATION MODELLING

Maria JABŁOŃSKA-WOŁOSZYN

War Studies University, Management and Command Faculty, Institute of Management;
m.woloszyn@akademia.mil.pl, ORCID: 0000-0001-8588-6899

Purpose*:* The objective of this article is to empirically test models explaining the reasons why soldiers leave military service using structural equation modelling (SEM). The analysis focuses on assessing which dimensions of organisational functioning (employer, workplace, professional development, financial prospects) constitute significant predictors of reasons for leaving the Polish Armed Forces.
Methodology: The study was based on two surveys conducted in 2019/2020 (N = 158) and 2023 (N = 159) at the War Studies University, using the same research instrument. Confirmatory factor analysis and structural equation modelling were used to test relationships between the four dimensions of military evaluation and the latent factors of reasons for leaving. The measurement equivalence of the models was also verified across generations, length of service, and command functions
Findings: The 2019 model was a good fit, and the only significant predictor of job-related reasons for leaving was the professional development dimension. In 2023, despite the model's very good fit, no significant relationships were found between the analysed factors and reasons for leaving. This indicates stability in the structure of latent variables alongside variability in the mechanisms explaining departures over time.
Practical Implications: The findings suggest that the mechanisms leading to employee turnover are dynamic in nature and require ongoing monitoring rather than a one-time assessment. Professional development may be particularly significant as a factor sensitive to changes in the organisational context. Understanding the mechanisms underlying personnel turnover is crucial for the stability of institutions responsible for national security. Identifying factors that undermine continuity of service can help in designing more resilient organisational solutions. In long term, this translates into strengthening of defence capabilities and boosting public trust in military institutions.
Originality: This article presents methodological value by applying SEM to analyse reasons for turnover across two comparable time periods. This approach not only allows for an assessment of the phenomenon's structure but also enables verification of how its determinants change over time. The study brings contribution to the literature on workforce stability in mission-driven organisations.
Keywords: military service turnover; soldier engagement; personnel stability; cluster analysis; structural equation modelling (SEM); armed forces personnel policy.
Category of the paper: construction or testing of a model or framework.

1. Introduction – Rationale for Studying Employee Engagement and Factors Influencing Soldier Turnover as a Factor in Military Workforce Stability

Contemporary organizations—in both the private and public sectors—operate in an environment of growing uncertainty, dynamic social change, and evolving employee expectations regarding work and employers. One of the key challenges in human capital management today is maintaining sustained employee engagement, understood not only as willingness to perform formally assigned duties, but also as emotional, cognitive, and behavioural identification with the organisation, its mission, and its goals (Porter et al., 1974; Juchnowicz, 2010; Saks, 2006). Employee engagement is viewed as a significant factor determining organizational effectiveness, workforce stability, and quality of tasks performed, a view supported by numerous empirical studies (Czarnowsky, 2008; Wagner et al., 2006; Moczydłowska, 2013).

The concept of work engagement has evolved alongside shifts in management paradigms - from an approach focused on control and discipline towards models based on trust, participation, and employee autonomy. As early as the 1970s, it was noted that a lasting employee commitment to an organisation requires not only economic incentives but, above all, acceptance of the organisation's values and goals, as well as a willingness to go the extra mile (Porter et al., 1974). This trend also encompasses the concept of commitment as a psychological state in which an individual's actions are consistent with their beliefs and reinforce a sense of meaning in their work (Salancik, 1977). These ideas were further developed in management models emphasising the importance of autonomy, shared responsibility, and an organisational culture that fosters employee initiative (Walton, 1985; Peters, Waterman, 1982; Armstrong, 2007).

Source literature emphasises that commitment is a broader construct than motivation, encompassing emotional, cognitive and behavioural components, and that it stems from the exchange relationship between an employee and an organisation (Juchnowicz, 2010; Saks, 2006). In this view, the employee is engaged when they perceive the organisation as fair, supportive and offering resources that enable them to achieve both professional and personal goals. However, a decline in engagement does not necessarily lead to immediate resignation, but may take the form of a gradual withdrawal from active participation in organisational life.

A phenomenon that has attracted particular attention from researchers in recent years is 'quiet quitting', understood as limiting professional activity to the minimum formal requirements whilst simultaneously distancing oneself mentally from work and the organisation (Lu et al., 2023; Öztürk et al., 2023; Gigol, 2023). Quiet quitting is directly linked to a decline in engagement, particularly its emotional and cognitive components, and can be interpreted as an adaptive strategy in response to excessive demands, an imbalance between effort and rewards, or deficits in work resources (Bakker, Demerouti, 2017; Arar et al., 2023).

From the perspective of job demands and resources theory, this phenomenon is the result of a long-term imbalance between workload and organisational support, leading to a reduction in well-being and willingness to make additional effort.

An analysis of issues of engagement and quiet resignations takes on particular significance in relation to mission-oriented organisations, such as the Polish Armed Forces. The military, in both colloquial and normative terms, is perceived as an institution where service is based on duty, discipline and subordination, rather than on the voluntary commitment typical of market-oriented organisations. However, the modern Armed Forces operate in conditions of full professionalisation and competition in the labour market, which means that soldiers are increasingly making rational assessments of the costs and benefits of remaining in service (Piotrowski, 2012; Jabłońska-Wołoszyn, 2023). The shift from conscription to a volunteer model of military service has meant that factors such as job satisfaction, a sense of purpose, relationships with superiors and opportunities for development have taken on real significance within the military (Gocuł, 2012; Nowakowska-Krystman, Piotrowska-Trybull, 2016).

Despite a strong ethos of service and formal subordination, the phenomenon of mental disengagement can also occur in the military, manifesting itself in a decline in initiative, a reduction in responsibility, and a focus solely on fulfilling the minimum of duties. This phenomenon is particularly dangerous in an organisation whose effectiveness relies on cooperation, trust and readiness to act in crisis situations. The quiet departure of soldiers does not directly lead to a reduction in personnel numbers, but it does diminish their actual effectiveness, morale and combat potential, especially in peacetime, which is a crucial period for preparing for potential military operations (Jabłońska-Wołoszyn, 2024).

Complexity of the factors influencing the decision to leave military service – both in factual and psychological terms – requires the use of advanced data analysis methods. The reasons for leaving are multidimensional and encompass individual, organisational, relational and systemic factors, which are interlinked through complex cause-and-effect relationships. Traditional one-dimensional analyses do not allow this complexity to be captured, nor do they enable the identification of hidden patterns of soldiers' behaviour and attitudes. The use of cluster analysis facilitates identification of relatively homogeneous groups of soldiers differing in the structure of their motives and reasons for leaving, whilst structural equation modelling allows for the testing of complex models of the relationship between commitment and the intention to resign from service (Bakker, Demerouti, 2017; Gigol, 2023).

The aim of this article is to determine the structure of the reasons for soldiers leaving military service and to identify the factors explaining these reasons using cluster analysis and structural equation modelling. The study sought to identify coherent groups of reasons for leaving and to check whether their structure and determinants are stable over time. An additional aim was to verify the measurement equivalence of the identified clusters in relation to demographic and occupational characteristics, such as generation, holding command positions, and length of service.

In summary, the choice of this topic stems from the growing significance of the issue of soldiers leaving military service, both from an organisational and a social perspective. The complex nature of these decisions justifies the use of an approach combining exploratory and confirmatory methods, enabling the simultaneous identification of the typology of reasons for leaving and the factors explaining them. The choice of cluster analysis and structural equation modelling allows for a more accurate representation of the multidimensional departures determinants than classical univariate analyses, and thus for a deeper understanding of issues relevant both from the perspective of academic research and the practical management of human resources within the armed forces.

2. A methodological framework for analysing the reasons for leaving military service from the perspective of factors that strengthen commitment.

The empirical data used in this article is drawn from two research projects carried out at the War Studies University: Shaping Soldiers' Commitment in the Armed Forces – an Organisational Perspective (2020) and Changes in the Armed Forces' Personnel Policy and Soldiers' Commitment to Service (2023). The aim of both studies was to identify the factors shaping the level of soldiers' professional commitment and to identify the determinants that may lead to a reduction in professional activity or a decision to leave the service.

The studies were conducted twice – at the turn of 2019/2020 and in 2023 – using the same methodology and identical research tools. Data were collected using an individually-designed questionnaire. The respondents were soldiers participating in training at the War Studies University (degree programmes and specialist courses). The sample was selected purposefully – it included soldiers with several years' service experience and those holding command or specialist roles, which enabled the collection of opinions from respondents possessing the knowledge necessary to assess the organisational and personnel conditions of service.

158 soldiers took part in the first edition of the survey, and 159 in the second. Men dominated in both samples (85.4% and 84.8% respectively), and the majority were soldiers holding command positions (58.2% in 2019/2020 and 66.5% in 2023). The average length of service was 17 years in the first survey and 13 years in the second, with significant variation in professional experience. This means that the analysis covered a group with a high level of competence and institutional experience.

The basis for the operationalisation of the variables was an analysis of responses to the question: "What factors might cause you to leave the Armed Forces?", in which respondents could indicate up to five of the most significant factors, and an original analytical concept assuming that the decision to continue or terminate service is the result of factors affecting the soldier, organised into four areas presented in Figure 1.

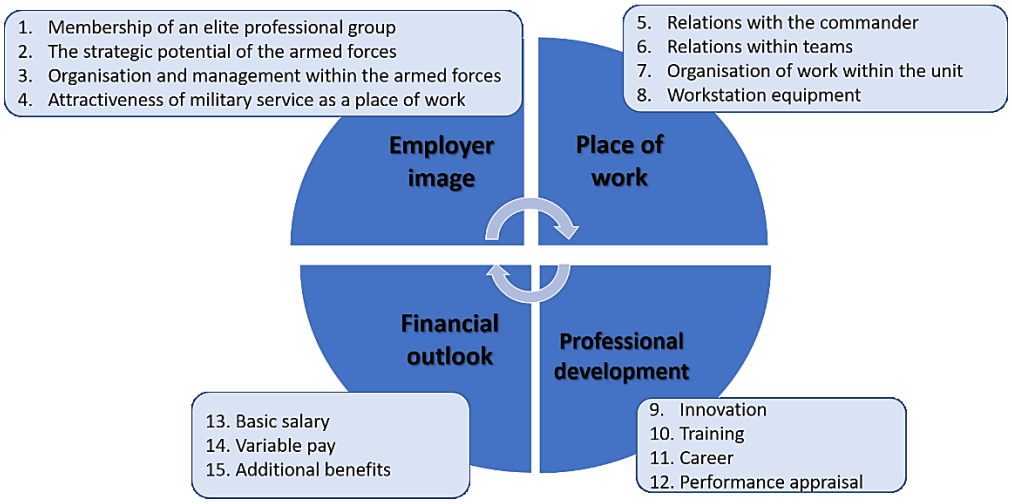

Figure 1. A framework for fostering soldiers' engagement and job satisfaction within the armed forces.

Source: own work.

Statistical analyses were performed using Jasp 0.19.3 and IBM AMOS 29.0. In the first step, hierarchical cluster analysis was conducted to identify the most coherent groups of reasons for leaving the service for data from 2019 and 2023. Subsequently, measurement equivalence was tested using MGCFA on the identified clusters based on command roles, generation (X and Y) and length of service. To this end, two successive models with increasing levels of restriction were evaluated, namely: configurable, metric and scalar (Meredith, 1993). To assess whether the results remained stable across studies, standard recommendations were followed (Chen, 2007); that is, a model was considered stable if the ΔCFI and ΔRMSEA values did not exceed 0.010.

In the next step, models explaining the reasons for leaving the service were tested based on four main factors: the military as an employer, the military as a workplace, the military from the perspective of career development, and the military from a financial perspective. Model fit was assessed on the basis of standard values: the comparative fit index (CFI) ≥ 0.90 and the root mean square error of approximation (RMSEA) ≤ 0.08 (Byrne, 1994; Schermelleh-Engel et al., 2003). A significance level of $\alpha = 0.05$ was adopted.

In order to group the reasons for leaving the service, a hierarchical cluster analysis was conducted to identify the reasons indicated by the respondents that were most similar to one another. The analysis was performed using the Ward.D2 agglomerative method, separately for data from 2019 and 2023. Based on a visual inspection of the dendrogram, it was decided to identify two clusters. A two-cluster division was identified for both 2019 and 2023, with one cluster comprising reasons for leaving related to the employer (financial issues) and the other comprising reasons related to the nature of the work. The results of this part of the study were presented in a separate article entitled "In uniform without commitment? Generational factors contributing to quiet quitting from military service".

3. A structural model for analysing the reasons for leaving military service

Both clusters were included in the structural equation modelling at this stage of the analysis to determine which factors influence the reasons for leaving service in these two groups. Before proceeding with the analysis, the significance of the factor loadings for individual reasons for leaving service within the overarching factor was verified using confirmatory factor analysis.

Results of the 2019 analysis

For the 2019 data, it was decided to exclude 3 items (2, 6 and 7) from cluster 2 as they were not significantly related to the latent variable. This model exhibited a satisfactory level of fit, $\chi 2(26) = 25.09$; $p = 0.514$; CFI = 1.000; RMSEA = <0.001; 90% CI [<0.001; 0.060]. Statistical significance at the trend level was demonstrated for item 9; however, it was decided to retain it in the model – its exclusion worsened the model's fit parameters ($\chi^2(19) = 19.43$; $p = 0.430$; CFI = 0.993; RMSEA = 0.012; 90% CI [<0.001; 0.071]).

Subsequently, the measurement equivalence of the identified clusters of service departure was examined with regard to command roles, generation (X and Y) and length of military service. Based on length of service, the respondents were divided into two groups (those with shorter service of up to 20 years and those with longer service of over 20 years).

As shown in the data in Table 1, measurement equivalence occurred only in the case of generation. For the performance of command functions and length of service, neither metric nor scalar measurement equivalence was obtained (in the case of the performance of command functions).

Table 1

Analysis of the equivalence of reasons for leaving the service, by command role, generation and length of service

	χ^2	*df*	*P*	*CFI*	RMSEA	Δ CFI	Δ RMSEA
Command							
Configural	69.75	52	0.051	0.750	0.047		
Metric	81.02	59	0.030	0.690	0.049	0.060	0.002
Scalar	85.64	66	0.052	0.723	0.044	0.027	0.003
Generation							
Configural	42.39	52	0.827	1.000	<0.001		
Metric	55.92	59	0.590	1.000	<0.001	0	
Scalar	64.53	66	0.528	1.000	<0.001	0	0
Seniority							
Configural	46.61	52	0.685	1.000	<0.001		
Metric	60.30	59	0.429	0.973	0.012	0.027	0.011
Scalar	64.71	66	0.522	1.000	<0.001	0	0

Source: own work.

In the next step, we examined which of the reasons cited by respondents might be linked to a particular group of reasons for leaving the service. Four main areas were included in the model: the Armed Forces as an employer, the Armed Forces as a workplace, the Armed Forces

in the context of personal development, and the Armed Forces from a financial perspective. The analysed model fitted the data well, $\chi^2(54) = 55.14$; $p = 0.431$; CFI = 0.996; RMSEA = 0.012; 90% CI [<0.001; 0.052]. A detailed analysis of the presented pathways showed that only the Army in the context of personal development was significantly associated with the reasons for leaving from cluster 2. The greater the importance the respondents attached to the Army in the context of personal development, the more frequently they cited reasons for leaving related to the structure of work (Cluster 2). None of the analysed factors were associated with the occurrence of factors for leaving the service from Cluster 1. Standardised regression coefficients are shown in Figure 1, and detailed path parameters in Table 2.

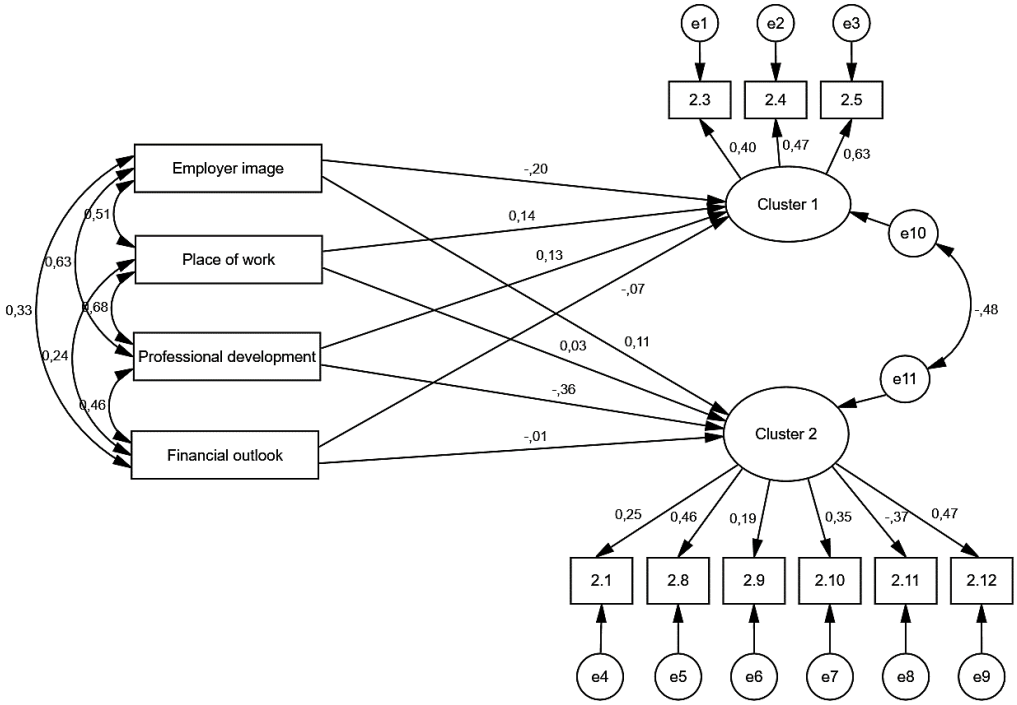

Figure 1. Model explaining the reasons for leaving the service – data from 2019.

Table 2.
Coefficients of the model explaining the reasons for leaving the service, based on data 2019

						95% *CI*	
Y	**X**	**β**	***SE***	***z-value***	***p***	***LL***	***UL***
Cluster 1	Employer image	-0.20	0.14	-1.39	.164	-0.47	0.08
	Place of work	0.14	0.15	0.94	.346	-0.15	0.43
	Professional development	0.13	0.18	0.73	.464	-0.22	0.47
	Financial outlook	-0.07	0.12	-0.58	.564	-0.31	0.17
Cluster 2	Employer image	0.11	0.15	0.77	.440	-0.17	0.4
	Place of work	0.03	0.15	0.21	.837	-0.27	0.33
	Professional development	-0.36	0.18	-2.01	.044	-0.71	-0.01
	Financial outlook	-0.01	0.13	-0.06	.949	-0.26	0.24

Source: own work.

As measurement equivalence was only observed for Generation X, the above model was tested among respondents from Generations X and Y. The analysis revealed no significant associations between potential turnover factors and reasons for leaving among Generation X respondents. In Generation Y, statistical significance at the trend level was observed between the assessment of the military as a workplace and employer-side factors (cluster 1; $p = 0.065$) and between the assessment of the military from a financial perspective and employer-side factors (cluster 1; $p = 0.091$). The remaining paths between the assessments and the factors influencing departure were statistically insignificant.

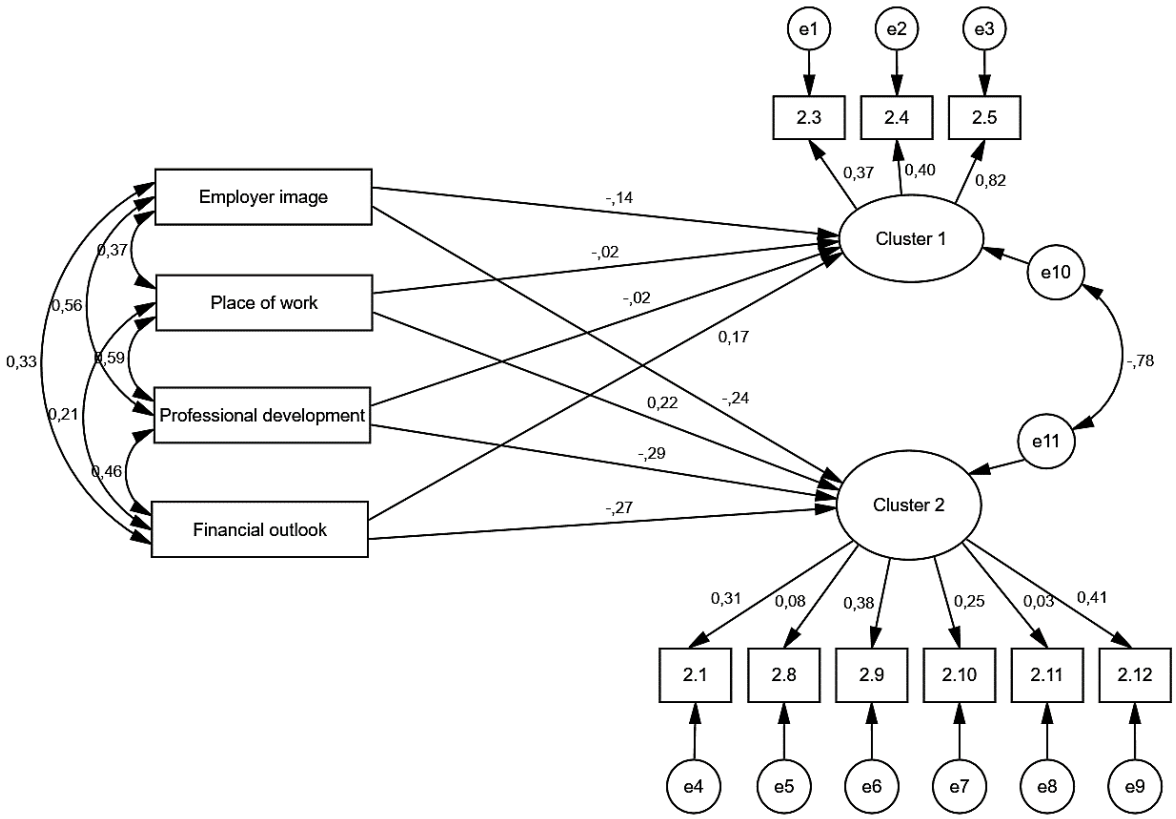

Figure 2. A model explaining the reasons for leaving the service among Generation X respondents.

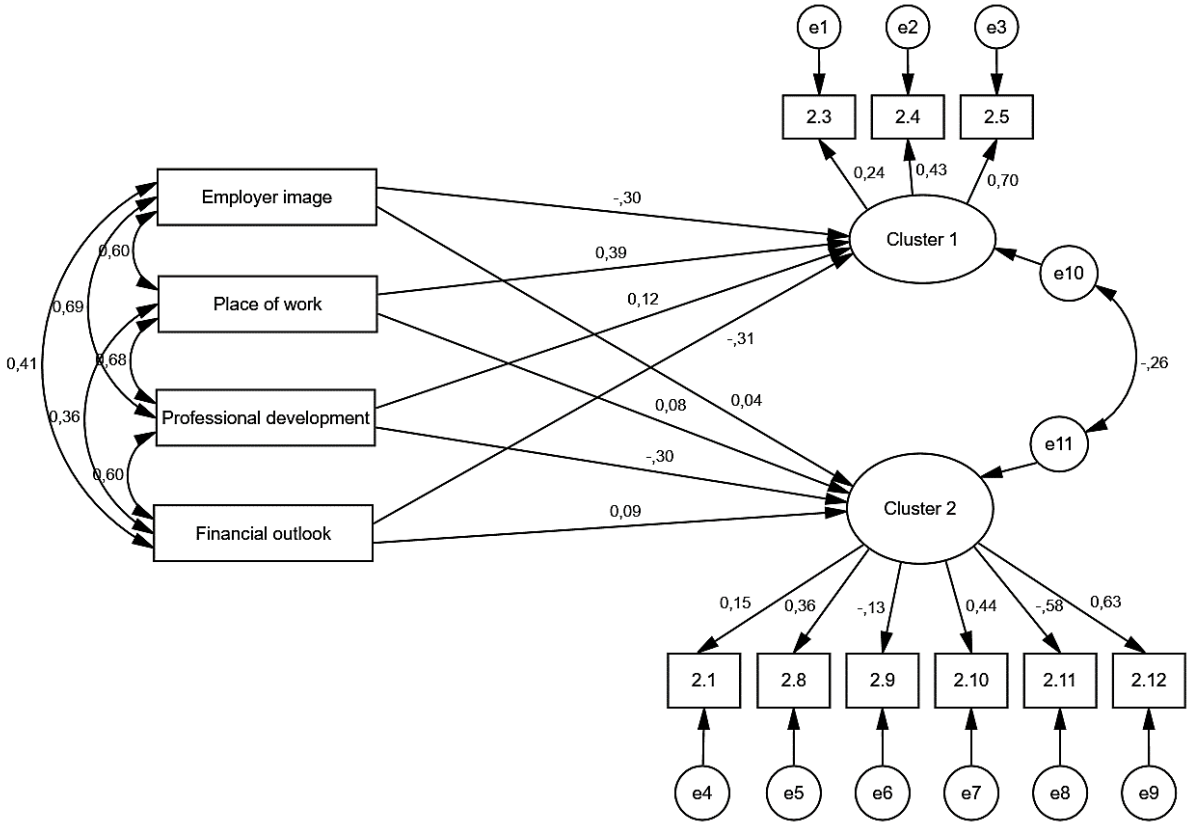

Figure 3. A model explaining the reasons for leaving the service among Generation Y respondents.

Source: own work.

Next, in accordance with the formula proposed by Chin (2000):

$$t = \frac{Path_{sample_1} - Path_{sample_2}}{\left[\sqrt{\frac{(m-1)^2}{(m+n-2)} * S.E._{sample1}^{2} + \frac{(n-1)^2}{(m+n-2)} * S.E._{sample2}^{2}}\right] * \left[\sqrt{\frac{1}{m} + \frac{1}{n}}\right]}$$

the path values in the model were compared. The detailed data are presented in Table 3.

Table 3.

Comparison of unstandardised regression coefficients for the pathways in the models for Generation X and Generation Y

Y	**X**	***Generation X***		**Generation Y**			
		b	***SE***	**b**	***SE***	***t***	***p***
Cluster 1	Employer image	-0.09	0.10	-0.20	0.14	0.63	.527
	Place of work	-0.02	0.14	0.24	0.13	1.37	.172
	Professional development	-0.02	0.17	0.08	0.17	0.42	.677
	Financial outlook	**0.13**	**0.12**	**-0.19**	**0.11**	**1.98**	**.049**
Cluster 2	Employer image	-0.06	0.06	0.03	0.13	0.62	.539
	Place of work	0.07	0.08	0.05	0.12	0.14	.891
	Professional development	-0.10	0.10	-0.19	0.16	0.47	.638
	Financial outlook	-0.08	0.07	0.05	0.10	1.06	.293

Source: own work.

The analysis revealed significant differences only in the case of the path between the assessment of the military in financial perspective and cluster 1. For Generation Y, this path was negative and statistically significant, whilst for Generation X it was positive and not statistically significant.

Results of the 2023 analysis

For the 2023 data, it was decided to exclude item 7 from cluster 1 and items 2, 8, 9, 10 and 11 from cluster 2 as they were not significantly related to the latent variable. This model exhibited a satisfactory level of fit, $\chi^2(8) = 7.14$; $p = 0.521$; CFI = 1.000; RMSEA = <0.001; 90% CI [<0.001; 0.085]. Statistical trend significance was demonstrated for item 12; however, it was decided to retain it in the model – its exclusion worsened the model's fit parameters ($\chi^2(4) = 4.60$; $p = 0.331$; CFI = 0.989; RMSEA = 0.030; 90% CI [<0.001; 0.125]).

Subsequently, the measurement equivalence of the identified service departure clusters was examined with regard to command roles, generation and length of military service. Based on length of service, the respondents were divided into two groups (those with shorter service of up to 20 years and those with longer service of over 20 years). Due to the presence of negative variance when taking the division into subgroups into account, it was impossible to carry out and verify the measurement equivalence analysis.

In the following year, a model explaining the reasons for leaving the service was tested. The model proved to fit the data well, $\chi^2(24) = 24.83$; $p = 0.415$; CFI = 0.998; RMSEA = 0.015; 90% CI [<0.001; 0.066]. The analysis showed that none of the potential factors that might influence leaving the service were significantly associated with the identified factors (Figure 4, Table 4).

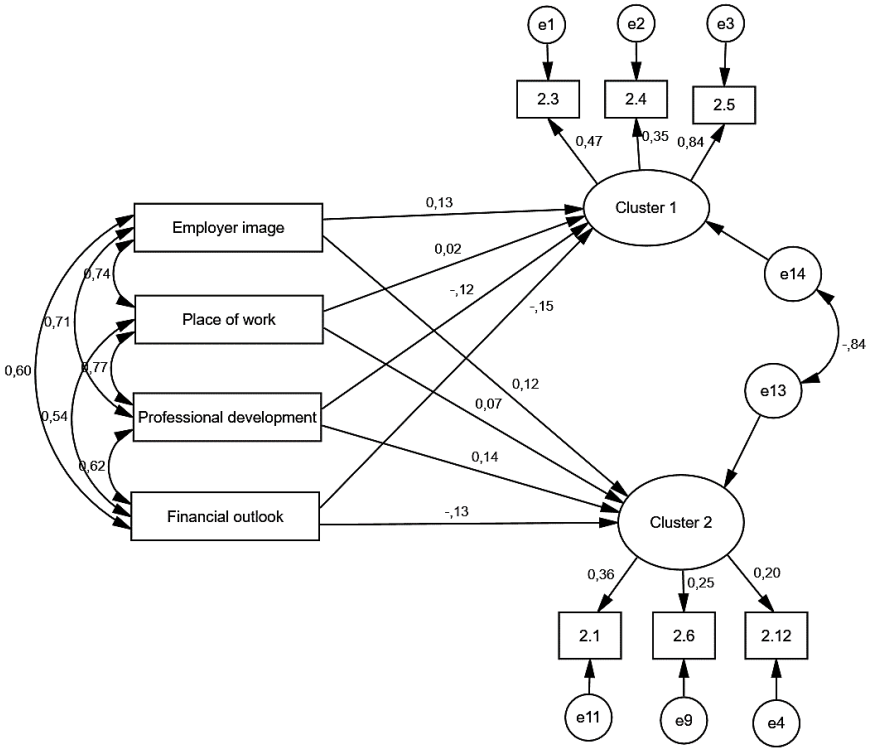

Figure 4. Model explaining the reasons for leaving the service – data from 2023.

Table 4.
Coefficients of the model explaining the reasons for leaving the service, based on data from 2023

						95% *CI*	
Y	X	**β**	***SE***	***z-value***	***p***	***LL***	***UL***
Cluster 1	Employer image	0.13	0.15	0.84	.399	-0.17	0.42
	Place of work	0.02	0.16	0.13	.899	-0.29	0.33
	Professional development	-0.12	0.16	-0.79	.430	-0.43	0.18
	Financial outlook	-0.15	0.12	-1.28	.200	-0.39	0.08
Cluster 2	Employer image	0.12	0.28	0.42	.671	-0.44	0.68
	Place of work	0.07	0.30	0.22	.826	-0.52	0.65
	Professional development	0.14	0.30	0.46	.644	-0.45	0.73
	Financial outlook	-0.13	0.23	-0.56	.577	-0.58	0.32

Source: own work.

4. Conclusions and practical implications of the research

The analyses carried out have shown that the reasons why soldiers leave military service follow a clearly structured and consistent pattern, regardless of when the data was collected. In both 2019 and 2023, two consistent clusters of reasons for leaving were identified: the first related to the military as an employer, covering primarily financial issues, and the second pertaining to the nature and organisation of work. The consistency of this division across both surveys indicates that decisions to leave are not random but may reflect permanent patterns in soldiers' professional experiences.

An analysis of measurement equivalence showed that the understanding of reasons for leaving is stable between Generations X and Y, which allows for reliable intergenerational comparisons. At the same time, the lack of full equivalence depending on the performance of command functions and length of service suggests that organisational experience and position within the military structure significantly modify the importance attributed to individual reasons for leaving. **This means that although the structure of reasons remains similar, their interpretation differs depending on the role performed within the organisation.**

Modelling structural equations for the 2019 data showed that the mechanisms explaining departures were selective and limited to a single area. **The only significant factor associated with reasons for leaving related to the nature of the work was the context of career development, indicating that a lack of development opportunities contributed to the accumulation of difficulties related to the organisation and structure of the service.** During the same period, no significant factors were identified to explain reasons for leaving related to the military as an employer, suggesting a different, more complex nature of this group of causes.

Intergenerational analyses further revealed that in 2019, assessments of the military's functioning had limited significance in explaining reasons for leaving among Generation X, whereas among Generation Y, weak yet noticeable correlations emerged regarding workplace assessment and financial prospects. **This indicates a gradual differentiation in the mechanisms of departure between generations, whilst the structure of the reasons themselves remains similar.**

The results obtained for the 2023 data indicate a significant change in the mechanisms explaining departures from service. Despite the same structure of clusters of reasons for leaving being maintained, none of the analysed factors proved to be significantly associated with any of the identified clusters. **This may indicate a decline in the importance of internal assessments of the military in favour of external or individual factors**, as well as greater fragmentation in decision-making processes regarding leaving the service.

Taken together, the findings suggest that the reasons why soldiers leave military service are characterised by a stable, two-dimensional structure, whilst the factors explaining them vary over time and depend on the organisational and generational context. This means that effective measures aimed at reducing departures should take into account both the permanent types of reasons for leaving and the changing circumstances under which they occur.

The results of the research should not remain merely analytical material. From the perspective of national security, they constitute a significant source of strategic knowledge. The military should treat them as the basis for building a systematic, long-term programme for managing personnel stability.

Firstly, we must move away from treating departures solely as a financial problem. Although pay issues form one of the clear clusters of reasons for leaving, research shows that the area related to the nature of the work, the organisation of service and opportunities for development is equally important – and at times more so. This means there is a need to strengthen professional development policies, transparent career paths and real opportunities for skills development.

Secondly, there is a need to **implement an early warning system for 'quiet resignations' – that is, a decline in engagement without a formal resignation.** Regular monitoring of the organisational climate, levels of engagement and satisfaction should become an integral part of day-to-day personnel management, rather than an ad hoc measure.

Thirdly, **personnel policy should be more differentiated according to career stage and role. The lack of full equivalence in measurement based on length of service and position** indicates that different groups of soldiers interpret their service experiences differently. One-size-fits-all solutions may prove insufficient.

Fourthly, it is essential to take into account the **changing generational and market context**. The stability of the structure of reasons for leaving, coupled with the variability of explanatory factors, suggests that personnel policy should be flexible and based on continuous data analysis, rather than on one-off assessments.

Ultimately, the military should institutionalise research into engagement and attrition – creating a permanent analytical system to support personnel decisions at the strategic level. In the context of contemporary threats, the stability and genuine engagement of soldiers are not merely an organisational matter, but a component of the state's defence capability.

References

1. Arar, T., Cetiner, N., Yurdakul, G. (2023). Quiet quitting: Building a comprehensive theoretical framework. *Akademik Arastırmalar ve Calısmalar Dergisi (AKAD), 15(28),* 122-138. https://doi.org/10.20990/kilisiibfakademik.1245216
2. Armstrong, M. (2007). *Zarządzanie zasobami ludzkimi.* Wydanie IV. Kraków: Oficyna Walters Kluwer Business.
3. Bakker, A.B., Demerouti, E. (2008). Toward a model of work engagement. *Career Development International, 13(3),* 209-223. https://doi.org/10.1108/13620430810870476
4. Byrne, B.M. (1994). Testing for the factorial validity, replication, and invariance of a measuring instrument: A paradigmatic application based on the Maslach Burnout Inventory. *Multivariate Behavioral Research, 29(3),* 289-311.
5. Chen, F.F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling, 14*, 464-504. https://doi.org/10.1080/10705510701301834
6. Chin, W.W. (2000). *Frequentlu Asked Questions – Partial Least Squares & PLS-Graph*. Available: http://disc-nt.cba.uh.edu/chin/plsfaq.htm
7. Czarnowsky, M. (2008). *Learning's role in employee engagement: An ASTD research study.* Alexandria, VA: American Society Training and Development.
8. Gigol, T. (2023). Czym jest, a czym nie jest cicha rezygnacja. Wpływ przywództwa służebnego i zaangażowania w pracę na cichą rezygnację i zamiar odejścia z pracy. *Zarządzanie Zasobami Ludzkimi, 154(5),* 1129.https://doi.org/10.5604/01.3001.0054.0084
9. Gocuł, M. (2012). Siły zbrojne w procesie przeobrażeń systemowych. In: H. Spustek, M. Bodziany, M. Smolarek, A. Gołębiowski (eds.), *Obywatel w mundurze. Aksjologiczny wymiar funkcjonowania nowoczesnych sił zbrojnych.* Wrocław: Wyższa Szkoła Oficerska Wojsk Lądowych.
10. Jabłońska-Wołoszyn, M. (2023). Czynniki wyróżniające wojsko jako pracodawcę a wskaźniki wzmacniania zaangażowania żołnierzy w służbę - perspektywa empiryczna. *International Journal of New Economics and Social Sciences, Vol. 24, iss. 8*, pp. 77-90.
11. Jabłońska-Wołoszyn, M. (2024). Shifting toward a human-centric management paradigm in shaping soldier work engagement and job satisfaction in the Polish Armed Force. In: M. Stor (ed.), *Human at the center of the organization: visions, realities, challenges* (pp. 69-86). Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego.

12. Juchnowicz, M. (2010). Zarządzanie kapitałem ludzkim a poziom zaangażowania pracowników. *Zarządzanie Zasobami Ludzkimi*. Warszawa: IPiPS.
13. Lu, M., Al Mamun, A., Chen, X., Yang, Q., Masukujjaman, M. (2023). Quiet quitting during COVID-19: the role of psychological empowerment. *Humanities and Social Sciences Communications, 10,* 1-16. https://doi.org/10.1057/s41599-023-02012-2
14. Meredith, W. (1993). Measurement invariance, factor analysis and factorial invariance. *Psychometrika, 58,* 525-543. https://doi.org/10.1007/BF02294825
15. Moczydłowska, J.M. (2013). Zaangażowanie pracowników–aspekty psychologiczne i organizacyjne. *Myśl ekonomiczna i polityczna, 4(42),* p. 165.
16. Nowakowska-Krystman, A., Piotrowska-Trybull, M. (2016). Przemiany w Siłach Zbrojnych w kontekście współczesnych koncepcji zarządzania. In: K. Krukowski, S. Sasak (eds.), *Tendencje we współczesnym zarządzaniu publicznym.* Studia i monografie. Kraków: Instytut Spraw Publicznych UJ.
17. Öztürk, E., Arikan, Ö.U., Ocak, M. (2023). Understanding Quiet Quitting: Triggers, Antecedents, and Consequences. *Uluslararası Davranış, Sürdürülebilirlik ve Yönetim Dergisi, 10(18),* 57-79. https://doi.org/10.54709/jobesam.1299018
18. Peters, T., Waterman, R. (1982). *In Search of Excellence.* New York: Harper and Row.
19. Piotrkowski, K (2012). *System zarządzania ludźmi w Siłach Zbrojnych RP.* Warszawa: WAT.
20. Porter, L.W., Steers, R., Mowday, R., Boulian, P. (1974). Organizational commitment, job satisfaction and turnover amongst psychiatric technicians. *Journal and Applied Psychology*.
21. Saks, A.M. (2020). Antecedents and Consequences of Employee Engagement. In: M. Juchnowicz, Zarządzanie przez zaangażowanie. Koncepcja, kontrowersje, aplikacje. *Journal of Managerial Psychology, vol. 7*. Warszawa: PWE.
22. Schermelleh-Engel, K., Moosbrugger, H., Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online, 8(2),* 23-74.
23. Wagner, R.J., Harter, J.K. (2006). *The great elemnts of managing.* Washington: The Gallup Orgnisation.
24. Walton, R.E. (1985). From control to commitment in the workplace. *Harvard Business Review, no. 63*.