

Resilience Prevalence among Universiti Pertahanan Nasional Malaysia Cadets

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Abstract

The negative impact of psychological and physiological stressors, such as sleep deprivation, energy deficits, and combat stress, on the resilience of Malaysian military cadets, which may compromise their mental well-being, training effectiveness, and overall performance in military training. This study examines the prevalence of resilience among Malaysian military cadets, with a focus on the role of age, gender, and race as risk factors. A cross-sectional survey was conducted with 887 cadets at the Universiti Pertahanan Nasional Malaysia (UPNM), utilizing the Dispositional Resilience Scale to assess commitment, control, and challenge as dimensions of resilience. The findings reveal that resilience was perceived as moderate across all subdimensions, with younger cadets (aged 19-21) particularly showing a moderate perception of resilience. Gender differences were observed, with male cadets demonstrating slightly higher resilience scores than their female counterparts. Racial differences indicated that Indian cadets scored the highest in challenge, while Chinese cadets had the highest scores in commitment. However, statistical analyses revealed no significant differences between gender or race and overall resilience, although age was significantly different with commitment and control. These results suggest that while demographic factors may influence certain aspects of resilience, the interplay between these factors warrants further exploration, especially in light of the study's skewed gender and racial distribution. This study underscores the need for targeted interventions to foster resilience, particularly among younger and female cadets.

Keywords: Asia, Resilience, Hardy, Military Training, Cadets

Introduction

Field training in the military often imposes significant physiological demands due to factors such as intensive physical activity, energy deficits, and sleep deprivation (Nindl et al., 2007). These demands increase susceptibility to negative mood changes and pose challenges to mental executive functioning (Harris et al., 2005; Duman & Monteggia, 2006). For instance, inadequate sleep or sleep loss has been shown to intensify the reduction of positive affect on days with stressors (Sin et al., 2020), while energy and sleep deficits can impair critical

psychological and cognitive abilities during field training (Harris et al., 2005; Duman & Monteggia, 2006). While most studies examining dropout and attrition rates in military training have focused primarily on physical injuries, particularly musculoskeletal injuries (Dijksma et al., 2020), research addressing psychological factors remains limited. Consequently, this study seeks to bridge the gap by investigating the prevalence of resilience among Malaysian cadets.

Resilience has been extensively studied within military contexts (Taghva et al., 2020). However, there remains a notable gap in research focusing on resilience among Malaysian cadets. Cadets encounter substantial stress stemming from rigorous training, performance expectations, and the demands of a structured, disciplined environment, which can negatively impact their physical and mental well-being. Studies have shown that prolonged field training significantly deteriorates the psycho-emotional state of cadets, with junior cadets particularly affected due to their lower levels of emotional resilience (Zimnikov, 2024). Combat stress further compounds these challenges, as evidenced by the high prevalence of depressive symptoms among cadets involved in combat operations (Fitkalo & Arden, 2024). Moreover, coping strategies are pivotal in managing stress, with research highlighting that effective coping mechanisms can enhance both aerobic capacity and post-exercise recovery, emphasizing the importance of psychological training in optimizing performance (Jalowska et al., 2024). Consequently, addressing these stressors through enhanced training methodologies and robust psychological support systems is essential for preserving mission readiness and ensuring optimal performance among cadets (Zhukov & Evenko, 2024). Moreover, the well-being and success of cadets serve as critical indicators of an institution's training effectiveness; unresolved resilience issues may not only diminish individual performance but also jeopardize the organization's reputation and credibility (Britt et al., 2013; Taghva et al., 2020).

Dispositional resilience, as conceptualized by Bartone et al. (1989), refers to an individual's inherent capacity to withstand stress and recover from adversity, characterized by specific psychological traits. Bartone and colleagues explained that resilience comprises three components: commitment, control, and challenge. In military contexts, resilience encompasses the capacity of both military organizations and their personnel to endure, adapt to, and recover from challenges, crises, and adversities, all while preserving operational effectiveness and mission readiness (Britt et al., 2013). Resilience acts as a vital cornerstone for military personnel pursuing vocational callings, equipping them with the psychological and emotional resources essential for managing the challenges, uncertainties, and personal development inherent in a deeply meaningful career path (Navickienė and Vasiliauskas, 2024). Resilience involves cultivating healthy cognitive and mental well-being, with character strengths such as humility, fairness, and hope, alongside virtues like self-control and courage, playing a pivotal role in enabling military leaders, including U.S. military cadets, to recover and regain stability following trauma (Georgoulas-Sherry, 2021).

The study by Navickienė and Vasiliauskas (2024), offers valuable insights into the interplay between resilience, vocational calling, self-efficacy, and professional achievement, presenting a framework that could be critically examined and adapted in the context of the current research on the prevalence of resilience among military cadets. In current research, which primarily seeks to understand the prevalence of resilience rather than its conditional

pathways to professional achievement, the mediating mechanism of self-efficacy could still be pertinent. Resilience is viewed as a resource that cadets draw upon to navigate their training and future military careers. Resilience, similar to character strengths, is widely recognized as a quality that can be cultivated and enhanced over time (Joyce et al., 2018; Schutte & Malouff, 2018).

In summary, resilience is a critical factor influencing the physical, psychological, and operational well-being of military cadets. Although existing studies have shed light on the physiological and psychological challenges inherent in military training—such as stress, energy deficits, and sleep deprivation—there is a notable lack of research specifically addressing the prevalence of resilience among Malaysian cadets. This research seeks to fill this gap by exploring resilience as a fundamental quality that enables cadets to cope with the demanding nature of military training and their prospective careers in the armed forces. By examining resilience, this study aims to deepen the understanding of how it can be developed and strengthened to enhance training effectiveness, mission readiness, and organizational performance. The following research objectives define the core areas of focus for this investigation.

Research objective

1. To assess the prevalence of resilience among UPNM cadets.
2. To examine the significant differences between risk factors such as age, gender and race with resilience.

Research Methods

Research Design

A cross-sectional survey was conducted with 887 trainee cadets, selected through purposive sampling, to examine the prevalence of resilience development through military training at UPNM. The study was approved by the Ministry of Defence Malaysia, which provided a collaboration letter granting access to the military training centre. Ethical clearance was obtained from the Universiti Kebangsaan Malaysia Research Ethics Committee (Reference: UKM PPI/111/8/JEP-2023-100), and the research was funded by the Universiti Kebangsaan Malaysia FRGS/1/2022/SS09/UKM/03/2. Participants were given one hour to complete the distributed questionnaires, with opportunities to ask for clarification and take breaks as required.

Measurements

Resilience reflects personality hardiness, which describes an individual's characteristic approach to and interpretation of experiences. This study adopted the Dispositional Resilience Scale (Bartone et. al, 1989) as the measurement tool. The scale comprises three components: commitment, control, and challenge, and includes 45 items. Sample items from the scale include statements such as "I don't like to make changes in my everyday schedule" and "People who do their best should get full support from society". The scale demonstrated good internal consistency, with a Cronbach's alpha coefficient of 0.762.

Table 1 presents the Resilience cut-off scores as established by Bartone et. al (1989), based on the Resilience dataset he published, which categorises the scores as shown.

Table 1
Resilience Cut-Off Score According to HARDY: Bartone et. al (1989)

Low Hardy	Moderate	Hardy
1 – 15	16 – 30	31 – 45

Data Analysis

Data analysis was conducted using SPSS Statistics 26. Descriptive statistics, including frequencies and percentages, were utilized to summarize categorical variables. T-tests were performed to evaluate age and gender as risk factors, while ANOVA was applied to examine the risk factors associated with race.

Results

Demographic information

The participants consist of 887 trainee cadets, primarily aged 21 to 22 years old (n=514, 57.9%), predominantly male (n=801, 90.3%), and mostly Malay (n=809, 91.2%). Table 2.0 explained the frequency and percentages on the demographic information.

Table 2.0
The Results of the Descriptive Analysis for Frequency Distribution and Percentages based on Demographic Information Categorised by Resilience

Demographic	n=887	Percentages
Age		
19-21	514	57.9
22 and above	373	42.1
Gender		
Male	801	90.3
Female	86	9.7
Race		
Malay	809	91.2
Chinese	16	1.8
Indian	33	3.7
Others	29	3.3

The Prevalence of Resilience among Upnm Cadets

In evaluating the prevalence of resilience among UPNM cadets, age emerged as a notable factor. Within the challenge scale, most subdimensions were perceived as "moderate." Notably, cadets aged between 19 to 21 years also rated the challenge dimension as "moderate," reflecting a consistent trend among younger cadets in their perception of resilience.

Furthermore, the analysis of gender as a risk factor revealed that both male and female cadets viewed all subdimensions as "moderate." However, male cadets consistently recorded higher scores than their female counterparts, indicating a slight disparity in resilience levels across genders.

When examining racial differences, Indian cadets scored the highest compared to other races, perceiving the challenge scale as "moderate." Interestingly, Chinese cadets followed closely, scoring second highest and perceiving the commitment scale as "moderate." These findings highlight the nuanced ways in which demographic factors influence resilience perceptions among UPNM cadets. A comprehensive breakdown of these risk factors for resilience is provided in Table 3.0.

Table 3.0
Risk Factors for Resilience

Risk factors	Resilience	HARDY					
		Low		Moderate		Hardy	
		n	%	n	%	n	%
Age							
19-21	Commitment	11	2.1	425	82.7	78	15.2
	Control	8	1.6	391	76.0	115	22.4
	Challenge	79	15.4	434	84.4	1	0.2
21 and above	Commitment	13	3.5	260	69.7	100	26.8
	Control	6	1.6	255	68.4	112	30.0
	Challenge	58	15.5	314	84.2	1	0.3
Gender							
Male	Commitment	23	2.9	618	77.1	160	20.0
	Control	12	1.5	580	72.4	209	26.1
	Challenge	120	15	679	84.8	2	0.2
Female	Commitment	1	1.2	67	77.9	18	20.9
	Control	2	2.3	66	76.7	18	21.0

	Challenge	17	19.8	69	80.2	-	-
Race							
Malay	Commitment	22	2.7	619	76.5	168	20.8
	Control	13	1.6	580	71.7	216	26.7
	Challenge	125	15.5	682	84.3	2	0.2
Chinese	Commitment	-	-	15	93.8	1	6.2
	Control	-	-	14	87.5	2	12.5
	Challenge	2	12.5	14	87.5	0	0
Indian	Commitment	1	3.0	28	84.9	4	12.1
	Control	1	3.0	28	84.9	4	12.1
	Challenge	2	6.1	31	93.9	0	0
Others	Commitment	1	3.4	23	79.4	5	17.2
	Control	-	-	24	82.8	5	17.2
	Challenge	8	27.6	21	72.4	-	-

The Significant Differences between Risk Factors (Age, Gender And Race) With Resilience

Table 4.0 highlights a significant difference between age and several subdimensions of resilience, specifically the commitment and control scales, as demonstrated by the results of the T-test. Conversely, the T-test analysis found no significant differences between gender and resilience. Similarly, one-way ANOVA revealed no significant differences between race and resilience.

Table 4.0

The Differences between Risk Factors and Resilience

	Age t(df), p	Gender t(df), p	Race F(df_between, df_within) = F-value, p
Commitment	t(885), p = 0.001	t(885), p > 0.05	F(3,883) = 0.839, p > 0.05
Control	t(885), p = 0.016	t(885), p > 0.05	F(3,883) = 1.832, p > 0.05
Challenge	t(885), p > 0.05	t(885), p > 0.05	F(3,883) = 1.831, p > 0.05

Discussions

The findings of this study provide valuable insights into the resilience levels of UPNM cadets, with a specific focus on the challenge dimension of the Dispositional Resilience Scale (Bartone et al., 1989). The challenge scale, which evaluates an individual's ability to perceive difficult situations as opportunities for growth rather than threats, was rated as "moderate" across most subdimensions by cadets. This moderate rating suggests that while cadets demonstrate some capacity to embrace challenges positively, there is room for improvement in fostering

a stronger growth-oriented mindset, particularly given the demanding nature of military training.

A consistent pattern was observed across demographic groups. Cadets aged 19 to 21 years perceived the challenge dimension as "moderate," which aligns with their relatively early stage of military training and personal development. This finding is notable as it underscores the potential vulnerability of younger cadets to stressors due to their limited experience in coping with the rigors of military life. Effective interventions targeting this age group could be beneficial in bolstering resilience. Challenge refers to the capacity to perceive situations as opportunities for positive outcomes rather than as threats (Kobasa, 1984). Individuals with low levels of challenge are more likely to view situations as detrimental to their well-being. In contrast, resilient individuals with a hardy disposition embrace change as a challenge rather than a threat, finding satisfaction in tackling challenges in both their personal and professional lives (Sinha & Singh, 2009).

Gender analysis revealed that both male and female cadets rated resilience subdimensions as "moderate." However, males consistently scored higher than females. This slight disparity raises critical considerations about the differing resilience capacities between genders in military contexts. Male cadets' higher scores may reflect traditional gender norms prevalent in military settings, where males might face greater societal or institutional pressure to exhibit resilience (Deng et al., 2023). Conversely, female cadets may encounter distinct stressors and barriers within a predominantly male-dominated military environment, potentially influencing their resilience levels (Baumann et al., 2021; Dell et al., 2024). Moreover, research indicates that female cadets tend to exhibit greater hardiness and favor emotion-focused coping strategies. However, they also report experiencing more health-related symptoms, suggesting that their coping mechanisms may be shaped by the unique challenges of navigating such an environment (Bartone & Roche, 2023).

Regarding racial differences, Indian cadets recorded the highest scores in the challenge dimension, followed by Chinese cadets, who scored the highest in the commitment dimension. While the cultural and social factors contributing to these differences remain speculative, they may reflect variations in upbringing, societal expectations, or exposure to stress-coping mechanisms across different ethnic groups. These nuances highlight the need for culturally sensitive approaches in resilience-building programs to cater to the diverse cadet population.

The differences analyses provide additional context to these findings. While age was significantly different with the commitment and control dimensions of resilience, no significant differences were found between gender or race and overall resilience. The gender distribution is heavily skewed, with 801 male cadets compared to just 86 female cadets. This disparity may limit the ability to draw meaningful conclusions about gender differences in resilience. The overwhelming presence of male cadets in the sample may have led to a lack of statistical power to detect significant differences between genders, as the sample size for female cadets is relatively small. In a military context, where traditionally male cadets dominate, this skew in gender representation could impact how gender-related resilience factors are assessed and interpreted. The limited representation of females in military environments may result in a misunderstanding of their resilience needs, highlighting the

importance of adopting gender-sensitive strategies when assessing resilience (Erwin et al., 2024; Gettings & Hall, 2022). Additionally, the results align with previous research suggesting that male cadets in military settings might be subject to stronger societal or institutional expectations to demonstrate resilience, which could influence their self-perception and reporting of resilience subdimensions (Baumann et al., 2021; Dell et al., 2024).

Similarly, the racial distribution also shows an imbalance, with a significant majority of Malay cadets (809), and relatively fewer cadets from Chinese (16), Indian (33), and other racial backgrounds (29). This lack of diversity in the sample may have contributed to the insignificant findings in the analysis of race-related differences in resilience. These results suggest that while demographic factors may influence certain aspects of resilience, their impact may not be uniform across all dimensions of the Dispositional Resilience Scale. This warrants further investigation into other potential mediators or moderators, such as personality traits, socio-economic background, or prior exposure to adversity.

Conclusion

In conclusion, this study highlights the complex nature of resilience among Malaysian military cadets, emphasizing the importance of age as a significant differences factor resilience, particularly in the dimensions of commitment and control. While male cadets showed higher resilience scores than female cadets, the lack of significant findings related to gender and race suggests that the study's demographic composition may limit the interpretation of these factors. The underrepresentation of female and non-Malay cadets in the sample may have contributed to the inability to detect more substantial differences, pointing to the need for more balanced demographic representation in future research. The moderate levels of resilience reported across most cadets imply that, while cadets exhibit some capacity to adapt to the challenges of military training, there is substantial room for enhancing resilience through targeted psychological support and training interventions. To address these gaps, resilience-building programs at UPNM should focus on enhancing cadets' perceptions of challenges as opportunities for growth. Tailored interventions could target younger cadets and female cadets, addressing their unique stressors and providing strategies to strengthen their resilience.

Future research could expand on this study by incorporating qualitative and longitudinal approaches to provide a richer, more nuanced understanding of resilience. Qualitative methods, such as in-depth interviews or focus groups, could explore the personal experiences of cadets and offer insights into the processes that underlie resilience development. A longitudinal design could examine resilience over time, assessing how cadets' resilience evolves throughout their training and subsequent military careers. These approaches would complement the quantitative findings, allowing for a more comprehensive exploration of resilience and its development within military contexts. Additionally, future studies should explore other factors that may influence resilience, such as personality traits and prior life experiences, to provide a deeper understanding of how resilience can be nurtured in military settings.

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