

Human Capital Resilience and Organizational Military Behaviour in Strengthening Defense Readiness

Siagian FH^{1*}, Nefra Firdaus², Harri Dolli Hutabarat³

^{1,3}Universitas Pertahanan RI

²Politeknik Angkatan Darat

Corresponding Author: Ferdinand Hasudungan Siagian fhgian@gmail.com

ARTICLE INFO

Keywords: Human Capital Resilience, Military Organizational Behaviour, Defense Readiness, Strategic Management, Organizational Resilience

Received : 3 June

Revised : 22 July

Accepted: 24 August

©2026 Siagian, Firdaus, Hutabarat:
This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

Defense readiness requires military organizations to build human resource resilience and adaptive organizational behavior in the face of strategic dynamics. This study analyzes the influence of human capital resilience and organizational military behavior on defense readiness. The study used an explanatory quantitative approach with a survey of 250 military personnel selected through stratified random sampling. Data were collected using a structured questionnaire and analyzed with Partial Least Squares-Structural Equation Modeling (PLS-SEM). The results show that human capital resilience has a significant positive effect on defense readiness, while organizational military behavior strengthens readiness through organizational discipline, coordination, and adaptability. Both variables simultaneously explain substantial variations in defensive readiness. The findings confirm the importance of integrating human capital development and military organizational behavior in defense strategy management

INTRODUCTION

The increasingly dynamic global security environment has increased the demands on defense organizations' readiness to respond to threats in a fast, adaptive, and coordinated manner. The escalation of geopolitical conflicts, the development of military technology, cyber threats, and the increasing complexity of defense operations show that defense readiness is no longer determined only by the availability of the main tools of the weapon system, but also by the readiness of human resources and organizational capacity to face change. Data from the Stockholm International Peace Research Institute shows that global military spending will reach USD 2.718 trillion by 2024, an increase of 9.4% compared to the previous year and the highest annual increase since at least 1988 (Liang et al., 2025). In the Indonesian context, military spending in 2024 will be around 0.8% of gross domestic product, so the effectiveness of the use of defense resources is increasingly important in building sustainable readiness. From a strategic management perspective, this condition confirms that defense readiness needs to be viewed as a multidimensional capability that integrates physical, cognitive, emotional, skills, training, team, and support resources. Keegan et al. (2021), through a study of 770 Australian military personnel, showed that military readiness is indeed formed from a number of these dimensions and is positively correlated with personnel resilience.

One of the strategic resources that is becoming increasingly relevant in building readiness is human capital resilience. In a resource-based perspective, human resources are not only positioned as executors, but as strategic assets that have the knowledge, skills, experience, learning abilities, and adaptive capacity that can help organizations maintain their performance in stressful situations. Resilience in this context refers to the ability of individuals to survive disruptions, adapt to change, recover from pressure, and learn from experiences so that their work capacity becomes stronger. Shela et al. (2023) emphasized that human capital is one of the main foundations in the formation of organizational resilience, although this relationship still requires further testing in various organizational contexts. These findings are strengthened by Cahyadi et al. (2024), who through structural equation modeling analysis of 322 respondents found that human resource management practices with high involvement increase employee resilience, including through increasing adaptability to technology. Chowdhury et al. (2025) also found that the human resource support climate and innovative climate contribute to organizational resilience, with employee resilience acting as a mediation mechanism. Thus, from a strategic management perspective, human capital resilience can be viewed as an internal capability that allows defense organizations to maintain their effectiveness when facing uncertainty and changes in the strategic environment.

However, the resilience of personnel alone is not adequate if it is not supported by organizational behavior that is in accordance with the characteristics and needs of military organizations. In this study, organizational military behavior is positioned as a pattern of organizational behavior in the military environment which is reflected through discipline, coordination, orientation to common goals, adherence to structures and procedures,

engagement, and adaptability to changing mission needs. Military organizations have hierarchical characteristics that demand consistency and compliance, but at the same time must have the capacity to learn and innovate when faced with new situations. Akıncı et al. (2022), through a study of 425 personnel in the NATO Allied Command Transformation, showed that leadership behaviors that encourage openness and exploration are positively related to innovative work behaviors in military organizations, while a combination of exploratory and directive leadership behaviors is necessary to maintain a balance between innovation and efficiency. Navas-Jiménez et al. (2024) further found in 363 military cadets that leadership that provided a sense of security increased work engagement, which further strengthened organizational identification and resilience. Meanwhile, Wu and Hwang (2024) show that the effectiveness of policy changes in military organizations is also strongly influenced by the pattern of interaction between policymakers, implementers, and policy recipients; A culture that is too hierarchical and does not consider the conditions of implementation can hinder policy sustainability. These findings suggest that organizational behavior is an important part of the strategic capabilities of military organizations. A related study by Siagian et al. (2022) proposed organizational military behavior as a military-context construct and demonstrated its relevance in linking leadership and organizational culture with military personnel performance.

Although the literature on resilience, military organizational behavior, and personnel readiness continues to grow, there is still a clear fragmentation between the three areas. The Keegan et al. (2021) study, for example, is more oriented towards the development and measurement of military readiness dimensions, while MacDonald and Paul (2024) place readiness primarily in the perspective of strategic workforce planning by analyzing the risk of personnel shortages and surpluses as well as recruitment, training, and retention policies. On the other hand, the research of Navas-Jiménez et al. (2024) focuses on leadership relationships, engagement, organizational identification, and cadet resilience, while Akıncı et al. (2022) focus on ambidextrous leadership and innovative behaviors in military organizations. The literature on human capital and resilience is also largely developed in the context of business and non-military organizations, as seen in the research of Shela et al. (2023), Cahyadi et al. (2024), and Chowdhury et al. (2025). Based on the studies studied, there is still limited research that simultaneously integrates human capital resilience and organizational military behavior as direct determinants of defense readiness in a strategic management model, especially in the context of Indonesian defense organizations. This gap is important because defense readiness is in practice the result of an interaction between individual personnel capabilities and the organization's collective behavior mechanisms, rather than the result of one factor in isolation. This conceptualization is also consistent with Hepfer and Lawrence (2022), who emphasize that strategic resilience is formed through a combination of resources, cognition, coordination, adaptation, and an organization's ability to respond to strategic threats.

Based on these gaps, this study aims to analyze the influence of human capital resilience and organizational military behavior on defense readiness, both individually and in its simultaneous contribution to defense organizational readiness. Specifically, the research is directed at examining whether personnel's ability to adapt, recover from stress, learn from experience, and maintain effectiveness in changing situations can improve defense readiness; and whether military organizational behavior patterns that emphasize discipline, coordination, engagement, mission orientation, and adaptability contribute positively to such readiness. To obtain empirical evidence of interconstruct relationships, the study used an explanatory quantitative approach through a survey of 250 selected military personnel using stratified random sampling, with the structural relationships between variables analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM). The selection of this approach allows the research to simultaneously evaluate the contribution of human resource constructs and organizational behavior to defense readiness, while providing an empirical basis for the development of human capital management strategies in the defense environment.

This research is expected to make a theoretical and practical contribution to the development of strategic management in the defense sector. Theoretically, the research expands the discourse on resource-based view, organizational behavior, and strategic resilience by integrating resources at the individual level through human capital resilience and collective capabilities through organizational military behavior as two mechanisms that explain defense readiness. This approach bridges the trend of previous research that separated the study of personnel resilience, organizational behavior, and military readiness planning. This is relevant to the argument that strategic resilience does not only depend on the availability of resources, but also on the ability of organizational actors to interpret threats, coordinate actions, learn, and make strategic adaptations (Hepfer & Lawrence, 2022). Practically, research findings can be the basis for defense organization leaders to design more integrated personnel development strategies through resilience training, competency development, leadership strengthening, improved coordination between personnel, the formation of adaptive cultures, and readiness-based military personnel management. This approach is important because personnel recruitment, training, and retention strategies are directly related to the sustainability of military force readiness (MacDonald & Paul, 2024), while leadership quality and personnel engagement play a role in strengthening resilience in the military environment (Navas-Jiménez et al., 2024).

LITERATURE REVIEW

Strategic Management and Defense Readiness

From a strategic management perspective, defense readiness reflects the ability of defense organizations to integrate human resources, structures, competencies, and organizational processes to be able to carry out missions effectively in normal and uncertain conditions. Defense readiness is not only related to military equipment, but it also includes physical, psychological, skills,

training, and team readiness. Keegan et al. (2021) show that the readiness of military personnel is multidimensional and relates to individual resilience. MacDonald and Paul (2024) also affirm the importance of strategic workforce planning, including recruitment, training, competencies, and personnel retention in maintaining force readiness. Therefore, defense readiness can be understood as a strategic result of an organization's ability to manage human resources and organizational behavior effectively.

Human Capital Resilience

Human capital resilience refers to the ability of personnel to withstand pressure, adapt to change, recover from disruptions, maintain competence, and learn from experience. In the perspective of the Resource-Based View, human resources who have adaptive abilities are a strategic asset because they can increase the resilience and sustainability of the organization. Shela et al. (2023) show that human capital is an important element in building organizational resilience. Cahyadi et al. (2024) also found that effective human resource management practices can increase employee resilience and adaptability. Similarly, Chowdhury et al. (2025) show that human resource support and an innovative climate contribute to organizational resilience through increased employee resilience.

In military organizations, personnel with a high level of resilience are expected to have better ability to maintain function, performance, and readiness in the face of operational pressures. Keegan et al. (2021) found that resilience was positively correlated with military personnel readiness. The findings suggest that adaptability and maintaining effectiveness are an important part of defense readiness. Therefore, the higher the human capital resilience, the higher the organization's ability to maintain defense readiness.

H1: Human capital resilience has a positive and significant effect on defense readiness.

Organizational Military Behaviour

In this study, organizational military behavior is understood as an integrative construct that reflects the behavior patterns of individuals and groups in military organizations, including discipline, coordination, cohesion, adherence to structure, mission orientation, engagement, and adaptability. Military organizations need a balance between adherence to command structures and the ability to respond to changes adaptively. Akıncı et al. (2022) show that a combination of exploratory and directive leadership behaviors can promote innovative behavior in military organizations. Bekesiene and Smaliukiene (2022) also show that unit cohesion and leadership play an important role in helping personnel cope with stress during military training. This context-specific framing is consistent with Siagian et al. (2022), who developed organizational military behavior to capture extra-role behavior in military settings.

Effective military organizational behavior allows individual competencies to be transformed into collective readiness. Discipline maintains consistency in the execution of tasks, coordination supports integration between personnel,

while adaptability allows the organization to adapt to changes in the strategic environment. Hepfer and Lawrence (2022) explain that strategic resilience requires the ability of organizations to maintain function, adapt, and respond effectively to change. Thus, organizational military behavior is expected to contribute directly to increasing defense readiness.

H2: Organizational military behaviour has a positive and significant effect on defense readiness.

Human Capital Resilience, Organizational Military Behaviour, and Defense Readiness

Defense readiness depends not only on individual qualities or organizational mechanisms separately, but on a combination of both. Human capital resilience represents capabilities at the individual level, while organizational military behavior reflects how those capabilities are consolidated through discipline, coordination, mission orientation, and organizational adaptation. Navas-Jiménez et al. (2024) show that leadership, work engagement, organizational identification, and resilience are interrelated in the military environment. The findings strengthen the argument that defense readiness is the result of an interaction between resilient human resources and an effective organizational behavior system.

Previous literature still discusses personnel resilience, military organizational behavior, and readiness separately. Keegan et al. (2021) focus on measuring military readiness, MacDonald and Paul (2024) on workforce planning, while Akıncı et al. (2022) and Navas-Jiménez et al. (2024) emphasize leadership and personnel behavior more. Therefore, this study integrates human capital resilience and organizational military behavior in one model to explain defense readiness. The contribution of the two constructs was simultaneously evaluated through the value of the determination coefficient (R^2) in the defense readiness construct in the PLS-SEM analysis. Earlier work has examined organizational military behavior mainly in relation to military personnel performance (Siagian et al., 2022), whereas its role as a determinant of defense readiness remains less developed.

Conceptual Model

Based on the theoretical review and empirical findings discussed above, this study proposes a conceptual model that examines the effects of human capital resilience and organizational military behaviour on defense readiness. Human capital resilience represents the individual capacity of military personnel to adapt, recover, and maintain effectiveness under pressure, whereas organizational military behaviour reflects collective organizational mechanisms such as discipline, coordination, cohesion, mission orientation, and adaptability. Both constructs are therefore expected to contribute positively to defense readiness.

The proposed relationships among the constructs are illustrated in Figure

Human Capital Resilience (X1) → Defense Readiness (Y)

Organizational Military Behaviour (X2) → Defense Readiness (Y)

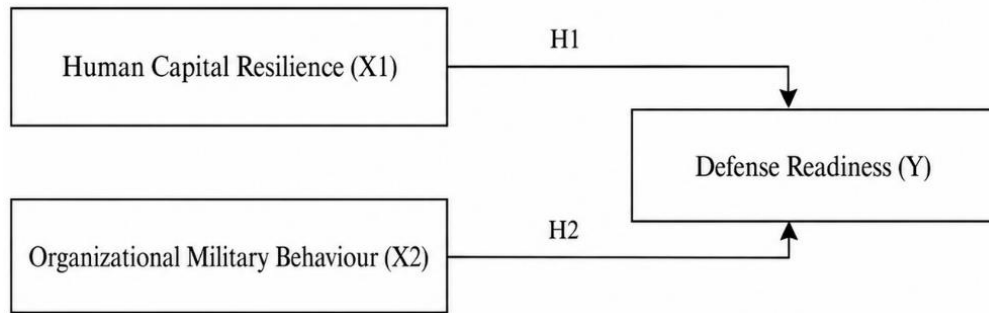


Figure 1. Framework

Based on the proposed conceptual model, the following hypotheses are formulated:

H1 : Human capital resilience has a positive and significant effect on defense readiness.

H2 : Organizational military behaviour has a positive and significant effect on defense readiness.

METHODOLOGY

Types of Research

This study uses an explanatory quantitative approach with a survey design to test the influence of human capital resilience and organizational military behavior on defense readiness. The explanatory approach is used because the research focuses on testing the causal relationships between constructs based on the hypotheses that have been formulated. The analysis was carried out using Partial Least Squares–Structural Equation Modeling (PLS-SEM) because it allows the simultaneous evaluation of measurement models and structural models and is suitable for research oriented towards the explanation and prediction of relationships between latent variables (Dash & Paul, 2021; Schuberth et al., 2023). This causal survey logic is also consistent with broader management research that tests hypothesized relationships among behavioral constructs using structured respondent data (Siagian et al. (2022)).

Population and Sample

The research population consists of military personnel in defense organizations that are the context of the research. A total of 250 military personnel were assigned as research samples through stratified random sampling techniques. This technique includes probability sampling and is used to ensure group representation in the population through the division of the population into strata before respondents are randomly selected. All 250 questionnaires that met the completeness of the data were used in the final analysis using PLS-SEM.

Research Instruments

Data was collected using a structured questionnaire that measured three main constructs, namely human capital resilience, organizational military behavior, and defense readiness. Human capital resilience is measured through five indicators (HCR1–HCR5) that reflect adaptability, surviving pressure, maintaining effectiveness, recovering, and learning from experience, with reference to Keegan et al. (2021) and Sweetman et al. (2022).

Organizational military behavior is measured through six indicators (OMB1–OMB6), namely discipline, coordination, cohesion, compliance with structure, mission orientation, and adaptability. This construct was developed integratively from the literature of military organizations, especially Septiarly and Azwar (2022), Bekesiene and Smaliukiene (2022), Navas-Jiménez et al. (2024), and Wallin (2024).

Defense readiness was measured using five indicators (DR1–DR5) adapted from the concept of the Acute Readiness Monitoring Scale by Keegan et al. (2021), including general readiness, cognitive, skills and training, team, and supporting resources. In total, the instrument consists of 16 indicators. Validity and reliability were evaluated through outer loading, Cronbach's alpha, composite reliability, AVE, and HTMT in PLS-SEM analysis.

Data Collection Procedure

The research was carried out in several stages. The first stage was carried out through the preparation of a conceptual model and the formulation of two research hypotheses, namely the influence of human capital resilience on defense readiness (H1) and the influence of organizational military behavior on defense readiness (H2). The next stage is the preparation and distribution of a structured questionnaire to the selected respondents through stratified random sampling. After the data collection is complete, the entire questionnaire is checked to ensure the completeness of the response. A total of 250 valid responses were then used in the analysis. The data is then coded and prepared for the evaluation of measurement models and structural models using SmartPLS.

Data Analysis Techniques

Data were analyzed using PLS-SEM with SmartPLS 4 software version 4.1.1.8. The analysis is carried out through two main stages. First, the evaluation of the measurement model was carried out by testing the outer loading, Cronbach's alpha, composite reliability, AVE, and HTMT to ensure the reliability and validity of the construct. Second, after the measurement model meets the criteria, a structural evaluation of the model is carried out to test the relationship between the constructs.

Hypothesis testing was carried out through a bootstrapping procedure by evaluating the path coefficient (β), t-statistics, p-values, and 95% confidence interval. The relationship between constructs is declared significant if $p < 0.05$ and the confidence interval does not cross zero values. Furthermore, the coefficient of determination (R^2) and adjusted R^2 were used to evaluate the ability of human capital resilience and organizational military behavior to explain the

variation in defense readiness. The analysis focused on two structural pathways, namely $HCR \rightarrow DR$ (H1) and $OMB \rightarrow DR$ (H2).

RESULTS

Measurement Model Assessment

Analysis was conducted on 250 valid responses using SmartPLS 4 version 4.1.1.8. The evaluation of the *measurement model* showed that all indicators met the criteria of convergent validity. The *outer loading* value is in the range of 0.784–0.887, so all indicators are maintained in the model. *Cronbach's alpha* and *composite reliability* values of the entire construct are above 0.70, while the *average variance extracted* (AVE) value exceeds 0.50. These results show that *human capital resilience*, *organizational military behavior*, and *defense readiness* have adequate internal reliability and convergent validity.

Table 1. Measurement Model Results

Construct	Indicator	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Human Capital Resilience	HCR1	0.812	0.887	0.917	0.688
	HCR2	0.846			
	HCR3	0.791			
	HCR4	0.873			
	HCR5	0.824			
Organizational Military Behaviour	OMB1	0.784	0.911	0.931	0.693
	OMB2	0.821			
	OMB3	0.858			
	OMB4	0.806			
	OMB5	0.879			
Defense Readiness	DR1	0.801	0.902	0.927	0.719
	DR2	0.854			
	DR3	0.887			
	DR4	0.826			
	DR5	0.869			

Discriminant Validity

Discriminant validity was evaluated using the *heterotrait-monotrait ratio* (HTMT). The entire HTMT value is below 0.85, with values between 0.613 and 0.789. The results show that the three constructs have different empirical characteristics and do not show a problem of discriminant validity.

Table 2. HTMT Discriminant Validity

Construct	HCR	OMB	DR
Human Capital Resilience (HCR)	—		
Organizational Military Behaviour (OMB)	0.613	—	
Defense Readiness (DR)	0.741	0.789	—

Structural Model and Hypothesis Testing

Once the measurement model meets the reliability and validity criteria, testing is continued on the *structural model*. *Bootstrapping* is used to test the significance of relationships between constructs. The results show that both structural pathways have positive and statistically significant coefficients.

Human capital resilience has a positive influence on *defense readiness* with a path coefficient of $\beta = 0.421$, $t = 6.912$, and $p < 0.001$. The confidence interval did not cross zero, which was 0.303–0.537. Thus, H1 is supported. These results show that increasing *human capital resilience* goes hand in hand with increasing *defense readiness*.

Organizational military behavior also showed a positive and significant influence on *defense readiness*, with coefficients of $\beta = 0.487$, $t = 8.226$, and $p < 0.001$. The confidence interval is at 0.374–0.594, so H2 is supported. Between the two predictors, *organizational military behavior* showed a relatively larger path coefficient in explaining *defense readiness*.

Table 3. Hypothesis Testing Results

Hypothesis	Structural Path	b	t-statistic	p-value	95% CI	Decision
H1	HCR → DR	0.421	6.912	<0.001	0.303–0.537	Supported
H2	OMB → DR	0.487	8.226	<0.001	0.374–0.594	Supported

Coefficient of Determination

The model's ability to explain *defense readiness* was evaluated using a determination coefficient (R^2). The results showed an R^2 value of 0.684 and an *adjusted* R^2 of 0.681. Thus, *human capital resilience* and *organizational military behavior* together explain around 68.4% of the variation in defense readiness, while the remaining 31.6% are outside the research model.

Table 4. Coefficient of Determination

Endogenous Construct	R^2	Adjusted R^2	Variance Explained
Defense Readiness	0.684	0.681	68.4%

Summary of Findings

The results of the analysis showed that the measurement model had met the criteria of reliability, convergent validity, and discriminant validity. All indicators have *adequate outer loading*, with AVE between 0.688 and 0.719 and *composite reliability* between 0.917 and 0.931. Furthermore, structural model testing confirmed that human capital resilience had a positive and significant effect on defense readiness ($\beta = 0.421$; $p < 0.001$), so H1 was supported. Organizational military behavior also had a positive and significant effect on defense readiness ($\beta = 0.487$; $p < 0.001$), so H2 was supported. Both constructs simultaneously account for 68.4% variation in defense readiness, consistent with the main findings already stated in the abstract that both factors contribute substantially to defense readiness.

DISCUSSION

The results of the study show that human capital resilience and organizational military behavior are important determinants of defense readiness. The study model has substantial explanatory ability with an R^2 of 0.684, which suggests that the two constructs together are able to explain 68.4% of the variation in defense readiness. In addition, the measurement model showed adequate reliability and validity, with an outer loading of 0.784–0.887, AVE of 0.688–0.719, and composite reliability of 0.917–0.931. The findings show that defense readiness can be understood not only as a consequence of the readiness of material resources, but also as a result of the integration of individual personnel capabilities and organizational collective behavior mechanisms. This perspective is in line with the concept of strategic resilience which places resources, adaptability, coordination, and learning as the foundation of an organization in maintaining the ability to deal with strategic disruptions (Hepfer & Lawrence, 2022).

H1 testing showed that human capital resilience had a positive and significant effect on defense readiness ($\beta = 0.421$; $t = 6.912$; $p < 0.001$). These findings show that personnel's ability to withstand pressure, adapt, maintain effectiveness, recover from difficult conditions, and learn from experience contributes directly to defense readiness. These results are consistent with Keegan et al. (2021), who found that various dimensions of military readiness are positively correlated with resilience and well-being, as well as negatively with stress and distress. In a resource-based perspective, these results reinforce the position of human resources as a strategic asset whose value lies not only in technical competence, but also in the ability to maintain performance when organizations face uncertainty.

The strategic significance of H1's findings is that the development of human capital in defense organizations needs to go beyond mastery of technical knowledge and skills. Personnel resilience becomes part of an organization's capacity because personnel who are able to manage pressure and adapt to change are more likely to retain the ability to perform tasks when demands increase. Yu et al. (2022) show that strategic human resource management practices can

increase organizational resilience and that individual abilities such as self-efficacy are one of the mechanisms that support these relationships. Chowdhury et al. (2025) also found that employee resilience plays an important role as an important mechanism that links human resource support with organizational resilience. In the military context, Navas-Jiménez et al. (2024) show that work and leadership engagement that provides a sense of security is associated with increased resilience of military cadets. Thus, human capital resilience can be seen as a strategic resource that helps transform individual capacity into organizational readiness.

The results of the H2 test showed that organizational military behavior had a positive and significant influence on defense readiness ($\beta = 0.487$; $t = 8.226$; $p < 0.001$). The coefficient is even greater than the influence of human capital resilience, suggesting that in this research model, the behavior of military organizations has a relatively stronger direct relationship with defense readiness. These findings are understandable because the execution of military duties essentially requires coordinated action, discipline, cohesion, mission orientation, adherence to structure, and adaptability, so that individual capabilities only provide maximum benefits when organized into collective capabilities. Sherman and Lucier-Greer (2025) show that unit cohesion, including supportive relationships between members and leaders, is an important component of the military environment and can be a protective resource for personnel when faced with challenging conditions.

The findings are also consistent with Akıncı et al. (2022), who showed within NATO military organizations that leadership behaviors that provide space for exploration are positively related to innovative behaviors, while a combination of leadership behaviors that open up space for exploration and maintain control can provide benefits in the face of a changing environment. This is important because military organizations cannot rely on mechanical compliance alone. Discipline and structure are needed to ensure consistency in the execution of tasks, but adaptability is still required when operational conditions change. Bekesiene and Smaliukiene (2022) also show that unit cohesion and leadership play an important role in helping personnel through the pressures of military training. Thus, the positive influence of organizational military behavior in this study can be understood as the result of a combination of behaviors that maintain order while allowing coordination and adjustment to change. This interpretation is also consistent with Siagian et al. (2022), whose findings indicate that organizational military behavior can function as an organizational mechanism through which transformational leadership and organizational culture improve military personnel performance.

The higher coefficient of organizational military behavior ($\beta = 0.487$) compared to human capital resilience ($\beta = 0.421$) is an important finding from a strategic management perspective. These results do not diminish the importance of individual resilience, but do show that defense readiness is a collective capacity. A personnel can have high resilience and adaptability, but its effectiveness on organizational readiness remains dependent on coordination, cohesion, command structure, and mission orientation. These findings expand

on previous research that has placed resilience as an individual attribute by showing that the contribution of human resources to readiness becomes more meaningful when it is within effective organizational mechanisms. The conceptualization is in accordance with Hepfer and Lawrence (2022), who place organizational resources and cognition in mutually supportive relationships to form operational and strategic resilience. The concept of readiness developed by Jin et al. (2024) also emphasizes that readiness goes beyond the mere existence of a plan and requires preparation, training, and capacity to respond to demands when a crisis occurs.

The R^2 value of 0.684 strengthens the argument that human capital resilience and organizational military behavior need to be placed simultaneously within the framework of defense strategy management. These findings expand the strategic workforce planning approach that generally focuses on the number of personnel, recruitment, training, and retention. MacDonald and Paul (2024), for example, show that uncertainty in the availability, loss, training, and retention of personnel affects an organization's ability to maintain force readiness. This study complements this perspective by showing that readiness is not only a matter of whether the number of personnel is sufficient, but also whether the personnel are resilient and whether their organizational behavior patterns are able to transform individual capacities into effective collective actions. Thus, the theoretical contribution of the research lies in the integration of the individual level (human capital resilience) and the organizational level (organizational military behavior) in explaining defense readiness.

Although all hypotheses are supported, the results of the study also show that there is a space that has not been explained by the model. As much as 31.6% of the variation in defense readiness comes from factors outside human capital resilience and organizational military behavior. This is logical because defense readiness is a multidimensional concept. Keegan et al. (2021), for example, identify dimensions of readiness that include physical, cognitive, emotional, skills and training, group readiness, and equipment. Thus, the R^2 of 0.684 should not be interpreted as the only determinant of defensive readiness. Instead, the results show that human factors and organizational behavior are a substantial part of the readiness mechanism, while other aspects remain necessary to comprehensively shape defense readiness.

This study has several limitations that need to be considered in interpreting the findings. First, the design of the quantitative survey is cross-sectional, so that the positive relationships found through PLS-SEM have not been able to show changes in human capital resilience, organizational behavior, and defense readiness over time. Second, all constructs were measured using questionnaires from the same respondents so that there was a potential for common method bias and subjectivity of perception. Third, organizational military behavior in this study is an integrative construct that combines discipline, coordination, cohesion, adherence to structure, mission orientation, and adaptability; Further testing on different military contexts and groups is needed to reinforce the generalization of such constructs. Fourth, even though

the sample consisted of 250 personnel and was selected through stratified random sampling, the results of the study must still be interpreted according to the context of the defense organization being studied.

Follow-up research is recommended using longitudinal design so that changes in resilience and readiness can be observed in the period before and after training, assignment, or organizational change. Data can also be developed through a multi-source approach, for example by combining personnel perceptions with leadership assessments or organizational readiness indicators to reduce reliance on self-reports. Model testing on various units, rank levels, and military task characteristics is also needed to determine the stability of the HCR-DR and OMB-DR relationships. This approach is relevant to the findings of Navas-Jiménez et al. (2024) regarding the interconnectedness of leadership, engagement, and resilience, as well as Sherman and Lucier-Greer's (2025) research on the importance of vertical cohesion in the military environment. Overall, the results show that strengthening defense readiness requires a strategic approach that simultaneously builds personnel resilience and creates disciplined, coordinated, cohesive, mission-oriented, and adaptive military organizational behavior.

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that human capital resilience and organizational military behavior play an important role in strengthening defense readiness. Human capital resilience had a positive and significant effect on defense readiness ($\beta = 0.421$; $p < 0.001$), while organizational military behavior showed a relatively stronger influence ($\beta = 0.487$; $p < 0.001$). Both constructs simultaneously explain 68.4% of the variation in defense readiness. These findings confirm that defense readiness is determined not only by the individual ability of personnel to adapt and withstand pressure, but also by the discipline, coordination, cohesion, mission orientation, and adaptability of military organizations.

Based on these findings, defense organizations are advised to integrate the development of personnel resilience with strengthening the behavior of military organizations in strategic management policies. Training programs need to be directed not only at improving technical competence, but also at adaptability, psychological resilience, coordination, leadership, unit cohesion, and readiness to face changes in the strategic environment. Strengthening these two aspects simultaneously is expected to increase the effectiveness of human resource management while strengthening organizational readiness in carrying out defense tasks and missions.

FURTHER STUDY

Further research is recommended using a longitudinal design and multi-source approach to reduce the limitations of cross-sectional and self-report data. The model can also be tested on different units, rank levels, and task characteristics and developed by including work engagement, unit cohesion, or leadership as mediator or moderator variables.

ACKNOWLEDGMENT

The authors gratefully acknowledge all military personnel who participated in this study and the institutional support that facilitated the research process. Appreciation is also extended to all parties who contributed to data collection and the completion of this research.

REFERENCES

- Akıncı, G., Alpan, L., Yıldız, B., & Karacay, G. (2022). The link between ambidextrous leadership and innovative work behavior in a military organization: The moderating role of climate for innovation. *Sustainability*, 14(22), 15315. <https://doi.org/10.3390/su142215315>
- Bekesiene, S., & Smaliukiene, R. (2022). Personal growth under stress: Mediating effects of unit cohesion and leadership during mandatory military training. *Sustainability*, 14(16), 10389. <https://doi.org/10.3390/su141610389>
- Cahyadi, A., Marwa, T., Poór, J., Maulana, A., & Szabó, K. (2024). High-involvement human resource management practices and employee resilience: The mediating role of employee technology adaptation – A case study of South Sumatra. *Administrative Sciences*, 14(11), 292. <https://doi.org/10.3390/admsci14110292>
- Chowdhury, M., Uddin, M. A., Biswas, S. R., & Hridoy, A. I. (2025). Promoting human resource and innovative climate to foster organizational resilience during pandemic time: The mediating role of employee resilience. *Global Journal of Flexible Systems Management*, 26(1), 55–85. <https://doi.org/10.1007/s40171-024-00425-9>
- Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, 173, 121092. <https://doi.org/10.1016/j.techfore.2021.121092>
- Hepfer, M., & Lawrence, T. B. (2022). The heterogeneity of organizational resilience: Exploring functional, operational and strategic resilience.

- Organization Theory*, 3(1), 1–29. <https://doi.org/10.1177/26317877221074701>
- Jin, Y., Coombs, W. T., Wang, Y., van der Meer, T. G. L. A., & Shivers, B. N. (2024). “READINESS”: A keystone concept beyond organizational crisis preparedness and resilience. *Journal of Contingencies and Crisis Management*, 32, e12546. <https://doi.org/10.1111/1468-5973.12546>
- Keegan, R. J., Flood, A., Niyonsenga, T., Welvaert, M., Rattray, B., Sarkar, M., Melberzs, L., & Crone, D. (2021). Development and initial validation of an acute readiness monitoring scale in military personnel. *Frontiers in Psychology*, 12, 738609. <https://doi.org/10.3389/fpsyg.2021.738609>
- Liang, X., Tian, N., Lopes da Silva, D., Scarazzato, L., Karim, Z., & Guiberteau Ricard, J. (2025). *Trends in world military expenditure, 2024*. Stockholm International Peace Research Institute. <https://doi.org/10.55163/AVEC8366>
- MacDonald, L., & Paul, J. A. (2024). A risk analytics model for strategic workforce planning: Readiness of enlisted military personnel. *Annals of Operations Research*, 338, 513–533. <https://doi.org/10.1007/s10479-023-05567-0>
- Mitani, A. A., Mercaldo, N. D., Haneuse, S., & Schildcrout, J. S. (2021). Survey design and analysis considerations when utilizing misclassified sampling strata. *BMC Medical Research Methodology*, 21, 145. <https://doi.org/10.1186/s12874-021-01332-8>
- Navas-Jiménez, M. C., Laguía, A., Recio, P., García-Guiu, C., Pastor, A., Edú-Valsania, S., Molero, F., Mikulincer, M., & Moriano, J. A. (2024). Secure Base Leadership in military training: Enhancing organizational identification and resilience through work engagement. *Frontiers in Psychology*, 15, 1401574. <https://doi.org/10.3389/fpsyg.2024.1401574>
- Rasoolimanesh, S. M. (2022). Discriminant validity assessment in PLS-SEM: A comprehensive composite-based approach. *Data Analysis Perspectives Journal*, 3(2), 1–8.
- Schuberth, F., Hubona, G., Roemer, E., Zaza, S., Schamberger, T., Chuah, F., Cepeda-Carrión, G., & Henseler, J. (2023). The choice of structural equation modeling technique matters: A commentary on Dash and Paul (2021). *Technological Forecasting and Social Change*, 194, 122665. <https://doi.org/10.1016/j.techfore.2023.122665>
- Septiarly, Y. L., & Azwar, S. (2022). Scale construction of the discipline scale for Indonesian Air Force (TNI Angkatan Udara) military personnel (IMPI-D32).

- JP3I (Jurnal Pengukuran Psikologi dan Pendidikan Indonesia)*, 11(1), 45–54.
<https://doi.org/10.15408/jp3i.v11i1.19478>
- Shela, V., Ramayah, T., & Ahmad, N. H. (2023). Human capital and organisational resilience in the context of manufacturing: A systematic literature review. *Journal of Intellectual Capital*, 24(2), 535–559.
<https://doi.org/10.1108/JIC-09-2021-0234>
- Sherman, H., & Lucier-Greer, M. (2025). Assessing the psychometric properties of the Army STARRS' vertical unit cohesion scale: A large-scale, longitudinal study. *Military Psychology*, 37(4), 305–317.
<https://doi.org/10.1080/08995605.2024.2370705>
- Siagian, F. H., Setyadi, D., & Hendri, M. I. (2022). *Strategi peningkatan kinerja personel di lingkungan militer melalui perilaku organisasi militer*. Tanesa.
<https://doi.org/10.51967/978-623-5771-65-6>
- Siagian, F. H., Setyadi, D., Hendri, M. I., & Fitrio, T. (2022). The role of organizational military behavior in mediating the effect of transformational leadership, job satisfaction and organizational culture on the performance of military personnel of KODAM XXX. *Quality - Access to Success*, 23(191), 1–9.
<https://doi.org/10.47750/QAS/23.191.01>
- Sweetman, J., van der Feltz-Cornelis, C. M., Elfeddali, I., & de Beurs, E. (2022). Validation of the work stress screener (WOSS-13) and resilience at work scale (ReWoS-24). *Journal of Psychosomatic Research*, 160, 110989.
<https://doi.org/10.1016/j.jpsychores.2022.110989>
- Vishnoi, S. K., Mathur, S., Bagga, T., Singhal, A., Rawal, P., Sharma, S., & Yadav, R. (2024). Construct modelling, statistical analysis and empirical validation using PLS-SEM: A step-by-step guide of the analysis procedure. *International Journal of Data Analysis Techniques and Strategies*, 16(2), 162–180.
<https://doi.org/10.1504/IJDATS.2024.137877>
- Wallin, M. (2024). Fighting to adapt: A study of the relationship between organizational culture and cognitive flexibility in Swedish army brigades. *Defence Studies*. <https://doi.org/10.1080/14702436.2024.2435106>
- World Bank. (2025). *Military expenditure (% of GDP) – Indonesia*. World Bank.
<https://data.worldbank.org/indicator/MS.MIL.XPND.GD.ZS?locations=ID>
- Wu, C.-S., & Hwang, J.-J. (2024). Reforming military organisational culture: An empirical study of the Army in Taiwan. *Defence Studies*, 24(4), 641–665.

<https://doi.org/10.1080/14702436.2024.2396815>

Yu, J., Yuan, L., Han, G., Li, H., & Li, P. (2022). A study of the impact of strategic human resource management on organizational resilience. *Behavioral Sciences*, 12(12), 508. <https://doi.org/10.3390/bs12120508>