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The Effectiveness of a Behavioural Competency Module in Military Training: Insights into Professional Behaviour Development

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ABSTRACT: The lack of empirical evaluation of behavioural competency training within military organisations has created a knowledge gap about the actual effectiveness of training interventions in changing personnel behaviour. The purpose of this article is to assess the effectiveness of the Professional Behavioural Competency Module in improving the level of behavioural competency of Other Ranks personnel in the Malaysian Armed Forces (MAF). This research was quantitative and used a quasi experimental research design with 60 participants divided into treatment and control groups. The intervention consisted of a structured training module with five core elements: digital professionalism, adaptive leadership, psychological resilience, integrity and accountability, and regimental identity. Data were collected by questionnaire using a five-point Likert scale measuring four competency constructs that is knowledge, skills, attitude and values. The results revealed that the intervention significantly enhanced the participants' competency level with the mean score increasing from 2.92 to 4.56. The paired-samples t-test analysis has further reaffirmed that the difference is statistically significant. Moreover, the differences between the treatment and control groups showed that the improvements achieved were actually the result of the introduction of the module, which increased the validity of the findings. Analysis at the construct level also showed improvements across all competency domains, with the greatest gains in knowledge and skills and the next largest in attitudes and values. Finally, the research suggests that a systematically developed Professional Behavioural Competency Module can significantly improve the competency levels of military personnel. The findings have important implications for the development of competency-based training within military organisations, and contribute to the strengthening of evidence-based approaches to military training.

1. INTRODUCTION

The evolving complexity and dynamism of the current military operational environment requires military personnel to have not only technical and tactical competencies but also behavioural competencies such as adaptive leadership, interpersonal communication, professional integrity and psychological resilience (Salas et al., 2012; Tenea & Tudorache, 2024). The advent

of hybrid threats, multi-domain operations and advanced military technologies has increased the need for personnel who can make effective decisions in high-risk environments. In the Malaysian Armed Forces (MAF), behavioural competencies have been identified as the key to improving operational readiness, professionalism and military identity. Moreover, successful transfer of training has a significant impact on improving personnel's cognitive readiness to handle the present operational challenges (Alim et al., 2025).

Military psychology and training research has consistently demonstrated a strong correlation between behaviour and psychological factors and military performance. Psychological resilience helps military personnel to deal with stress and uncertainty in operational environments (Bartone, 2021). Resilience can be an important factor in operational effectiveness and unit cohesion (Britt et al., 2016). Welyczko and Balcerzyk (2019) also pointed out that a modern military leader should have a combination of moral, functional and interpersonal competencies to effectively perform leadership responsibilities. Hence, behavioural competencies should be systematically developed through organized education and training programmes.

Recent studies have also found that experiential, simulation-based and interactive pedagogical approaches are more effective in developing behavioural competencies than traditional training practices that are heavily based on theoretical instruction (Salas et al., 2012). Role-play-based training significantly positively influences the development of decision-making skills, communication skills, and situational analysis in the context of conflicts (Horiacheva & Ryzhykov, 2024). The findings suggest that the development of behavioural competency requires contextual and reflective training approaches.

Behavioural competencies are increasingly being recognised as important within military organisations, however, most training programmes are still focused on technical aspects and behavioural change is rarely empirically measured (Grossman & Salas, 2011). Additionally, many of the previous studies were conceptual or perception-based survey studies and not based on research designs that can objectively measure the effect of training interventions. This lack of empirical evidence has created a significant gap in knowledge about the extent to which training in behavioural competency contributes to the professional development of military personnel (Blume et al, 2010).

There is little research on the effectiveness of behavioral competency training in the MAF context, especially quasi-experimental research with treatment and control groups. Thus, the study was conducted to evaluate the effectiveness of the Professional Behavioural Competency Module that was systematically developed using the Design and Development Research (DDR) approach. This study was a quasi-experimental study with pre-test and post-test design on 60 Other Ranks of the Malaysian Armed Forces to assess the changes in the competency levels after the training intervention.

The specific objective of the study was to evaluate the effectiveness of the module in improving professional behaviour competencies in four domains, namely knowledge, skills, attitude and values. The study also contributes to evidence-based training in military organizations by giving empirical evidence for the effectiveness of behavioral training intervention. Interest is growing in evidence-based approaches to training and human capital development because organisational development decisions should be informed by robust empirical evidence and scientific findings (Briner & Rousseau, 2011).

2. METHODS

The character of modern military operating environments is increasingly complex and dynamic, and this has resulted in significant changes in approaches to the development of human capital, particularly in the area of behavioural competencies. Military organisations are no longer dependent on technical skills only, but increasingly focus on the development of adaptive, emotional and social capabilities of personnel. In military organisations, 'behavioural competency' is defined as the totality of knowledge, skills, attitudes and values that enable personnel to perform their duties in a professional and effective manner in real operational environments. Boyatzis defined competency as the integration of cognitive, emotional and social dimensions that affect individuals' job performance. The development of behavioural competencies should therefore be viewed as a holistic process, integrating the development of professional knowledge, skills, attitudes and values of the military personnel.

In the area of training and development, the effectiveness of training is highly dependent on the degree to which training interventions lead to changes in cognitive learning, skills acquisition and affective outcomes. Kraiger, Ford and Salas (1993) have argued that training evaluation needs to include cognitive, skill-based and affective dimensions as behavioural change cannot be properly measured by knowledge acquisition alone. Similarly, Bell et al. (2017) found in their research on organisational training that training design, learning, training transfer and job performance are related. Effective training should

be planned systematically and include experiential learning, simulation and interactive activities, so as to increase the effectiveness of learning and the development of professional behaviour.

Competency based training is particularly important in military organisations because military personnel are required to make quick, accurate and ethical decisions in high risk environments. Training, as noted by Salas et al. (2012), needs to be systematically designed, evidence-based, and aligned to actual job requirements. More recently, Salas, Reyes and McDaniel (2023) argued that modern training programmes should combine scientific approaches, simulation technologies and contextualised learning, to ensure that competencies acquired in the training are transferred to actual job performance. The meta-analysis by Arthur et al. (2003) also revealed that the positive relationship between organizational training and learning outcomes, skill development and job performance is stronger when training programs are well-structured and relevant to the workplace context. There is a growing interest in competency-based training among military organisations as a means of linking training content to real operational needs.

Training transfer, the degree to which knowledge and skills learned in training are used on the job, is one of the big problems in training research. Blume et al. (2010) conducted a meta-analytic review and found training design, individual motivation and organisational support as factors influencing training transfer. Moreover, Grossman and Salas (2011) suggested that training will be effective when the learning outcomes are transferred to the workplace performance. Baldwin, Ford and Blume (2017) further argued that training transfer research should consider both user and organisational needs in order to deliver meaningful and applicable training outcomes in real work environments. Thus, transfer of training is an important aspect in research on training effectiveness and in the development of behavioural competency.

In addition to the transfer of training, the development of behavioral competencies in military organizations is closely related to psychological resilience and the ability to adapt to high-pressure situations. Hardiness, or psychological resilience (Bartone, 2021), is one element that can enhance military personnel's ability to cope with operational stress. Adler et al. (2015) also found that structured psychological training interventions within military organisations can improve mental resilience and personnel adaptability after exposure to high risk operational situations. Furthermore, Bekesiene, Vaitkute, and Hošková-Mayerová (2023) found a positive connection between hardiness and military performance, specifically in high stress and task demand situations. "These findings show that the development of behavioural competence is not only concerned with technical and procedural aspects, but also with the psychological development and resilience of military personnel.

Other social aspects such as communication, cohesion and interpersonal relationships also influence the development of professional behaviour in military organisations. According to Crouch et al. (2024), social relationship training for military units can improve communication and team cohesion. Similarly, Britt, Adler and Bliese (2016) argued that resilience in a military context should be viewed holistically as it is influenced by individual characteristics, organisational support and training experiences. Consequently, social and interpersonal dimensions should be included in training in behavioural competency, to prepare personnel to function effectively in team-based and organisational settings.

The development of attitudes and values is a particular challenge from an affective domain point of view in the sense that it requires the internalization of values within individuals. Krathwohl, Bloom and Masia (1964) defined affective learning as the processes of receiving, responding, valuing, organising and internalising values. Similarly, Alliger et al. (1997) argued that training outcomes should not only be evaluated at the reaction and learning levels but also include behavioural change and broader organizational outcomes. Professionalism in the military, and professional conduct in military organisations, include values of accountability, discipline and integrity.

The literature has demonstrated that competency-based training, training transfer and psychological development are important but empirical evidence is lacking in the Malaysian military context especially those that use quasi-experimental designs with treatment and control groups. Quasi-experimental designs are well suited for evaluating intervention effects in real world settings where complete random assignment is not possible (Shadish, Cook & Campbell, 2002). Therefore, the effectiveness of behavioral competencies training in military organizations needs to be empirically assessed to further strengthen evidence-based training development and practice.

3. RESULTS AND DISCUSSION

3.1 Research Design

This study aimed to evaluate the effectiveness of the Professional Behavioural Competency Module among the Malaysian Armed Forces (MAF) personnel using a quantitative approach with Quasi-experimental Research Design. The design was chosen in accordance with principles of research design that emphasize congruence of research objectives, research questions, and methodological approaches. The choice of a research approach should be guided by the purpose of the study as well as the design's ability to systematically address the research questions (Creswell, 2014). A quasi-experimental design was adopted for this study as it enables researchers to evaluate the effects of an intervention in a real-world organisational setting.

The intervention was a Professional Behavioural Competency Module consisting of four competency domains: knowledge, skills, attitudes and values. The module was delivered by five selected trainers and was carried out in a structured way through various learning activities such as simulations, group discussions and experiential learning exercises. This is aligned with learning principles focusing on social interaction and contextualised learning in organisational settings (Miles, 2012). Additionally, the study was conducted in a real organisation, which increased the practical relevance and applicability of the results.

3.2 Population and Sample

The study population was Other Ranks (ORs) personnel of the Malaysian Armed Forces (MAF) serving in the Malaysian Army, Royal Malaysian Navy and Royal Malaysian Air Force. The target population was selected to be the Other Ranks personnel as they are the largest group of the MAF organisational structure and they are the primary target group for the implementation of the Professional Behavioural Competency Module.

The study respondents were 60 Other Ranks personnel from Private to Lance Corporal selected through purposive sampling. Inclusion criteria for participants were active membership of the MAF, early stage of military service, no previous formal behavioural competency training, and current participation in organisational training programmes. These criteria were developed to ensure the characteristics of the participants were aligned with the aims of the intervention. Purposive sampling was adopted as the study required participants with certain characteristics relative to the study objectives. This method allows researchers to pick participants who are most likely to offer information that is relevant and meaningful to the study, as suggested by Patton (2015). Then, participants were divided into treatment group ($n = 30$) and control group ($n = 30$). This allocation enabled the comparison of pre-test and post-test scores to ascertain the effectiveness of the Professional Behavioural Competency Module in improving the behavioural competencies of participants.

3.3 Research Tool

The data were collected through a questionnaire instrument with a five-point Likert scale which was designed to measure the level of professional behavioral competency in the four domains of knowledge, skills, attitudes and values. The instrument was developed from the professional behavioural competency constructs identified in the needs analysis and literature review of competency-based training in military contexts.

The content validity of the instrument was assessed by experts by using the Content Validity Index (CVI) and the reliability of the instrument was assessed by Cronbach's Alpha analysis by using a pilot study. The results showed that all constructs achieved Cronbach's Alpha values above 0.70, indicating an acceptable level of internal consistency and reliability (Hair et al., 2019). The instrument has four major constructs; knowledge, skills, attitudes and values which were assessed by items specifically designed to evaluate the professional behavioural competencies of Malaysian Armed Forces personnel.

3.4. Data Collection

The data collection procedure was conducted in two main phases, pre-test and post-test. This method allowed the researcher to evaluate the differences in the pre- and post-intervention. The most effective way to evaluate cause-and-effect relationships in social research involves using research designs that include both pre- and post-intervention measures (Teddle & Tashakkori, 2009). This study adopted a quantitative approach. However, the principle of multiple methods was also taken into account in order to strengthen the research design.

3.5. Data analysis

The data collected were analysed using descriptive and inferential statistics for the purpose of finding out the level of competency change among the participants. The analysis involved comparisons of scores of the pre- and post-test and between the treatment and control groups. This approach is consistent with the Kirkpatrick and Kirkpatrick (2006) model for training evaluation which stresses the importance of assessing learning and behaviour changes following the delivery of a training intervention. Quantitative research requires the use of appropriate statistical techniques to ensure that the findings are valid and significant (Awang, 2015). Normality testing prior to the inferential analysis showed that the values for skewness and kurtosis for all groups were between -2 and $+2$, confirming that the data met the assumptions of parametric analysis. Finally, the study methodology was systematically and structured developed to ensure the validity and reliability of the research findings. The use of a quasi-experimental design, validated instruments and appropriate statistical analyses allowed the study to provide robust empirical evidence about the effectiveness of the Professional Behavioural Competency Module in the military context.

4. CONCLUSION

4.1 Participants' Profile and Context of Implementation

The study involved a total of 60 participants, Other Ranks personnel, specifically Privates. The profile of the participants showed that most of them were between the ages of 20-29 and had 1-5 years of service. This indicates that the participants were at the start of their military professional development and as such were a good target group for behavioural competency development interventions.

From the perspective of human resource development, this group is a critical stage in the formation of professional values and identity, as they are still in the process of adapting to the culture of the military organisation. Such interventions adopted at this stage can be thus a source of long-term influences on their behavior and performance.

In terms of education, most of the participants were SPM and Diploma holders. The service branches of the participants were from the Malaysian Army, Royal Malaysian Navy and Royal Malaysian Air Force. The diversity in backgrounds implies a high level of applicability of the study findings to the Malaysian Armed Forces as a whole. It shows that the developed module is universal and it is not limited by one service branch.

The module was implemented intensively for a period of five days with the involvement of five experienced trainers. The training programme was methodically structured around five main topics: Digital Professionalism, Adaptive Leadership, Psychological Resilience, Integrity and Accountability, and Regimental Identity. This method did not only allow for the delivery of all content but also provided a progressive and integrated learning process to the participants.

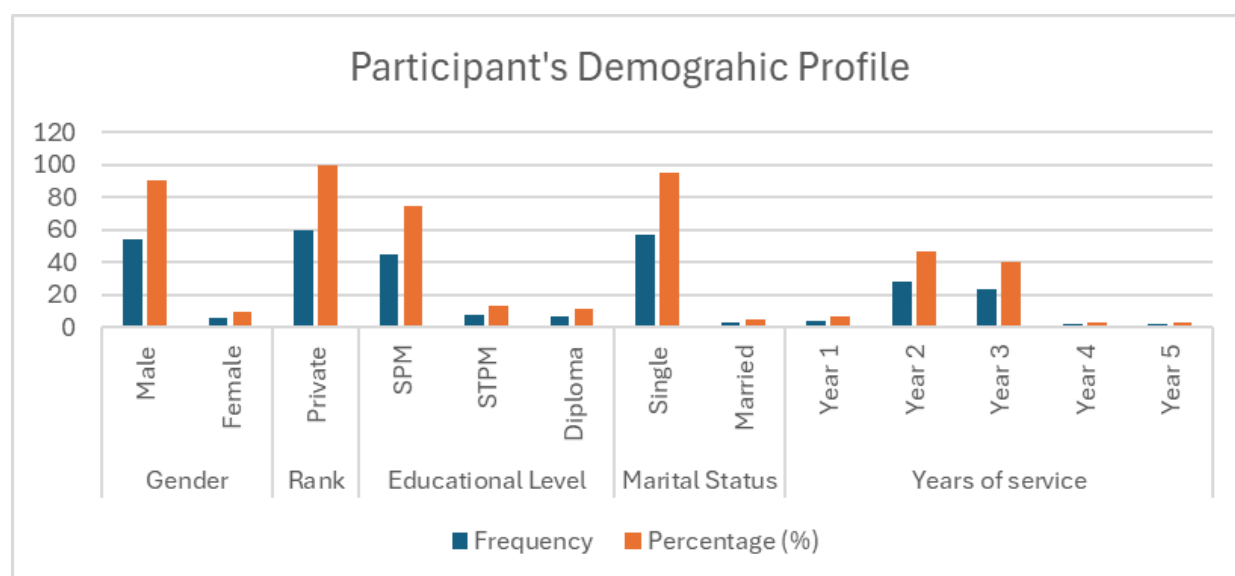


Figure 1: Participants' Demographic Profile

The demographic profile of the participants is presented in Figure 1. The majority of the participants were male (90.0%) and single (95.0%), which is the typical composition of Other Ranks personnel in the early stages of service in the Malaysian Armed Forces. All participants were Privates (100.0%), reflecting the study's focus on entry-level staff. In terms of educational background, the majority of them possessed Malaysian Certificate of Education (SPM) qualification (75.0%) followed by Malaysian Higher School Certificate (STPM) and diploma qualifications. In terms of length of service, most of the participants had between 2 and 3 years of service (86.7%), indicating that they were in the early phase of their military careers. This is another argument in favor of the module's appropriateness in the development of professional behavioural competencies in the first stage of military service.

4.2 Comparison of Treatment Versus Control

The treatment and control groups were compared and were found to be similar at the pre-test level. This is an important finding because it shows that both groups were similar at baseline before the intervention was introduced. This means that any changes observed after the intervention can be attributed to implementation of the module and not to other factors.

After the intervention, the treatment group demonstrated significantly better results than the control group. The control group demonstrated only minimal changes, likely attributable to typical learning effects or other extraneous factors unrelated to the module. The significant difference between the two groups provided strong evidence that the Professional Behavioural Competency Module developed in this study had a significant impact on improving the participants' levels of competency.

From the internal validity standpoint, the results increase the credibility of the study, as the quasi-experimental design was able to control for extraneous variables. This shows that the changes observed in the treatment group were due to the intervention implemented and were not affected by other factors such as work experience or exposure to external training programmes.

4.3 Descriptive Statistics of Pre and Post Test Scores

The descriptive analysis revealed that the level of professional behavioural competency before intervention was at moderate level with the overall mean score of 2.92. This suggests that the participants were at a basic level of competency but there was still much room for improvement particularly in terms of professional behavioural competencies.

The implementation of the module resulted in a significant improvement with the mean score increasing to 4.56. This difference indicates that the module was successful in enhancing the participants' competency level in all domains – knowledge, skills, attitudes and values.

From a practical point of view, this improvement indicates that the intervention had an impact not only on the understanding of the participants but also on their behavioral dimensions. This suggests that the module served not only as a means of information dissemination but also as a vehicle for behavioural change.

Table 1: Pre-Test and Post-Test Descriptive Statistics

Overall mean value	Mean	Mean difference	t	Sig. (2-tailed)
Pre-Test	2.92	1.64	-14.93	0.00
Post-Test	4.56			

Table 1 shows the descriptive statistics, which indicate a significant increase in the mean score, from 2.92 (pre-test) to 4.56 (post-test), with a mean difference of 1.64. The -14.93 t-value and $p = 0.00$ significance level show that this improvement was statistically significant.

4.4 Inference Analysis: Efficiency of the Module

The results of paired-samples t-test showed a significant difference between pre-test and post-test scores of the treatment group ($t = -14.93$, $p < 0.05$). Mean difference of 1.64 indicates large effect size.

These results suggest that the Professional Behavioural Competency Module developed in this study was statistically effective, and also yielded a significant practical impact. The high t-value suggests that the observed improvement was not restricted to a small number of participants only, but that the improvement was present across participants.

4.5 Analysis with Competency Constructs

Further analysis of the study findings revealed that there were significant improvements in all the assessed constructs of professional behavioural competency, which consisted of knowledge, skills, attitudes and values, after the implementation of the module. These improvements are not only an indicator of the effectiveness of the module in terms of content delivery, but an indicator of the effectiveness of the pedagogical approach employed affecting the participants' behavioural dimensions in a comprehensive manner.

With respect to the knowledge construct, the increase observed was the greatest in magnitude of change, rising from a mean score of 2.55 to 4.49. This increase of almost two points shows that participants not only gained new knowledge, but also obtained a clear understanding of the essential concepts related to professionalism and organisational behaviour. This finding suggests that the module was able to present content in a clear, structured and contextually relevant manner.

In terms of the skills construct the increase from 2.58 to 4.52 shows that the participants were able to apply the knowledge acquired. They included communication, leadership, problem solving and decision making skills. This finding is especially important because practical skills are the main factors of operational effectiveness in the military context. Therefore, improvement of this construct indicates that the module not only improved theoretical understanding but also positively affected the ability of participants to perform well in real life situations.

The construct of attitudes also increased from 3.35 to 4.62. The change was substantial and meaningful, but the magnitude of the improvement was less than that of the other constructs. Attitudes are an affective element that is often difficult to change in the short term. The results show that the module has been successful in changing the perceptions, beliefs and behavioural tendencies of the participants in a more positive direction.

For the values construct, the increase from 3.21 to 4.64 shows a substantial improvement in integrity, accountability and professional ethics. Values are the basis for long-term behavioural development and the improvement observed in this construct implies that participants had started to internalise the principles of professionalism. This is a major achievement since changes in values usually need a long time and a lot of experience to develop. However, the module managed to speed up this process through the use of a systematic training methodology.

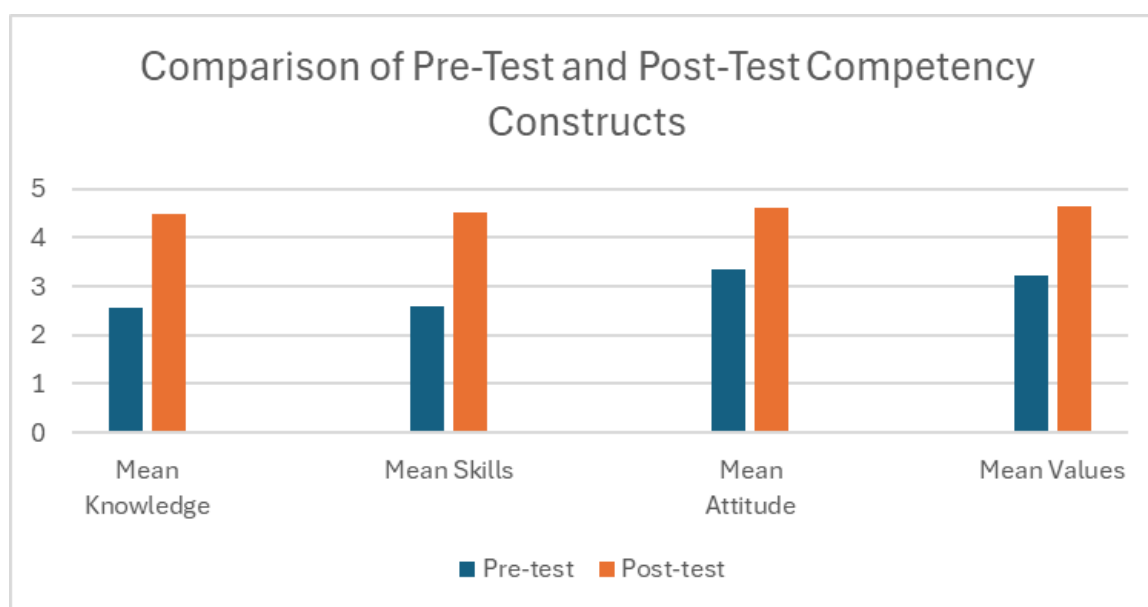


Figure 3: Comparison of Pre-Test and Post-Test Competency Constructs

The results of the intervention are presented in Figure 3, which shows a significant increase in all the competency constructs. There was a significant increase in the mean scores of knowledge, skills, attitudes and values compared to the pre-intervention phase. These results demonstrate that the module was effective in improving various aspects of professional behavioural competency of the participants in a uniformed manner.

5. DISCUSSION AND CONCLUSION

5.1 Discussion

The results of this study indicate that the Professional Behavioural Competency Module was effective in significantly improving the competency level of the participants after the intervention. The overall mean score went up from 2.92 during the pre-test to 4.56 in the post-test, which shows that the developed module was very effective in strengthening the behavioural competencies of military personnel. The increase in competency levels could be attributed to the experiential learning and simulation-based approaches integrated within the module. Active involvement of the participants in reflective activities, operational scenario simulations and group discussions facilitated contextualised learning and thus improved their ability to relate learning experiences to real work situations. This finding is in line with the findings of Bell et al. (2017) who argued that experiential learning facilitates transfer of training and development of professional behaviour in high risk organisations. The large difference observed indicates that competency-based training approaches can be used to affect the holistic professional development of personnel, particularly in military training contexts where integration of cognitive, skill-based and affective dimensions is required. These findings are also consistent with Salas et al. (2012) who stated that the systematically designed and evidence-based training programmes can improve the learning effectiveness and individual performance in organisations.

Furthermore, Bell et al. (2017) asserted that training should integrate experiential learning, simulation and contextual activities to ensure that participants understand and apply learning in a meaningful way. The module was designed in the present study with a strong emphasis on interactive activities, group discussions and simulation exercises that actively engaged the participants in the learning process. This could have been an important factor in the improvement of the participants' competency levels after the intervention. In the military context, building behavioural competencies requires training that is very similar to real operations because soldiers are often required to make decisions under pressure, uncertainty and high risk. So, the use of simulation-based and reflective approaches in this module might have led to a better learning effectiveness than traditional lecture-based methods. Arthur et al. (2003) also argued that the effectiveness of organisational training depended on the degree of fit between training design and real workplace situations. Thus, the competence improvements identified in this study support the proposition that systematically developed competence-based training can increase the professionalism of personnel in military operational environments.

Comparison of the treatment and control groups suggests that the changes in competency observed were due to the module intervention rather than simply being influenced by external factors. In the pre-test phase, there were no significant differences between the two groups, indicating that the two groups had no significant differences in competency before the intervention. However, following the implementation of the module, the treatment group showed a significant improvement compared to the control group. This result suggests that the module developed had an immediate effect on the improvement of the participants' behavioural competencies.

These results are consistent with Shadish, Cook and Campbell (2002) who argue that quasi-experimental designs are appropriate for evaluating intervention effectiveness in real-world settings, particularly where full random assignment is not feasible. According to Creswell and Creswell (2017), the use of treatment and control groups also enhances the internal validity of a study since the changes can be linked to the intervention put in place. The findings lend empirical support to the idea that the development of behavioural competencies in military organisations can be enhanced through systematically planned and evidence-based training in this respect. Results also suggest that traditional training in the absence of targeted approaches may be less effective at producing large competency gains in military personnel.

Results also indicated significant improvements in the knowledge and skills constructs after participants completed the training module. The improvement of domain knowledge suggests that the participants gained more knowledge about concepts related to professionalism, adaptive leadership, integrity and behavioural competencies in the military context. Similarly, the enhancement in the skills area indicates that the participants not only comprehended the concepts learned but they were also able to apply them in training situations and in their professional interactions.

Kraiger, Ford and Salas (1993) argue that change in cognitive learning and skills acquisition are the two dimensions upon which broader behavioural change is based, and therefore use these two dimensions as the measure for training effectiveness. In this sense, the advances in knowledge and skills show that the module developed was successful in allowing meaningful and practical learning. Salas et al. (2012) noted that effective training should relate the learning content to real work situations so that the transfer of learning to the job performance can happen. The inclusion of simulations, case discussions and experiential learning

activities within the module may have helped participants understand how to apply behavioural competencies in real operational contexts.

Structured organisational training is also positively related to improvements in skills and job performance (Arthur et al., 2003). Thus, the gains of the constructs of knowledge and skills of this study suggest competency-based training could help personnel to develop a more comprehensive understanding of military professionalism and thus improve their ability to perform their roles effectively.

Besides the knowledge and skills, the study findings also showed increases in the attitudes and values constructs after the implementation of the module. Changes within these affective domains are particularly important as behavioural competency is not only about the acquisition of knowledge and technical skills but also about the development of professional attitudes, integrity and accountability among military personnel. The importance of military attitudes and values is crucial to discipline, compliance, responsibility and professional identity.

According to David Krathwohl et al. (1964) affective learning is a process of receiving, responding, valuing, organising and finally internalising values until they become a part of an individual's behaviour. As a result, changes in attitudes and values are generally more difficult to effect than changes in knowledge and skills, because they involve a deeper process of internalisation. However, the study results of increased affective and value scores indicate that the module may impact participants' affective domains through reflective and contextualised learning approaches. The gains in the attitudes and values constructs were less than the gains in knowledge and skills but the results are still significant and consistent with the affective learning literature.

Changes in the affective domain usually occur over a longer time period because they involve the internalisation of values and the development of professional identity (Krathwohl et al., 1964). Thus, the improvements reached in the relatively short intervention period show that the module has a considerable potential to impact on the participants' affective development. The findings support Boyatzis (2008) theory of competency that the development of professional competency is the simultaneous integration of cognitive, emotional and social dimensions. The present study shows that competency-based training enhances knowledge and skills but also affects the affective domain such as professional attitudes and values.

Boyatzis (2008) also pointed out that competency is about the interaction of cognitive, emotional and social dimensions that impact professional behaviour. Also Alliger et al. (1997) argued that training effectiveness should not be assessed only at the reaction and learning levels but should be linked to behavior change and broader organizational outcomes. Thus, the observed improvements in the attitudes and values domains indicate that this module has the potential to contribute to a more holistic development of military professionalism, especially in the areas of integrity, discipline and accountability.

An important aspect of this study is the module's ability to promote transfer of training, i.e. the degree to which learned knowledge can be converted into actual behavioral change and job performance. Training transfer is influenced by training design, participant motivation and organisational support (Blume et al., 2010). Grossman and Salas (2011) also pointed out that training is not successful unless the learning is transferred to real-world work environments. The improvements observed in all competency constructs in the context of this study indicate that the developed module has the potential to affect the professional behaviour of personnel in executing their actual duties.

Baldwin, Ford and Blume (2017) state that training programs with alignment to organisational needs and workplace realities are more likely to have effective training transfer. The module used in this study was developed based on an organizational needs analysis and considering the operational context of the Malaysian Armed Forces (MAF) thereby increasing the probability of transferring learning into actual workplace practices. The findings indicate that competency-based behavioural training can be an integral part of the MAF human capital development strategy in enhancing personnel professionalism, operational readiness and overall effectiveness in the future.

5.2 Conclusion

Overall, this research had successfully proved that the systematically developed Professional Behavioural Competency Module is able to significantly improve the behavioural competency level of Other Ranks personnel in the Malaysian Armed Forces (MAF). The findings showed that there were significant improvements in all the competency constructs measured (knowledge, skills, attitudes and values) after the intervention was implemented. Moreover, the differences between the treatment and control groups confirmed that the observed changes were due to the implementation of the training module. The effectiveness of the module implies that a competency-based training approach, involving experiential learning, psychological development,

and affective domain components, could help in strengthening military professionalism more holistically. Thus, the study provides empirical evidence that the development of behavioural competency is a critical element of enhancing readiness, professionalism and operational effectiveness in modern military organisations.

From a theoretical perspective, the results support the competency theory of Boyatzis (2008), which stresses that the development of professional competency requires an integrative holistic approach of cognitive and emotional and social dimensions. Moreover, the results support the theory of training transfer, which says that contextualised and experience-based training is more likely to lead to behavioural change and improve real job performance. From a methodological point of view, the present study adds to the military training literature through the application of a quasi-experimental design with treatment and control groups in a real military organisational setting. This approach gives more robust empirical evidence of the effectiveness of training interventions as compared to studies based solely on perception-based surveys. In practical terms, the developed module can serve as a model for the training of behavioral competencies in the Malaysian Armed Forces, particularly in enhancing professionalism, adaptive leadership, psychological resilience, and the professional identity of future personnel. In terms of implications, the study has made a meaningful contribution to the development of evidence-based training in the Malaysian Armed Forces particularly in improving the human capital development and professional behavioural competencies of the personnel. The developed module can be integrated into future military training systems in the framework of a structured training approach, especially in the development of adaptive leadership, psychological resilience, integrity and professional identity. However, this study was limited to Other Ranks personnel in a specific training context and the intervention period was short. Future research should therefore focus on larger sample sizes, personnel from different rank levels and longer evaluation periods to more comprehensively assess the long-term effectiveness of the module on behavioral change and on operational performance of military personnel.

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Data Availability Statement: The data supporting the findings of this study can be obtained from the corresponding author upon request.

Conflicts of Interest: The authors declare no conflicts of interest.

Author Contributions: The research was conceptualized by S.K., while M.S.A. was responsible for the methodology. S.K. carried out validation, and M.S.A. led the investigation and resource management. Data curation was conducted by S.K., with M.S.A. drafting the original manuscript. N.I.Z. contributed to the review and editing process. S.K. handled visualization, and M.S.A. provided supervision. All authors have reviewed and approved the final version of the manuscript for publication.

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