PSYCHOLOGICAL FACTORS CONTRIBUTING TO SELECTION SUCCESS IN INFANTRY RECONNAISSANCE TRAINING: AN EXPLORATORY STUDY

BY

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DECLARATION

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ABSTRACT

Operations during both war and peacetime require military personnel to be proficient in a wide range of skills, which calls for high physical and psychological stamina. Mental fitness plays a crucial role in helping soldiers adjust to occupational demands. The determinants and effects of an intensive military selection experience on a selected group of military practitioners were studied. This thesis presents the findings from a quantitative grounded research conducted with military personnel undergoing a reconnaissance selection and training programme. This research highlights the unique military training environment and psychological factors that contribute to coping with the challenging stressors posed by the dynamics of reconnaissance military selection and sebsequent training. The primary variables under research were psychological well-being, resilience, grit, and self-efficacy. An exploratory research design was used with a quantitative approach. Valid and reliable psychological assessments were used to collect data. These psychological assessments included Ryff's Scales of Psychological Well-Being, the Grit Scale, the Generalized Self-Efficacy Scale (GSES), the Resiliency Questionnaire for Adults. The sample of the study consisted of a total of 158 soldiers undergoing reconnaissance selection at Infantry School, who were assessed at the beginning of the selection period. The results indicate no significant differences between successful and unsuccessful reconnaissance candidates in their levels of perceived psychological well-being, grit, and resilience. However, there was a significant difference between their perceived levels of self-efficacy.

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DEDICATION

I dedicate this dissertation to my late grandmother as well as to my family oTshezi zingangalala.

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LIST OF ABBREVIATIONS

CR = Combat Readiness

DRC = Democratic Republic of Congo

GOC = General Commanding Officer

GS = Grit Scale

GSES = Generalized Self-Efficacy Scale

PESTEL = Political, Economic, Social, Technical, Legal and Ecological

PLS = Smart Partial Least Squares

PTSD = Post-Traumatic Stress-Disorder

Recce = Reconnaissance

RQA = Resiliency Questionnaire for Adults

SANDF = South African National Defence Force

SPSS = Statistical Package for Social Sciences

UN = United Nations

CHAPTER 1: INTRODUCTION

1.1   INTRODUCTION AND BACKGROUND TO THE STUDY

The constitutional purpose of the military is the protection of the country from external military aggression (Constitution of the Republic of South Africa, 1996). This necessitates the military ensuring the development and maintenance of highly-trained and skilled personnel to ensure the successful execution of its mandate. In the past, military forces were intensively prepared and trained especially for conventional warfare, which was regulated by specific rules of engagement that outlined aspects about the conditions, circumstances, and degree of force used during war and combat (Frost-Nielsen, 2018). War then principally involved states and governments, who used military forces to fight for territory, followed military logic and formal rules to gain territorial power, and military structures and personnel were the primary targets (Mello, 2014). However, there has been a gradual change and transformation of the nature of wars and military operations, resulting in the evolution of concepts such as 'peace operations' and 'new wars', commonly known as 'urban warfare'.

Firstly, peace operations are aimed at containing conflict in civil conflict-ridden countries such as the Democratic Republic of Congo (DRC), Syria, South Sudan, Iraq, Iran, and the Central African Republic (CAR), to mention a few. The mandate of a peace operation is to restore peace and further shape the environment to support, rebuild, and facilitate the transition to stability and legitimate governance. Peace operations are directed at preventing violence and protecting civilians against harm (Williams, 2013; Heneicken & Ferreira, 2012). Within peace operations are mission-specific operations, including

peace-keeping, peace-enforcement, peace-building, and conflict prevention. The most common operations in the African continent are:

(a) peacekeeping, aimed at ending existing violence while facilitating peace agreements, and

(b) peace-enforcement, which is usually implemented as an aggressive approach during conflict for ensuring compliance to peace resolutions by using authorised force and coercive measures. This usually requires military force and is best achieved by heavily armed forces (Williams, 2013).

Secondly, new wars are characterised by the absence of rules of engagement due to the complexity of parties involved in combat operations. The multidimensionality of military operations now involves non-state actors (child soldiers), greater civilian-to-combatant casualties, a greater involvement of mercenaries, social obligations to promote and support peace, and the use of tactics such as terrorism (Gilbert, 2003). Mello (2014) notes that there are three distinct features of new wars, which include how conflicts are financed, the underlying motives, and the use of non-state actors and violence against the civilian population.

Based on the aforementioned regarding the operational complexities, the dynamics of war have and will continue to change. Given the changing nature of operations, new wars have resulted in military personnel engaging in peace operations, peacekeeping, peace enforcement, nation-building, disaster response, counter-insurgency, and traditional combat operations. Thus, military personnel are exposed to combat situations that test far beyond physical strength and ability but also psychological capital, well-being and

mental endurance, social resilience, and work-family life during such operations (Dodd, 2016). This is because of unpredictable working environments where roles are ambiguous and increasingly specialised and operations change quickly with exposure to hostile forces such as rebel groups, injured civilians and land mines, extension of missions operations, combat stress reaction, to mention a few (Bartone, Kelly & Matthews, 2013; Malantowicz, 2013).

The military work environment has become a multidimensional occupation given that the South African National Defence Force (SANDF) is currently involved in various United Nations (UN) and African Union (AU) missions in the African continent, which include mostly peace operations in countries such as the DRC, Sudan, and Burundi. These advances show the increased operational tempo which also indicates chances of increased exposure to trauma in operations, which has also resulted in the extension of the deployment period from six to 12 months.

Recently, the SANDF has been involved in providing disaster relief and humanitarian aid to neighbouring countries like Mozambique during hurricanes Idai and Kenneth in 2019. In addition, military forces have been deployed nationally within the Western Cape, in particular Cape Town, on a joint interdepartmental operation with the South African Police Services (Prosper) to combat gangsterism and poaching in the region (Felix, 2019). This is evidence enough of the demanding nature of contemporary military operations and activities.

Military training is known to be physically rigorous, taxing, and intense due to the nature of work done by soldiers. A military work environment is characterised by constant changes, uncertainty, volatility, complexity, and ambiguity of conditions and situations (Gala, Goodman, Murphy & Balsam, 2012). This has created the perception that all military training mainly requires physical strength and agility only. A key criterion during military enlistment is physical fitness. This is typically evaluated through a fitness and medical test. Subsequently, the focus on physical strength negates the uniqueness of tasks and extreme conditions under which military forces may at times be expected to operate. However, effective performance under these conditions has proven to require high levels of both physical and psychological competence (Gala et al., 2012).

Physical endurance and strength are commonly used as criteria in the selection of specialised infantry military training such as the Reconnaissance (Recce) training program. Recce specialists are versatile and agile military assets capable of providing discreet surveillance and intelligence of other states' security forces. They operate as small, readily deployable units that capitalise on speed and concealment in attaining intelligence. Their unique skills, training, and capabilities allow decision-makers to tailor responses accordingly, considering the composite nature of today's international security environment. A carefully selected, well-equipped, and highly-trained Recce specialist is valuable for the armed forces (Zazanis, Hazlett, Kilcullen & Sanders, 1999).

1.2   RECONNAISSANCE SELECTION PROCESS

The military has a vested interest in reducing the loss of individuals to preventable injuries and illnesses in its selection and training programs, so those with the physical, mental, and motivational capabilities to serve can do so.

Gruber, Kilcullen and Iso-Ahola (2009) argue that military training is aimed at skills development and the mastering of technical proficiency, strength, professionalism, and enhancing team cohesion. The Recce selection program is demanding, not only physically but mentally. Repeated high levels of stress (e.g., sleep deprivation) can take their toll and break soldiers' will, causing them to be unsuccessful in the selection program. Bandura (1997) asserts that the level at which one copes with the demanding stressful nature of the selection has a significant influence on the ongoing coping mechanisms and overall health and well-being.

Members who report to the South African Infantry School to participate in the Recce selection are welcomed by the instructors and thereafter briefed on the procedure. Following the registrations and administrative procedures, candidates are given numbers which they keep for the duration of the exercise. Candidates are referred to by their candidate number, not their name, and are treated in a professional but distant manner by the instructors. They do not smile, exchange pleasantries, or encourage the candidates in any way. The instructors also do not tell the candidates whether they are meeting the standards for selection, and this ambiguity puts even more pressure on the candidates to give everything they have. The treatment of candidates reflects the fact that a Recce specialist must be self-motivated and mentally tough. They must be able to excel in situations where feedback, external reinforcement, and supervision is absent.

Table 1.1 explains the different components of the selection process starting from the generic fitness evaluations, endurance walk, two-day survival, marble run, and concluded by an obstacle crossing.

Thereafter, the board of instructors tally the scores and give feedback to the successful candidates. Some candidates voluntarily withdraw by handing back their number, while others quit due to illnesses and injuries. Candidates who have succeeded are enrolled in the eleven-week learning programme, which usually commences a month or two after the selection.

Table 1.1: Selection components

Test	Event	Distance	Time
1. Physical fitness evaluation	Run	2.4km	7minutes
	Push-ups	45	2minutes
	Sit-ups	45	2minutes
	10 Relay-shuttle runs	24m	60seconds
	Walk	4km	20minutes
2. Endurance walk	Full-battle equipment with total weight of 35kg	8km	Unspecified
3. Survival	Day and night navigation	Unspecified	48hours
	Full battle kit		
	No food supply		
	Sleep deprivation		
4. Endurance run	Run with 40kg marble	2.4km	Unspecified
5. Obstacle crossing	Jumping	Unspecified	Unspecified
	Crawling		
	Climbing		
	Balancing		
	Running		

The physical fitness level required for Recce specialists is higher than that of a general soldier due to the diverse nature of military missions to which they are exposed and the heavy load and equipment carried during operations. Currently, members must perform missions in harsh environments over long periods (Roy, Springer, McNulty & Butler, 2010).

Most candidates who have undergone the training and completed have the same answer when asked how they made it through: "you need to switch off". This entails using more than their physical strength, as the concept of 'switching off' is the process of using personal intra-psyche resources to motivate completing the selection and training. Therefore, it is necessary to understand these psychological resources.

Despite the multidimensionality of the selection process, the greatest emphasis is on physical fitness. DeMatteo, White, Teplitzky and Sachs (1991) found that several motivational attributes were related to success in military training. Kilcullen, Mael, Goodwin and Zazanis (1999) examined the contribution of various cognitive abilities (attention, memory, decision-making, and judgement), temperament factors (adaptability, distractibility, sensitivity, and persistence), and physical fitness indices to special force soldiers' on-the-job performance and found that performance was predicted more by temperament (personality) variables than physical strength. Bandura (1997) proposed that these variables include psychological factors (self-efficacy, hardiness, and perseverance) that either individually or combined enabled a soldier to pursue his or her goals and react positively in the face of threats and challenges.

By extension, this view advocates for the expansion of reconnaissance selection to focus on more than the physical component of fitness. The components of physical fitness are discussed below.

Hartmann, Sunde, Kristensen and Martinussen (2003) advocate that while physical capabilities are still a prominent prerequisite for military occupations, many organisations select in/out by screening candidates based on intelligence, personality, and other attributes. A study has found that in situations like military training selection processes, personal motivation emerges to overrule candidates' physical preparedness (Hartmann et al., 2003).

This highlights the importance of psychological factors and their pivotal role in enhancing performance. Heckman and Clay (2005) posit that employee well-being is receiving increasing attention due to the effects of work and family stressors. This indicates that the focus is on building sufficient psychological strength to cope with the demands of the given environment with ease. Psychological factors such as resilience, hardiness, courage, grit, hope, and optimism contribute immensely to the innate protection or buffer against the negative effects of occupational stressors and lead to better adjustment in challenging situations (Herrmann et al., 2011).

According to Martin, Williamson, Alfonso and Ryan (2006), adjustment during stressful events is a process that commences with a cognitive and affective appraisal of the event. Furthermore, the effects of these perceptions on the individual's level of well-being are determined by the effectiveness of the coping strategies they enact to deal with the event. Both appraisal and coping are influenced by the personal and environmental resources to which the individual has access (Bartone, 1999).

There is increasing evidence that personality factors play a key role in determining human performance in a variety of contexts. This may be particularly relevant in settings that are highly stressful, challenging, or even pose a threat to physical well-being, such as military training, deployments, operations, and exercises (Martin et al., 2006).

For instance, an extensive body of research has shown that hardiness buffers the effects of stress, which ultimately results in better performance under stress in several domains and occupations, such as the:

- Military (Maddi et al., 2012; Barton, 2006)

- Sport (Maddi & Hess, 1992; Hanton, Neil, & Evans, 2013)

- Academia (Sheard, 2009; Maddi, Harvey, Khoshaba, Fazel, & Resurreccion, 2009)

- Business (Luszczynska & Cieslak, 2005)

- Fire-fighting (Maddi, 2007).

Furthermore, Tinsley (2000) mentions that the combination of higher psychological and physical well-being can only result in successful performance if there is a good fit between the individual and their working environment. Success can be subjectively perceived from several angles. On the one hand, it is having achieved a specific goal or goals, leaving the feeling of satisfaction of a job well done. On another hand, it is the element of having achieved one's purpose. The former speaks to external achievement while the latter speaks to internal achievement. This study is concerned with the interaction between these two domains.

The Recce environment compliments soldiers who are highly versatile, mentally, and physically strong, and driven, as well as being a dedicated soldier, with high levels of resilience, adjustment, self-efficacy, perseverance, and courage.

1.3   RESEARCH PROBLEM

The focus of military training is to build confidence and high standards of military performance to endow the soldiers with the ability to cope with combat contexts and complete missions with great success (Driskell, Goodwin, Salas, & O'Shea, 2006). Specific military skills are closely related to operational and combat tasks, which demand coping with stress and decision-making skills under pressure, and specific military skills have been suggested as the core elements of operational conduct.

The selection process is a crucial aspect of the recruitment of candidates for specialised military training. In specialised military training, this process is rooted in two aspects that determine success for recruitment, namely physical and psychological strength. Although they are both imperative for success, the common practice and perception is that physical aptness places the candidate in an advantageous position. During the Recce selection, physical capacity is meticulously tested, often referred to as 'Hell week' during which the candidates are exposed to extreme conditions which are designed to test them intensely (see Table 1.1).

Candidates undergo arduous physical training daily, perform timed runs and marches with full battle equipment and obstacle courses, and must successfully finish land navigation and survival challenges. They must complete seemingly impossible physically demanding tasks that are designed to challenge their intellect, will, and physical capacity. However, mental strength drives physical performance in strenuous military training.

Hence, in some instances, candidates who display greater physical strength fail to complete the selection cycle due to poor mental endurance. The South African Army, in particular the Infantry core, has seen high attrition rates of Recce specialists. One of the challenges in military organisations is the identification of personal determinants (predictors) of performance and success. This commonly leads to a misfit in terms of person-job fit and person-environment fit, indicative of a lack of congruence between the demands of the task and the evaluated and perceived resources of the candidate. Dodd (2016) mentions that job-fit plays an imperative role in the selection process. Hence, understanding these determents is vital for the military to optimise Recce selection and overall military training selection (Myrseth, Hystad, Säfvenbom & Olsen, 2018).

A physically strenuous training program is almost always associated with a costly loss of personnel who fail to complete the program. While this is true of any other training, the more demanding military training programs are at a greater risk of experiencing such attrition at a greater cost, particularly because military personnel are continuously exposed to adverse and dangerous and life-threatening environments (training, deployments, combat, and operations). It is paramount to emphasise the understanding of psychological well-being, resilience, grit, and self-efficacy as these constructs are critical protective factors in the mental health and well-being of soldiers. The value of understanding these constructs is immeasurable as military working conditions and environments continue to threaten irreversible psychological and physiological wounds in military personnel. Based on the aforementioned, better comprehension of the relationship among these constructs is necessary, especially in environments and situations that are physically and mentally challenging.

Furthermore, the contribution of psychological strength in training and development of military skills is essential for the armed forces to optimise training and enhance operational readiness in specialised military training units such as Infantry School and 44 Parachute Battalion (Hystad, Eid & Brevik, 2011).

Bester (2016) emphasised that the human dimension in military operations is a critical role-player, allowing flexibility and versatility to work in teams and enhancing strengths and reducing weaknesses when working as a unit. Battles are won by humans and not machines, therefore, it is key to optimise the most vital resource in the organisation by ensuring that selection processes and training methods used ultimately prepare and equip personnel to win the battle psychologically as much as they are trained to win the physical battle.

This study focuses on psychological factors that enhance success during gruelling military selection and training. Currently, there is a limited focus on the contribution of psychological strength during selection, training and more. Most research in the military has focused on the contribution of psychological factors mostly during deployment (Dolan & Adler, 2006; Wright et al., 2005; Van Dyk, 2016).

This study examines the current selection tools used in military infantry Recce selection and the criteria of developing highly-skilled, physiologically fit candidates to gather information beyond enemy lines and cope with demanding, changing, and threatening conditions in the process. The selection of personnel with unique attributes for distinct military duties can be traced centuries, although the criteria were often limited to physical attributes and military skills (Gala, Goodman, Murphy & Balsam, 2012). This status quo remains in the selection process followed for recces in 2020.

The search for better predictors of success in military selection and training is most likely a function of the high cost related to personnel training, human suffering from failure to complete, and the need for recruiting competent candidates with good job-fit. Therefore, the study focuses on the importance of psychological screening and the development of psychological ability and skills as protective factors to better equip personnel in maintaining effective performance under pressure by managing with the complexity of operations and their spin-offs, such as adjustment disorders, trauma, and post-traumatic stress amongst others. The enhancement of military performance and skills can be achieved by improving either selection procedures so that individuals who possess the desirable attributes and traits are selected for military training or the training of desirable skills and qualities. Knowledge of the psychological factors contributing to selection success and ultimately performance in training and development of military skills is critical for the armed forces to optimise training in the military and enhance combat readiness. The rationale of the selection is that if soldiers perform well under high levels of physical stress to which they are briefly exposed during the selection and training, they will exhibit the same behaviour during missions.

The researcher identified a gap in the selection tool used due to its limited and restrictive approach to only physical assessment instead of a holistic assessment and screening (See par 1.2). In addition, this research addresses and identifies the need to integrate psychological aspects when conducting personnel selection and training for Recce specialists. Psychological problems are one of the main causes of attrition in the military environment (Peterson, Park & Castro, 2011).

For this study, physical fitness was not the focus of the research but rather psychological factors that may contribute to selection success and performance during training. As a result, no physical results were recorded. Various psychological and personality factors contribute to perseverance during military training. This study limited its focus to four factors of interest, namely psychological well-being, resilience, self-efficacy, and grit. Georgoulas-Sherry and Kelly (2019, p.173) assert that "in a military environment, the shaping and predicting of human performance is essential in successful military leadership, operations and functionality". Therefore, it is imperative to fully comprehend the constructs that may play an integral role in influencing and impacting human performance. Furthermore, the analysis of individual character is essential for any military occupation, training, and operations, as a sound character is decisive in how an individual behaves and acts, especially in a volatile environment such as the military. For example, soldiers must be able to become accustomed and acclimate rapidly to changing conditions (i.e., be hardy), persevere and continue with effort regardless of failure (i.e., be gritty), and recover quickly from difficult situations and environments (i.e., be resilient-skilled). Therefore, the researcher postulates that factors that would significantly contribute to the prerequisites for the successful completion of specific military training selection processes would include:

- Psychological well-being, referring to "the extent to which an individual is functioning, feeling, and thinking within the "expected" (Zuckerman, 2009, p. 98).
- Resilience, described as the ability to withstand and bounce back after stress and adversity (Seligman & Matthews, 2011).

- Self-efficacy, referring to "an individual´s perceived capability to perform in a way that creates control over events affecting his/her life" (Fosse, Buch, Safvenbom & Martinussen, 2015, p.98).

- Grit, defined as "the disposition to pursue long-term goals with sustained interest and effort over time" (Eskreis-Winkler, Duckworth, Shulman, & Beal, 2014, p.1).

1.3.1   Research question

Based on the above discussion, it is necessary to investigate the psychological factors that reasonably contribute to the success of selection and military training of Recce specialists. Consequently, the general research question (RQ) was formulated as:

To what extent do psychological well-being, resilience, self-efficacy, and grit contribute to selection success?

The specific RQs were formulated as follows:

RQ1: Is there a theoretical relationship between psychological well-being, resilience, self-efficacy, grit and selection success?

RQ2: Is there a theoretical relationship between all the independent variables?

RQ3: What is the possible contribution of the psychological factors to and success in reconnaissance selection?

1.3.2   Research objectives

The purpose of the study is to conduct empirical research on the relationship and contribution of psychological factors on the selection success of Recce specialists.

Current research has limited coverage of the psychological factors of military personnel undertaking Recce selection and training, which presents a research gap relating to the psychological factors contributing to selection success.

With this notion in mind, the study concentrates on investigating the correlation between the possession of factors such as psychological well-being, resilience, self-efficacy, and grit and the selection success and performance during training and operations. The research objectives of this study are formulated based on the theoretical and empirical objectives. These objectives are the guidelines for conducting this empirical research.

1.3.2.1 Theoretical objectives

The theoretical objectives of this study are as follows:

- To provide a comprehensive review of the literature on the constructs psychological well-being, resilience, self-efficacy, and grit.

- To conceptualise these constructs concerning the sample studied.

- To describe the extent to which psychological factors contribute to selection success in infantry Recce selection and training.

- To create a theoretical framework to be utilised as the foundation upon which selection success will be measured to determine the extent to which psychological factors contribute to candidates' behaviour and response to challenges.
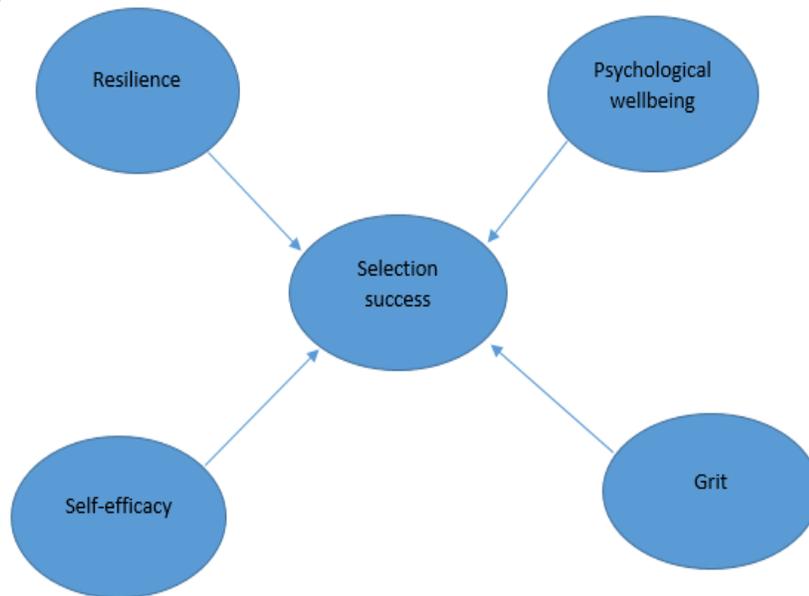
Figure 1.3: A conceptual theoretical model of factors contributing to selection success.

1.3.2.2 Empirical objectives

- To analyse the empirical relationship between psychological well-being, resilience, self-efficacy, and grit.

- To reflect the correlation between psychological well-being, resilience, self-efficacy, and grit to selection success by examining the statistical relationship shared between each paradigm.

- To offer suggestions for effective selection criteria for Recce training.

1.3.3 Research variables

Goddad and Melville (2014) describe variables as factors a researcher is interested in studying. These variables are divided into two distinct forms, namely dependent and independent variables. Researchers have described the dependent variable as that which

is observed and measured by the researcher to determine the impact that the independent variable has on it (Coetzee & Schreuder, 2016; Babbie, 2010). For this study, the dependent variable was a binary variable determined by a selection board based on the physical performance of the candidate on the different categories (see Table 1.1). Candidates were either found successful or unsuccessful. Successful candidates went on to complete the actual training as discussed (see par 1.2).

The independent variable is that which is expected to influence the dependent variable, or in other words, the researcher would like to see how they contribute to selection success. For this study, the independent variables are psychological well-being, self-efficacy, resilience, and grit.

1.3.4   Phase 4: Discussion of results

A discussion of these results is presented following the theoretical and empirical literature presented. This is to identify areas of similarity between this study and the body of existing research and emphasise the gaps as suggestions for future research.

1.4   RESEARCH PROCESS OVERVIEW

This research was conducted in six phases, namely, introduction, literature review, methodology, presentation of results, discussion of results, conclusions, and lastly, limitations and recommendations.

1.4.1   Phase 1: Literature review

This phase aimed to examine and delineate factors that contribute to Recce selection success. In doing so, existing empirical literature was analysed to broaden the understanding of the factors that contribute to selection success in reconnaissance

training of military personnel. During this phase, information was gathered regarding the theories that frame psychological factors that contribute to human behaviour and performance. The focus was on the empirical relationships between the variables of interest which are:

- Psychological well-being,

- Resilience,

- Grit, and

- Self-efficacy.

1.4.2 Phase 2: Research methodology

This phase outlines the research design and approach used for the study, which is discussed at length in Chapter 3. However, the study explored 158 participants undergoing Recce selection and training. Data was collected at an Infantry school using a pencil-and-paper questionnaire approach. All candidates were assessed before taking the physical exercises. The following instruments were used:

- The Grit Scale (Duckworth, Peterson, Matthews & Kelly, 2007) consisting of 12 items.

- Ryff's Scales of Psychological Well-Being (Villar, Triado, Celdran & Sole, 2010) consisting of 22 items.

- Resiliency Questionnaire for Adults RQA (Alonso-Tapia, Garrido-Hernansaiz, Rodriguez-Rey, Ruiz & Neito, 2017) consisting of 36 items.

- Generalized Self-Efficacy Scale (GSES) Schwarzer and Jerusalem (1993) consisting of 10 items.

1.4.3   Phase 3: Presentation of results

Once the data was been collected, it was captured on the Statistical Package for Social Sciences (SPSS 25) and further analysed on The Smart Partial Least Squares (PLS). This phase reported on the descriptive statistics of the sample (means, standard deviations), followed by Spearman's correlation coefficients between the factors that contribute to success. Importantly, the reliability of the measures used were analysed by investigating the Chronbach Alpha ($\grave{α} ≥ 0.70$) and the composite reliability per scale. Furthermore, it was imperative to establish validity and convergent validity (factor loading $≤ 0.5$) (Pallant, 2016). Further statistical analyses is provided in detail in Chapter 4.

1.4.4 Phase 5: Conclusion

The conclusions and possible recommendations are provided in this section of the study.

1.4.5 Phase 6: Limitations and recommendations

This section aims to discuss the limitations encountered in the study, particularly in the instrument used and the sample. Furthermore, recommendations regarding future studies on this topic are highlighted.

1.5   CHAPTER DIVISION

The chapters follow in this order:

Chapter 1: Introduction to the study

Chapter 2: Literature review

Chapter 3: Methodology

Chapter 4: Results

Chapter 5: Discussion of results

Chapter 6: Conclusions, limitations, and recommendations

1.6   CHAPTER SUMMARY

This chapter highlighted the multidimensionality of military training and the complexities of the military environment thriving with multiple stressors that require unique coping strategies. Infantry soldiers are exposed to numerous stressors both during training and operations, hence they undergo rigorous training. The purpose of training has been largely for functional operational skills during combat and operations.

Moreover, this chapter highlighted the problem areas emanating from the current practices, which are indicative of the need for a holistic approach to training that evaluates and trains both the psychological and physical strength of soldiers and candidates. The selection process can be improved in order to ensure that it elicits the correct attributes that will allow the candidates to develop the desirable skills to improve performance on the training and can be transferred on the job. The following chapter analyses the theoretical basis of the variables of interests, which is imperative to achieve the research objectives and establish the research question from a theoretical and empirical perspective.

CHAPTER 2: LITERATURE REVIEW

2.1   INTRODUCTION

The fundamental purpose of this chapter is to review the existing literature and research regarding the factors that contribute to successful performance during selection and training. A thorough understanding of the relevant concepts/constructs and their relatedness is essential to broaden perspectives and scientifically conceptualise these factors in a military context. Broadening our understanding of these aspects and their contribution to training and selection success is also significant for the development of reliable screening and selection processes to identify individuals who may be unsuitable for training, operations, or military service altogether.

For that reason, this chapter establishes the theoretical framework and reviews developments in the areas of new wars, positive psychology, combat-related stress, combat readiness, and selection success. Lastly, this section includes definitions of concepts and a comprehensive report of the theoretical background on the constructs investigated in this study. A summary concludes the chapter.

2.2   THE CHANGING NATURE OF WARFARE

The Clausewitzean school of thought describes war as "an act of violence intended to compel our opponent to fulfil our will", financed by states or governments and fought between states to achieve state interests with the use of regular national armed forces with a clear vertical structure and hierarchy (Simpson, 2018, p.8).

Conventional wars were mainly fought because of geopolitical, socialist, and ideological reasoning and their goal was to defeat an enemy in the battlefield, gain its territory, and thereby strengthen state power. Wolfendale (2011) adds that conventional wars were a decisive encounter well-planned for and strategised.

Democratisation brought about the end of the cold war peacefully. Ongoing civil wars were ended by the signing of peace agreements. The attainment of a state of peace came about through the use of military power and force (Kaldor, 2012).

However, it seemed as if these positive developments to end the Cold War were followed by an increase in new and especially vicious civil conflicts, which shifted the focus from the great power rivalry seen during the Cold War and preceding wars to these new civil wars (Simpson, 2018). Since the mid-1990s, several scholars have argued that the world is witnessing changes in the nature of warfare, making it inevitable to reconceptualise conflict studies and the theatre of battle (Kaldor, 2012; Simpson, 2018; Wolfendale; 2011).

This paradigm shift was because of changes in the way of life and world of work, as influenced by innovation, technology, societal beliefs, and many other factors. Change is always embraced by international communities and they continue to effect and inspire renewal and realignment to keep abreast with evolutions, developments, and trends. Several factors are noted to influence and steer change, which generally include political, economic, social, technical, ecological, and legal factors, commonly referred to as PESTEL factors (Coetzee & Schreuder, 2016). Military organisations are, however, not immune to experience and changes, advancements, and trends in the rest of the world within which they operate.

The PESTEL factors influence modern conflicts and render traditional methods of and perceptions about the nature of war inadequate. Kaldor (2013) argues that modern conflicts are not structured according to traditional models and rules of engagement but are rather primarily designed to regulate interstate conflicts motivated by political and religious aims. Instead, new wars are characterised by low-intensity intrastate conflicts fuelled by identity politics. The nature of modern warfare has transformed to such an extent that only a few subtle wars are fought between nations (Wolfendale, 2011).

Van Dyk (2018) posits that some operational scenarios have become prevalent in combat and military missions, which include peace operations and new wars in particular. Respectively, these operations present different circumstances and risks and thus demand unique abilities, personality profiles, mental approach, adjustment strategies, and competencies in soldiers. The operational types involving the SANDF are discussed in detail below.

2.2.1 Peace operations

Peace operations are operations to contain conflict, redress the peace, and shape the environment to support reconciliation and rebuilding and facilitate the transition to legitimate governance.

These operations are subdivided into four missions, which include, amongst others, peacekeeping, and peace enforcement operations (Du Plessis, 2014).

Peacekeeping is defined by the UN as a "unique and dynamic instrument developed by the organisation as a way to help countries torn by conflict create the conditions for lasting peace" (Allais, 2011, p. 2). The focus is on the facilitation of ending exiting manifest

violence between parties. In most cases, it would be between rebel groups and the local population or mercenaries, religious groups, ethnic groups, and at times military forces. Ditsela (2016) adds that peacekeeping missions include ensuring compliance with a ceasefire, assisting in the implementation of peace agreements, and the protection of humanitarian operations. Allais (2011) highlights that during these missions, soldiers engage in a variety of tasks such as helping to build sustainable institutions of governance, human rights monitoring, disarmaments, demobilisation, and reintegration of former combatants into their communities. Recce specialists in such operations can be deployed in their respective post capacity or as Recce crew for gathering information about the enemy and the general population. This is the most dangerous of theatres to operate in as there are many role players and far too much red tape and stringent humanitarian rules and laws. This leads to many stressors that are presented by this type of mission and the environment and exposure to danger, the intensity of the conflict, and the antecedents of the conflict.

Peace-enforcement is employed to stabilise a conflict situation and area. Ramuhala (2011) describes peace enforcements as the use of force or any coercive measures to compel compliance with peace resolutions or to stop unlawful aggression by one party against another. Therefore, the mandate of such a mission is instilling peace by all means to ensure the protection of the civilian population from harm (Van Dyk & Ditsela, 2014).

In these obviously challenging work conditions, soldiers are constantly expected to assist civilians and avail themselves whenever they are required. What has become an expectation is for Recce specialists and soldiers in general involved in the arena of new to be flexible enough to adjust and cope with the dynamics and challenges of this arena.

Van Dyk and Ditsela (2014) advocate that the overall change in the nature of war, such as the involvement of child soldiers and rebel groups consisting of women and the elderly has drastically increased the job demands of soldiers during operations. They further allude that such a confrontation can be potentially devastating for soldiers, particularly when the ability to adjust to them is lacking. Such an example is when soldiers are deployed to different geographical locations and areas than SA but exposed to a wide array of challenges (such as extremely hot temperatures, different languages, and cultures) that require a completely different approach. Additional stressors can arise from psychological adjustment, which becomes challenging when there is mission ambiguity, described as the uncertainty of roles in missions when confronted by various types of missions, such as simultaneous war and peacekeeping. An example of this is when the SANDF deployed on a peacekeeping mission to the CAR.

Soldiers were prepared for their role as peacekeepers, but due to a change in the political environment, the SANDF mission came under direct fire and was in a war situation defending their positions against the rebels during the Battle of Bangui (Mpofu & Van Dyk, 2016).

Whilst deployed on peacekeeping missions, soldiers are only allowed to use force in self-defence. Soldiers must display restraint and control. They have to manage their fight and flight responses to stressful encounters. Most critical to a peacekeeping role is the peacekeeper's ability to remain neutral within the midst of the conflict (Ditsela & Van Dyk, 2014). Under these circumstances, it is evident that peace operations place higher

demands on the psychological strength and stamina of the deployed soldiers and they are tested and taxed far beyond physical strength and ability.

2.2.2   New wars

Gilbert (2003) argues that operations in new wars can be described as a mixture of war, constituting large-scale humanitarian rights violations and organised crime. These violations range across many horrific acts, such as large-scale killings, looting, raping and with an undeniable element of criminality and commonly reported terrorism.

Gilbert (2003) argues that new wars are fought by a combination of networks of state and non-state actors, regular armed forces, private security contractors, and mercenaries to name a few.The method of waging war previously consisted of capturing territory through military means. However, in new wars, battles are rare and territory is captured through political means, through control of the population. Violence is largely directed against civilians to control territory rather than against enemy forces (Williams & Johnson, 2006).

Wolfendale (2011) refers to modern conflicts as irregular warfare, which are "characterised by an increased number of actors in the battle space that use a range of both lethal and non-lethal means to complete military, political, economic, religious, social and ethical missions" (p. 15). Furthermore, participating actors in irregular warfare are described by Kaldor (2013) as having similar characteristics and mandates. These include lack of military training or background, no formal identification or uniform, complete disregard of the scope of conventional warfare and military professionalism, no compliance to laws and regulations such as the humanitarian law (HL) and the law of armed conflict (LAC). Today's wars are being fought within nations and there is a never-

ending new supply of civil wars motivated by ethnic, racial, cultural, religious and political differences among people of the same nation (Mashishi, 2013)

Religion is among the most common motives for war in the 21st century. Van Dyk (2018) corroborates that in the African continent military operations have been vastly influenced by religion and politics, several cases all around the African continent can be cited. Consider the proliferation of the Islamic State, which continues to seize territory in Iraq and Syria, and Boko Haram, which has been engaged in a brutal campaign of abductions, bombings, and murder in Nigeria.

There have also been violent clashes between Buddhists and Muslims in Myanmar and southern Thailand, and between Islamists and Catholics in the Philippines. Religious-related conflicts have further permeated throughout East Africa driven by rebel groups Al-Shabaab and Al-Qaeda. (Kaldor,2011; Vogelaar, 2007; Mashishi, 2013). Religion continues to be one of the greatest contributors to conflicts in many countries.

There are several examples of the PESTEL factors and how they contribute to new wars. For instance, the political factor has manifested in many African countries through political instability, which has influenced military actions and mission. This is evident in some of the documented cases in regions such as DRC, Zimbabwe, Mozambique, Sudan, South Sudan, and Nigeria. In these cases, unrest and civil conflicts stern from political motives, ineffective leadership, and the power struggle between government and insurgents. The economic factor can be observed in some regions such as Nigeria and Sudan, where conflicts are centred on minerals and resources contributing to the economy of the country. In these countries, militia groups use violence and unorthodox means to gain control of territory and resources such as oil and minerals. On the other hand, in South

Africa, annual budget cuts for the military resulting from economic instability have greatly affected its ability to maintain and deliver effectively on its mandate.

Because it affects training, the availability and serviceability of equipment may affect personnel preparedness and confidence in their craft. Overall, the abovementioned disadvantages of the economic factor adversely affect the efficiency and effectiveness of peacekeeping forces. Equally, the social factor has been documented in many regions through conflicts resulting from identity politics, ethnicity, and religion. Actors in such conflicts are usually motivated by religious beliefs and justify their actions from a religious view, believing that all other laws and rule do not apply to them. Many countries have suffered as a result of this type of civil conflict, for example, Burundi, Rwanda, Uganda, Sudan, and Somalia (Mashishi, 2013). Under close observation, the PESTEL factors form the centre of the phenomenon of new wars as they are external factors that greatly influence the dynamics of military operations and response.

2.2.3　　　The Recce operational space

Evidently, the peace operational environment is psychologically and physically demanding (Nkewu & Van Dyk, 2016). Soldiers are faced with challenges such as exposure to human suffering, performing rescue missions under fire, exposure to mines and diseases (e.g. malaria), and foreign environmental conditions. In addition, they are ambushed, shot at, or violated during these operations (Bruwer & Van Dyk, 2005). Regardless of the physical danger and demands of their duties, these activities are regarded as the core of soldiering and are central to all military operations (Franke & Heinecken, 1999).

The Recce selection and training is a platform designed to equip soldiers with knowledge, skills, and abilities related to operational and combat tasks that are commonly stressful in their demands for coping mechanisms and decision-making skills under pressure (Johansen, Laberg & Martinussen, 2014). Recce specialists need to know and understand the terrain and how best to use it as a resource and cover for safety in a form of camouflage and concealment.

As a reconnaissance specialist, one is expected to be proactive and agile to counter any enemy action on post (Pincus, House, Christenson & Adler, 2001). In these missions, Recce specialists need to gather intelligence on the movement and capabilities of the rebel groups in the area of conflict.

This requires hours of surveillance and concentration on two aspects: getting all the necessary information and remaining undetected. The challenges facing Recce specialists include:

- High-risk working environment, extreme temperatures, and unfavourable terrain.

- Mostly on foot tactical movement requiring excellent navigation skills.

- High levels of endurance in case of capture by the enemy or being taken hostage.

- Dealing with uncertainty.

- Constant threat and fear of enemy attack, shooting incidents.

- Individualistic skills to cope in isolation.

- Lack of sleep.

- Fatigue, dehydration, and information overload.

- Extended deployments.

- Lack of serviceable equipment.

- Exposure to physical and psychological stressors.

2.3   OPERATIONAL STRESSORS

Given the multidimensionality of new wars, military personnel are at a high risk of exposure to potentially traumatic events.

Correspondingly, while providing humanitarian aid they can bear witness to elements of human distress, including starvation, sick or wounded civilians, shooting incidents, being taken hostage and hostile reactions from the conflicting parties, and toxic substance exposure (Dirkzwager, Bramsen, Ader & Van der Ploeg, 2005).

This makes Recce specialists and soldiers a risk group who are extremely vulnerable to suffering from physical, psychological distress, and mental health problems including depression, adjustment disorders, substance abuse, and post-traumatic stress disorder (PTSD). The combined effect of these events pose a potential threat to the military in terms of the well-being of its personnel (Bartone & Priest, 2001).

The impact of mental health on decision-making, combat readiness, work-life balance, general physical and mental health, and job performance is especially relevant given the high-technology, fast-paced warfare of the 21st century, and the battlefield which leaves little to no margin for error. It may be questioned whether the current practices to train military personnel to cope with stress are still appropriate. Defining stress will guide how it is perceived in military contexts and for this study.

2.3.1   Defining stress

Enduring in a military environment can be extremely demanding and stressful as it adversely imposes on the soldier's functioning and tests human limits based on

adjustment, inherent coping mechanism and personality traits. Stress within the military environment has been studied over the years and is commonly reported as an inevitable experience and part of human military life (Abbott, 2001; Taylor, 2006; Rawat; 2013; Russo & Fallon, 2015). Stress has been theorised by different researchers, for instance, McCrea, Costa and Piedmont (1993) describe stress as an actual or construed danger to one's physiological or psychological integrity (such as frustration, conflict and pressure) that culminates in physiological or behavioural reactions.

This is corroborated by Cox (as cited in Rawat, 2013, p. 23) who defines stress as "a perceived phenomenon arising from a comparison between demands on an individual and one's ability to cope." Furthermore, Shahsavarani, Abadi and Kalkhoran (2015), affirm that stress can be regarded as the feeling of mental tension and pressure. Bartone (2006) posits that military stress is an individual's capacity to mobilise every resource the body has to react promptly and adequately to any given situation. In a military operation, stress can be explained as the physical and psychological demands that strain individuals as a result of operating in a military environment (Staal as cited in Rawat, 2017).

The golden thread is the perceived imbalance between the required resources and the available resources to cope that leads to stress. Hence, different people react differently to similar/different stressors. Bergh and Geldenhuys (2013) ague that when an individual fails to positively react, cope, or even adjust when dealing with a stressful situation, they experience psychological and physiological collapse. In addition, Rawat (2017) affirms that under intense combat exposure everyone has a breaking point, although it may not be at the same time.

2.3.2   Causal factors in psychological health

Stress is a result of the perceived stressor known as the stimuli and cause of the reaction. Typically, stressors arise from a single biological, psychological, sociocultural or any other external factor. However, in most cases it is the combination of different factors that cause stress and ultimately result in the deterioration of health made manifest by illnesses and disorders (Bergh & Geldenhuys, 2013). The military environment is fraught with potential stressors. An occupation in the military is stressful by nature and that only when taking into account the external factors apart from biological and social factors but also the mental, emotional and psychological demands.

Berg and Geldenhuys (2013) suggest that numerous factors contribute to work stress simultaneously, which can categorised into four groups, namely biological factors, psychological factors, sociological factors, and work-related factors linked to external factors. This is advocated by personality theorists who have theorised how an individual's genetic make-up along with socialisation creates unique attributes that predispose them to react positively or negatively in favourable and less favourable circumstances (these personality theorists include Jung, Freud, Bandura and Cattel). Freud's theory was based on the effect of underlying suppressed childhood experiences that subconsciously influence future behaviour., while Jung theorised that past experiences and future aspirations tend to greatly influence reactions and behavioural patterns (James, 2015). The influence of these complexes is critical in shaping and customising personality type. With the aforementioned interaction of the unconscious and behaviour, it can be said that one's personality and past experiences predispose one's response to stress.

This indicates a connection between personality and reactions to stress, particularly personality and psycho-physiological illnesses (Masthoff, 2007).
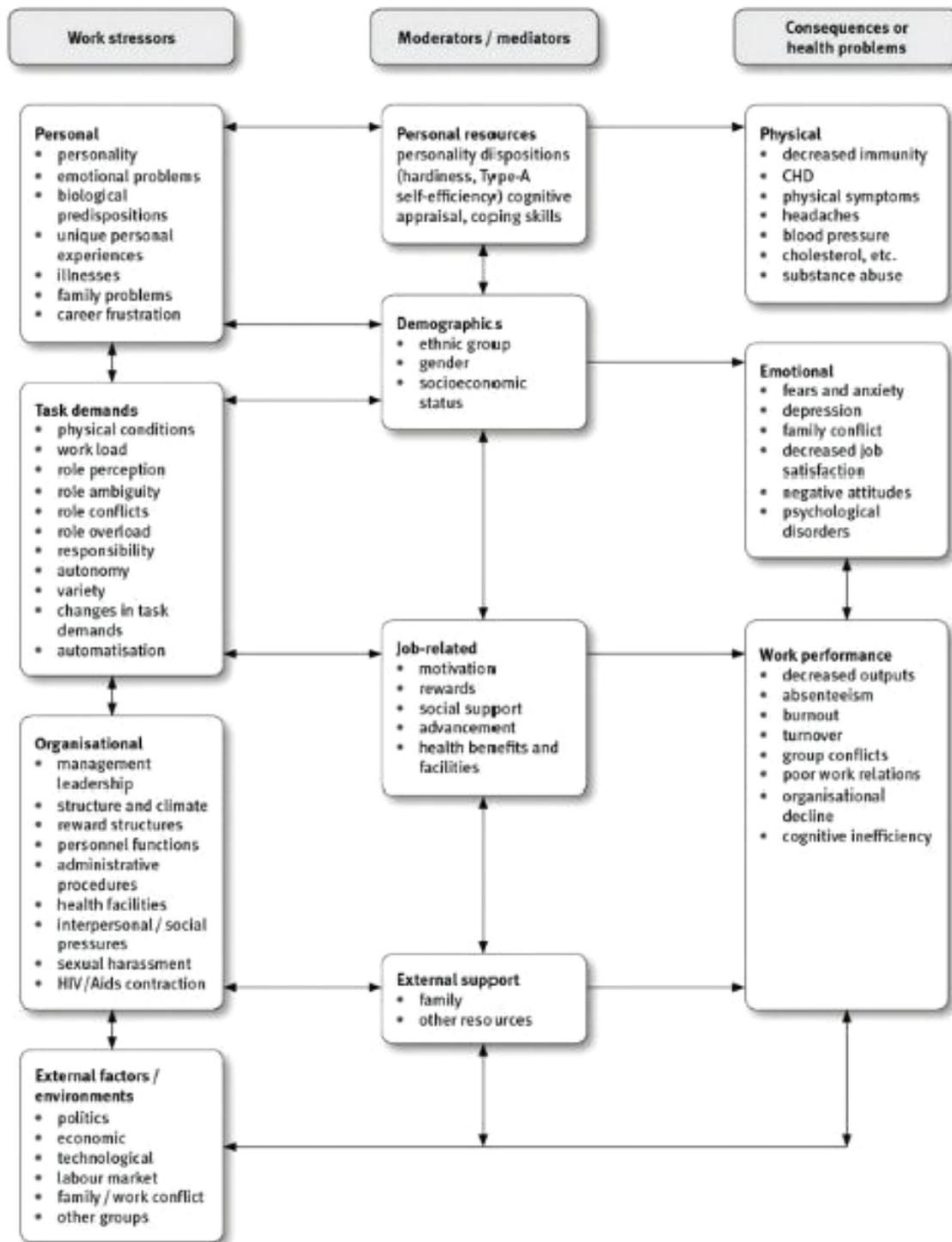
Figure 2.1 The causes, processes, and consequences of work stress

(Bergh & Geldenhuys, 2015, p.444)

Bergh and Geldenhuys (2015) propose that stress be studied from a BioPsychoSocioSpiritual perspective to analyse all dimensions and elements of stress. Figure 2.1 illustrates the extent to which work outcomes are influenced by various factors. The interaction between work demands, organisational factors, and external factors is often regarded as stress. What describes and influences a person's reaction to stress is the perception and assessment of their resources to deal with the stressors. These resources act as moderators and mediators in manoeuvring the stressful situation, which include personality resources, demographics, job-related, and external support (Shahsavarani et al., 2015).

Adler, Williams, McGurk, Moss and Bliese (2001) suggest that coping is one of several psychosocial mechanisms and skills suggested to moderate or mediate the relationship between stress and job functioning. Bergh and Geldenhuys (2015) urge that "the interactive and circular influence of factors on an individual's behaviour and the context of a person's behaviour should always be taken into consideration" (p.443) with stress management.

Shahsavarani et al. (2015) and Rawat (2017) caution that if high stress continues for too long, the body's resources will be exhausted, and the person will develop harmful or negative forms of stress reactions. To best manage stress, it is essential to recognise and understand its various antecedents, forms, and sources.

- Cognitive stress: performing tasks accurately and quickly is a fundamental requirement of the military. Cognitive stress is described as information processing

overload. During military training, soldiers may experience cognitive stress given the intensity of the theoretical training. This type of stress may also be experienced during combat and operations when multiple orders are given under strenuous conditions, for example, changing orders under attack. For most reconnaissance specialists, cognitive stress can be experienced during sustained vigilance which requires high alertness in situations where events cannot be controlled, usually in the process of collecting intelligence (Rawat, 2017).

- Occupational stress: experienced as task/work demands, work characteristics, physical work environment, organisational culture, processes, reduced resources and unserviceable equipment, and constraints of serving in the military given all the challenges that come with it (Rawat, 2017). Several of these have been discussed at length (see par 1.1)

- Physical stress: stress emanating from physical pressure during operations such as sleep deprivation, hunger, unpleasant weather conditions, and fatigue.

- Emotional stress: stress triggered by activities, tasks, and circumstances that arouse psychological and physiological responses.

- Social stress: when one cannot meet social demands from family, friends, and significant others mainly due to military obligations.

- Personal stress: this arises from subjective, internal perceptions of the military environment.

Bartone (2006) further analysed stress and identified five psychological stress dimensions experienced by soldiers during new wars, which include isolation, powerlessness, danger,

boredom, and ambiguity, with an added workload as the last dimension as illustrated in Table 2.1. The interaction of these dimensions affects the functioning and effective performance of a soldier during peacetime, training, operations, and combat.

The presence of these dimensions at any stage of training or even deployment should be regarded as a red flag, mainly because of the outcome of the responses to such stressors. This ultimately has a negative bearing on the success of the given activity.

Rawat (2017) notes that "unwanted stress may impair combat readiness and decrease resistance to combat stress. It adversely affects teamwork and group cohesion, morale and motivation, job performance and physical and psychological health and well-being of a soldier" (p. 21). It is therefore clear that combat directly and indirectly affects and is affected by several psychological factors.

Table 2.1: Primary psychological stressor dimensions in modern military operations

Stressor	Characteristics
1. Isolation	Remote location Foreign culture and language Distant from family and friends Unreliable communication tools Newly configured units, do not know your coworkers
2. Ambiguity	Unclear mission or changing mission Unclear rules of engagement Unclear command or leadership structure Role confusion (what is my job?) Unclear norms or standards of behavior (what is acceptable here and what is not?)
3. Powerlessness	Movement restrictions Rules of engagement constraints on response options Policies prevent intervening, providing help Forced separation from local culture, people, events, and places Unresponsive supply chain—trouble getting needed supplies and repair parts Differing standards of pay, movement, behavior, etc., for different units in area Indeterminate deployment length—do not know when we are going home Do not know or cannot influence what is happening with family back home
4. Boredom (alienation)	Long periods of repetitive work activities without variety Lack of work that can be construed as meaningful or important Overall mission or purpose not understood as worthwhile or important Few options for play and entertainment
5. Danger (threat)	Real risk of serious injury or death, from: Enemy fire, bullets, mortars, mines, explosive devices, etc. Accidents, including "friendly fire" Disease, infection, toxins in the environment Chemical, biological, or nuclear materials used as weapons
6. Workload	High frequency, duration, and pace of deployments Long work hours and/or days during the deployments Long work hours and/or days in periods before and after deployments

(Bartone, 2006, p. S135)

According to Fortna (2008), military operations and missions offer unusual social-psychological challenges and operational stressors for participating soldiers. How well military personnel adjust to the psychological stressors of operations is critical, both to mission success and individual health and well-being.

To plan effective programs for reducing and preventing the ill-effects of stress and maintaining morale and mental health of troops and families, a sound understanding of the nature of operational stressors must be developed.

Moreover, many military forces must cope with increasingly complex conflicts with an ever-decreasing number of soldiers available to fulfil these duties. Soldiers need to function at peak efficiency and inefficiencies imposed by work stress and mental health problems may have serious consequences. The potential of being exposed to traumatic stressors is a pervasive issue for individuals who choose the military as their occupation due to the nature of work-related stressors that may exacerbate the effects of traumatic stress (Dolan & Adler, 2006; Bester, 2016).

Bester (2016, p.9) lists the stressors experienced by military personnel to include:

Fatigue and sleep deprivation due to high intensity of the operation (operational tempo); climate extremes; challenges of the terrain; harsh environmental conditions; isolations; noise; unfulfilled human needs; ignorance about the mission; expectation or anticipation of loss; perceived threats; danger; level of risk; uncertainties about tasks; functions and job requirements; uncertainty about when the mission will end; unpredictability; newly configured unites with low cohesion; lack of privacy; cross attachment to other units; forced celibacy, sexual deprivation; rumours; separation from family; living conditions; inadequate logistical support in a form of inadequate equipment; lack of rations; lack of support structures; boredom; duration of deployment; leaders lacking leadership skills; lack of medical support; inappropriate

disciplinary measures; own forces incidents; organisational tensions; being shot at; suffering causalities; encountering mines and booby traps; concern about family's well-being back home; concern about sanitation; chemical, biological or radiation threat; concern about the quality and accessibility of medical care; and direct or indirect actions by the opposing force to spread disinformation.

2.4   CHALLENGES THAT CALL FOR A PARADIGM SHIFT

As new wars present new challenges for soldiers, Bester (2016) suggests that militaries must take responsibility in retooling and transforming to adjust to contemporary wars. African Armed forces should shift their mindset regarding training, not only focusing on the conventional training methods of soldiers, but also including modern warfare training.

Military operations occur in diverse environments characterised by different cultural and societal dynamics. The SANDF is frequently deployed in Africa as part of the UN peacekeeping operations. The environment in which these operations are conducted is diverse on many levels. According to Mashishi (2013), Africa is known for tribal, religious, ethnic, and post-colonial political conflicts in the world. New wars are to some extent a result of this diversity in the African continent.

Undoubtedly, the changing nature of conflict presents unique unparalleled challenges to the SANDF, which are predominantly psychologically demanding. Mashishi (2013) suggests that these challenges call for tremendous increases in responsiveness, agility, reach, and adjustment to overcome a thinking and adaptive enemy predicted to fight asymmetrically to overcome our strengths.

Despite significant and ongoing modernisation of equipment and weapons, it is in the human dimension that wars are fought and won (Hoyt, 2006). Thus, given the advent of psychological demands imposed on soldiers during operations, psychological fitness has become far more critical and imperative in methods employed for selections and training. Negating the importance of psychological fitness will have detrimental effects on combat readiness and ongoing psychological well-being of soldiers. Consequently, an emotionally unstable person may struggle to adjust to stressful situations, which might lead them to resort to counterproductive behaviours (Van Dyk, 2016). Bester and Du Plessis (2014) summarise the challenges that are unique to the military environment and occupation in Figure 2.2.

Military Environment

Engagement ambiguity	Combat stress	Physical injuries
Mission ambiguity	Emotional injuries	Extreme temperatures
Leadership climate challenges	Emotional distancing	Physical terrain
Role ambiguity	Feelings of isolation	Toxic substance exposure
Situational ambiguity	Confusion	Dehydration
Cultural ambiguity	Powerlessness	Isolation
Separation from family	Boredom	Loss of life
Sensory overload	Demoralization	Lack of sleep
Sensory deprivation	Anger	Battlefield fatigue
Information overload	Alienation	Feeling in danger
	Guilt	
	Anxiety	

Figure 2.2 The unique military environment   (Bester & Du Plessis, 2014)

In response to these challenges, (Corum, 2009) suggests that the Defence Force needs to increase its focus on the human dimension of its resources to operate and address

challenges emanating from the inevitable change and advancements of the world. The following aspects are proposed as the critical target points:

- Soldiers need to be mentally prepared to perform well on operations.

- Improved capabilities must address the broad range of human dimension actions necessary to prepare, support, and sustain the force.

- The Defence Force must maintain a proper balance of moral, physical, and cognitive development that can enhance a soldier's physical and mental performance.

- The Defence Force must widen the community of practice in the human dimension to continue to explore how we can best recruit, train, and retain an all-volunteer force that can operate across the entire range of military operations.

Warner, Appenzeller, Breitbach, Mobbs and Lange (2011) point out that war exacts a human duty. Thus, the psychological duty of the current conflicts on the force cannot be ignored, particularly the ongoing demand for battle-ready soldiers.

In short, understanding the nature of the psychological duty is critical to an effective strategy of maintaining and improving the mental health of the fighting force. Fortna (2008) suggests that how combat-trained soldiers adjust to these new wars is of crucial importance to:

- Organisational capability to contribute positively to such operations,

- Individual soldier health and well-being, and

- Overall continued readiness of military forces.

2.5 COMBAT READINESS

Van Dewout and Van Dyk (2016) point out that military training aims to ensure that forces are adequately equipped in terms of skills and competencies to execute military operations. Military training, also referred to as force preparation, is structured uniquely to fit specific job profiles such as that of a reconnaissance specialist. Trained in musketry, manoeuvring skills, planning, camouflage and concealment, survival skills and importantly on surveillance and gathering intelligence behind enemy lines, this training is in addition to basic military skills training and other functional training. According to Van Dyk (2016), the combat readiness (CR) of soldiers refers to the "level of preparedness, psychologically and physically through training and psychological interventions aimed at developing a soldiers' capability to perform a given military task successfully" (p.263). Van Dyk further divides CR into different levels starting with personnel readiness, material readiness, unit readiness, and the soldier's state of mind.

• Personnel readiness: a soldier is personally combat-ready when they are in positive psychological state, which is characterised by an understanding of the mission and how things will unfold and when there is a good combination of coping resources to deal with stressors that may arise in the already stressful environment. In essence, personnel readiness involves the assessment and screening of one's psychological health and well-being. Where there are deficiencies and deficits, training is put in place to empower, educate, and equip personnel to cope with any given situation.

Personnel readiness is also extended to interpersonal relations, hence, military operations are a collective effort. Soldiers must have a trusting relationship with both their teammates and their leader and commander (Van Dyk, 2016). According to Griffith (as cited in Van Dyk, 2016, p. 264), "a positive leaders behaviour, such as consideration,

respect and recognition, serves as an enhancement to the soldiers' pride, well-being, and identification with the leader, unit, and the military organisation."

- Material readiness: a soldier's skill and abilities is greatly influenced by the quality of equipment and resources available. Hence, equipment and resources are an integral element of CR. Without serviceable and reliable equipment the whole mission can be botched. Van Dyk (2016) argues that a lack of resources can demoralise the most skilled and competent soldier, whereas the availability of reliable equipment motivates and enhances the soldier's confidence. This is a great challenge for any African military force.

- Unit readiness: This refers to the ability of the unit to deliver on its mandate on a particular mission and operation. Two specific factors contribute to a unit's readiness:

(a) Training. Soldiers perform as they are trained, whether well or poorly. Since the dawn of new wars, training has called for realistic training to equip personnel with coping skills before they get on the operation ground. Realistic training enables soldiers to prepare themselves for a similar situation or even worse. This approach to training has shown to reduce shell shock during the actual operation. Training should not only cater for the physical component but should be focused on the complete preparedness of personnel.

(b) Cohesion refers to the unity and harmonious bond among team, group, and unit members.

Cohesive units are said to train better and win more battles together. Cohesion is cemented by the trusting relationships between peers, subordinates, and leaders and between leaders themselves.

- CR as a state of mind is the holistic readiness of a soldier from a psychological perspective. The force preparation should be directed at ensuring the holistic CR of soldiers, which entails physical and mental readiness. This is precisely because success in contemporary military operations requires for the enemy not only toy be out-fought but also out-thought. Current military operations can be quite hostile which can be intensely stressful to the soldiers on the ground, which is due to the multidimensionality of operations particularly in Africa where SANDF soldiers are mostly deployed. The ability of a force to perform and succeed in its missions lies on the human element - weapons cannot operate themselves without the man behind the machine. Therefore, Van Dyk (2016) indicates that this calls for combat readiness to be established from a psychological perspective. Correspondingly, military operations necessitate decisions and actions with life-threatening outcomes made during psychologically taxing situations such as danger, time pressure, and uncertainty. This emphasises the dire need for holistic CR approach during selection and training.
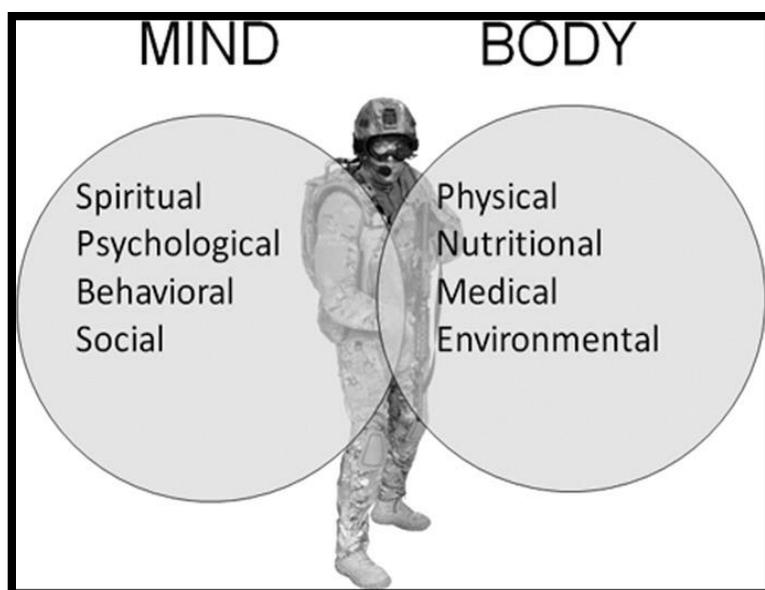
Figure 2.3 Total fitness: New paradigm   (Jonas et al., 2010, p. 9)

In light of combat readiness as a state of mind, Jonas et al. (2010) have proposed a paradigm shift in addressing modern operational challenges through a total fitness approach. Like the aforementioned holistic CR, total fitness combines the components of physical fitness (body) and psychological fitness (mind) to ensure holistic preparedness of personnel during all stages of training and mission deployment. The mind component includes:

(a) spiritual fitness, religious involvement, and spiritual beliefs. The SANDF has structured chaplaincy programmes to cater for the spiritual needs of personnel during training and deployment missions. These coping strategies have been found to enhance resilience and augment the speed of recovery from psychological trauma in several studies (Linley & Joseph, 2004; Orton, 2011).

(b) Psychological fitness, referring to mental toughness and aptness to adequately react to stressors and importantly bounce back to the normal state of functioning after facing adversity. Bates et al. (2013) emphasise that the demands emanating from modern warfare on militaries call from psychological fitness. Psychological fitness is defined as" the integration and optimization of mental, emotional, and behavioural abilities and capacities to optimize performance and strengthen the resilience of war fighters" (p. 94). Every military unit has multi-professional teams consisting of the unit's chaplain, social worker, and psychologist. The multi-professional teams are currently used during operational deployments to ensure that soldiers and their families are well-prepared and equipped psychologically before, during, and after operations (Shinga & Van Dyk, 2016).

During Recce training, however, minimal attention is given to the psychological readiness and well-being of candidates.

(c) Behavioural fitness, linked with the psychological aspect, relates to the perception and response to stressors that ensures a soldier can navigate resources, enabling them to overcome challenges without adversely affecting their psychological health.

(d) Social fitness and social support have been linked to good health. This points to good relations between soldiers and their family and friends. When support systems and structures (social and task cohesion) are well-maintained and individuals understand the dynamics of military operations and deployments, they become a resource and mechanism to cope (Schnuur, Lunney, & Sengupta, 2004).

Included in the component of the body are: (a) physical fitness (b) nutrition (c) medical fitness and (d) environmental fitness. Figure 2.4 illustrates the different domains of comprehensive fitness. This model necessitates a close analysis of the interaction across and within each domain to understand CR and ultimately effective and successful performance in the prevailing military operational theatre (Jonas et al., 2010). Recce specialists are exposed predominantly to the physical, environmental, nutritional, medical and to some extent spiritual and behavioural spheres. For total force fitness, there must be a focus on the psychological component. The psychological component entails skills and knowledge of healthy coping mechanisms during training and operational missions and when addressing social problems. Training of psychological resilience and strength

is achieved by creating awareness of psychological resources, beliefs, and decision-making engagement. Total fitness is as imperative as combat readiness in its holistic sense and nature. The operational arena has become intensely dynamic and quite hostile, requiring psychological toughness to adequately overcome challenges.
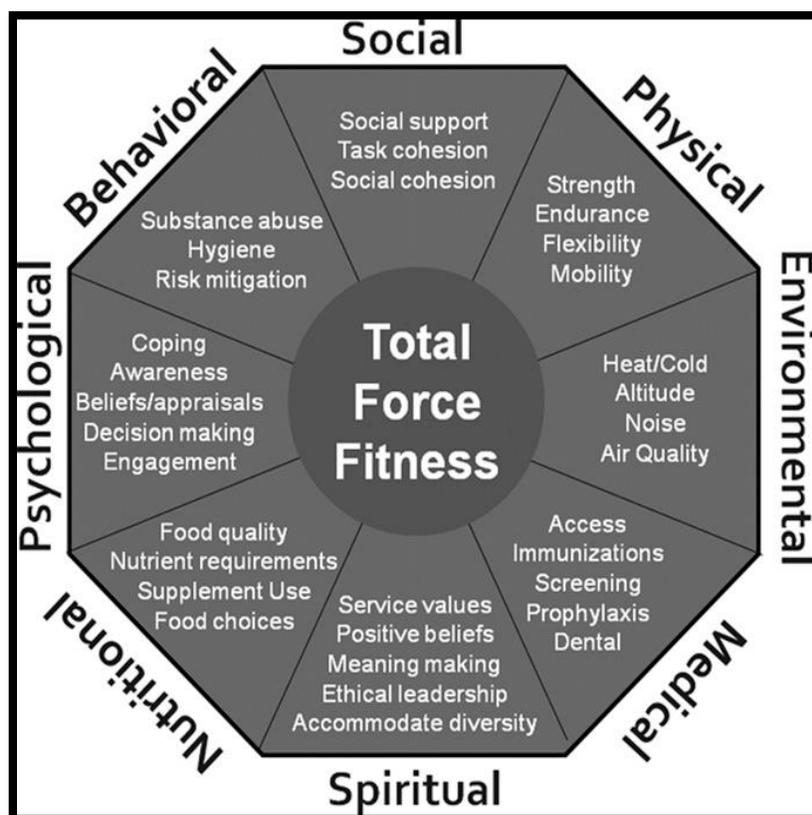
Figure 2.4 Total force fitness domains   (Jonas et al., 2010, p. 10)

2.6   SELECTION

Kim, Soibelman and Grobler (2008) define selection as a process of "choosing from a pool of available participants, a smaller number to be hired for a given job" (p. 88). Dodd (2016) adds that during selection the best candidates are selected based on suitability and potential to perform.

Military reconnaissance selection processes are designed to test and assess all aspects of the candidate's character, military skills, ability, and general suitability to become a member of the Recce crew/team and provide the potential candidate with all the skills and knowledge necessary to function in the role of an intelligence specialist on successful completion of the course (Lis, 2012).

Selection decisions are ultimately reached based on measurements of specific traits, skills, abilities, and competencies which inform the selection criteria. Kim et al. (2008) state that a selection process points toward individual differences against measurable characteristics and criteria requirements. Inferences regarding performance can be made based on the variations in personality, knowledge, skills, and other related characteristics leading to selection success or failure. During Recce selection, the criteria is predominantly based on the physical requirements and a selection board selects in/out guided by the criteria currently used at infantry school.

Dodd (2016) states that proper selection and screening process for military training is imperative for several reasons, such as that cost implications of training and development are significantly reduced when the correct people are trained and particularly when training and the actual required performance is under strenuous conditions that could result in a loss of life or chronic psychological trauma. When there is a proper person-job fit, which considers the characteristics of the individual and those of the work environment and the congruence between the two, effective and efficient performance is highly likely. Furthermore, selection enhances the greater return on investment of training and development interventions.

Through training and development, performance and skills are improved and enhanced. However, due to the ongoing budget cuts, stringent measures must be put in place to ensure that selection and screening procedures for training allows for the selection of deserving members with the desirable skills and qualities (De Beer & Heerden, 2014).

The selection process utilised for military courses such as reconnaissance training, is one which begins with identifying potential competencies in prospective candidates. This initial phase is referred to as "selection", to sieve out the candidates who elicit the desired traits from those who do not. Candidates who are selected from this phase are eligible and subsequently embark on the training phase. The reconnaissance selection process and training is known to expose candidates to a stressful working environment given the extreme exposure to physical, psychological, and other hardships including that of separating from ones social and support structures such as family and friends (Skomorovsk & Stevens, 2013). For the purpose of this contemporary study, reconnaissance selection and training concepts are used interchangeably, as these concepts form a unifying component of the training and development phase in the military context.

2.7   Physical fitness

Total fitness highlights the various components of fitness that combine physical and psychological fitness (Roy et al., 2010). Driver and Taylor (2000) advocate that the physical fitness component can be further sub-divided into two separate aspects: (1) health-related fitness, which is physical well-being, specifically in the absence of illness and injuries and (2) performance-related fitness, focused on the amount of training

received and the physical ability to effectively function in executing tasks. Roy et al. (2010) add that military physical fitness training are targeting at assessing four aspects namely endurance, flexibility, strength and mobility, hence, the Recce selection process has different components to fully assess candidates. These include a walk with full battle equipment, survival to tests endurance, navigation throughout the night to test strength, mobility, and flexibility. Thus, the physical evaluation is used as a screening process to eliminate members who may come with existing injuries.

According to the U.S. Army Manual (2012, p. 21) "War places a great demand upon the strength, stamina, agility, and coordination of the soldier because victory and his life are so often dependent upon them. To march long distances with full battle equipment, weapons, and ammunition through rugged country and to fight effectively upon arriving at the area of combat; to keep going for many hours without sleep or rest". All these operational demands require extremely physically fit soldiers hence the focus of physical ability but that is only one component of total fitness, with the psychological component currently less focused on.

2.8   THEORIES OF MOTIVATION

Through the field of applied psychology, several motivational theories and applications have been developed. These include the goal-setting theory, McClelland's needs theory, Maslow's hierarchy of needs, cognitive evaluation theory, and expectancy theory. These theories share the results of satisfaction, achievement, and accomplishment (Kiley, 2013). Kiley (2013, p. 165) defines motivation as "a goal directed behaviour or those aspects that push or draw people towards certain behaviours". Motivation can be derived from various sources both intrinsically (meaningfulness, satisfaction, fulfilment, etc.) and

extrinsically (rewards, money, promotion, recognition, etc.). This study focuses on two theories, namely the goal-setting theory and elements of positive psychology. These theories allow the exploration and analysis of the internal cognitive processes that lead to specific responses in certain situations. As people are not motivated by the same things, different motivators will not have the same effect on everyone. The differences can be rooted in the variations in personality characteristics (Kiley, 2013).

A brief overview of the goal setting theory and the theory of positive psychology is provided in the following section.

2.8.1　　　Goal setting theory

Zinsser, Perkins, Gervais and Burbelo (2004) assert that a soldier undergoing training and exposed to tough circumstances tends to maximise performance by mastering positive thinking habits that enhance a healthy emotional and physical state. According to Zinsser et al. (2004, p. 62) goal setting is "the process of identifying the underlying rationale for work/ participation and long-term performance objectives, then creating plans for goal attainment". Locke and Latham (1990) asset that as long as there is commitment and the required abilities to achieve a set objective, there will be a positive linear relationship for the successful attainment of that objective.

Zinsser et al. (2004) have studied gaol-setting within the military environment and establish that it improves performance in several ways. Firstly, goal-setting improves attention to the critical aspects of a task to motivate in direct action. For instance, a Recce specialist will focus on improving their skill in camouflage and concealment to be found competent in those aspects. Secondly, it ensures the mobilisation of exerting effort: once

the goal has been set, it is followed by effort to achieve the objective. Thirdly, goal-setting helps in sustaining effort over time to increase persistency.

The selection period is five days and the actual training is presented over 11 weeks of intense training. Therefore, a soldier might lose intensity and focus during training. Increasing persistence with a number of short-range goals can help break up periods of despair. Lastly, it enhances the exploration of new learning and coping strategies (Locke & Latham, 1990). Goal-setting has been found to work well in other professional fields, for example, sportsmen and women, thus, the application and interpretation of performance in the military certainly should be more widely embraced to understand contributors to military performance.

2.8.2 Positive psychology

McGowan, Gardner and Fletcher (2006) posit that positive psychology is concerned with the positive aspects of human behaviour and well-being. The aim is to enhance optimal functioning in any given situation by focusing on strengths and positive aspects rather than the negative. Positive psychology includes positive concepts such as psychological capital, communication, positive emotions, hardiness, resilience, eustress, interpersonal competence, flourishing, psychological well-being, ethical leadership and self-engagement that enhance well-being in the field of psychology (Nelson & Cooper, 2007; Weiten & Houska 2008). It is, therefore, used to facilitate resources that can be used in adverse situations to cope more effectively and continue functioning optimally. Positive psychology aims to shift the emphasis from what is wrong with people to what is right with people - to focus on strengths (as opposed to weaknesses), to be interested in resilience

(as opposed to vulnerability), and to be concerned with enhancing and developing wellness, prosperity and the good life (as opposed to the remediation of pathology). This is unlike the popular 'feel good' positive approaches of the past (Diener, 2000).

Researchers have observed that positive human functioning is perhaps most remarkable and evident during significant life challenges and adversity. When individuals are being tested, much is revealed about human strengths (Beehr, 2014; Schmidt & Hunter, 1998). Extensive research has been done on the role of personal resources that act as buffers to stress-induced disorders. These include traits such as hardiness, resilience, adaptation, motivation, locus of control, self-esteem, and self-consciousness (Beehr, 2014). Van Dyk and Ditsela (2014) affirm that personality traits significantly influence cognition, motivation, and behaviour. Furthermore, the authors highlight that in career success, personality traits determine success or failure. Therefore, psychological health and overall physical health in military training and operations is imperative not only for the welfare of personnel but also mission success.

The purpose of unpacking positive psychology is to broaden the understanding of the intricate interaction of perceptions and reactions, which enables a better understanding of why different people react differently to similar situations. It also allows for analysis of the influence of psychological factors in selection and training success, the variables of interest being psychological well-being, resilience, self-efficacy, and grit. These factors were selected based on the nature of adversity, strain, and challenges posed by the military work environment.

2.9 PSYCHOLOGICAL WELL-BEING

Psychological well-being (PWB) is described as a positive mental health state such as happiness and satisfaction from which attributions and reasoning about life situations are made. Health is regarded as a state of complete physical, mental and social well-being and not only as the absence of illness (Nkewu, 2014). Ryff (1989) asserts that well-being refers to the effective psychological functioning that can be related to happiness and personal development referred to as the humanistic approach. The humanistic psychology focused on personal development and growth, full functioning, or maturity. Research has shown that psychological well-being is a diverse multidimensional construct (MacLeod & Moore, 2000; Ryff, 1989; Wissing & Van Eeden, 2002). It is developed through a combination of emotional regulation, personality characteristics, identity, and life experience (Helson & Srivastava, 2001). It is important to recognise that, to some extent, PWB is relatively stable and will have been influenced by both previous experience and underlying personality traits. Stressful experiences can predispose one to subsequent mood and anxiety disorders, while exposure to extremely traumatic events can help to build resilience and actually protect PWB (Helson & Srivastava, 2001). In addition, Sheridan and Radmacher (as cited in Nkewu & Van Dyk, 2014) advocated for the notion that resilience and psychological well-being contribute to the mechanisms people can use in dealing with stress. Effectively dealing with stress results in health and well-being (Ryff, Singer & Love, 2004).

2.9.1 Psychological well-being components

Psychological well-being has two important facets. The first of these refers to the extent to which people experience positive emotions and feelings of happiness. This aspect of PWB is referred to as subjective well-being.

The second is referred to as eudemonic well-being, which describes finding meaning and purpose in situations (Weinberg, 2008). Furthermore, the term "hedonic" well-being is normally used to refer to the subjective feelings of happiness. It comprises of two components, an affective component (high positive affect and low negative affect) and a cognitive component (satisfaction with life). It is proposed that an individual experiences happiness when positive affect and satisfaction with life are both high. A discussion of the components of subjective well-being as outlined by Ryff et al. (2004) follows in the next section.

2.9.1.1 Autonomy

Autonomy is described as the regulation of one's own behaviour through an internal locus of control (Ryff, 1989). A fully-functioning person has a high level of internal evaluation, assessing the self on personal standards and achievements while not relying on the standards of others. They do not strive for endorsement from individuals (Ryff, 1989). People tend to be more independent in their thinking and actions when they are at liberty to control certain things, while those without autonomy tend to have self-doubts and thus limit their potential to perform and live to the best of their abilities. Autonomous individuals understand the concept of an internal locus of control and how that can be used as motivation (Weinberg, 2008). While autonomy may be ideal, during Recce training candidates are taught to work together as small teams, which limits the freedom to make

independent decisions. What is core in such situations is how an individual rationalises, interacts with their environment, and generally reacts to situations and challenges they encounter. Nevertheless, a Recce specialist must be able to balance. However, it does not mean candidates may not internally attribute as a developmental domain even though they may be unable to change or have no control over the training, environment, or any other thing. In fact, this may be indicative of a strong psychological autonomy.

2.9.1.2 Personal growth

Personal growth is the ability to develop and grow self, become a fully functioning person, self-actualise, and accomplish goals. To achieve peak psychological functioning, one must continue to develop the self through growth in various facets of life (Ryff, 1989). This requires continually evolving and solving problems, thereby expanding one's talents and abilities. Growth is attained through exposure to different complex situations (Weinberg, 2008). The selection and training have different components and areas of focus. Personal growth in candidates can be observed as the ability to successfully complete a component of training and apply the lessons learnt in stages and components to follow. The key principle in this regard is to keep evolving and acquiring new skills and abilities. Personal growth during training is enhanced by feedback from instructors. During Recce selection, candidates see their development by the number of different phases of training that they successfully complete. This becomes personal motivation.

2.9.1.3 Environmental mastery

Environmental mastery refers to choosing and controlling the surrounding and imagined environment through physical and/or mental actions (Ryff, 1989). This component is displayed in the face of adversity and challenges when one is able to exercise control

despite life's situations. The individuals shows mastery in complex situations when they are able to navigate through coping strategies and exploring opportunities (Weinberg, 2008). The military trains and equips soldiers to adjust to different environmental demands. Basic military training to all-functional training in a soldier's career deals with mastering the environment, which is reinforced by phrases such as "there is no rain in the army", pain is attributed as weakness leaving the body, camouflage and concealment, tactical movement, and field training. These techniques are used to acquaint soldiers with their work environment. During the selection, the survival week is one of the tools used to assess the level of environmental mastery of the candidates.

2.9.1.4   Purpose in life

Purpose in life refers to the perceived significance of one's existence and involves the setting and reaching of goals, which contribute to the appreciation of life (Ryff, 1989). While, mental health includes awareness of a greater goal and purpose in life (Ryff, 1989). Purpose in life creates direction, thereby eradicating despondency. Goals are an important part of striving for success (Miller, 1997). For most candidates, the Recce learning program is used as a promotional training in which one needs to be competent to be considered for the next course or training. For most non-commissioned officers, this training is used to determine whether they are good enough to be recommended for officership, which is a desire for most.

2.9.1.5   Positive relationships with others

Having positive relationships with others is an essential component in the development of trusting and lasting relationships as well as belonging to a network of communication and support (Ryff, 1989). During all military training, the principle of esprit de corps is

instilled in soldiers to create group morale and collegiality. Van Dewout and Van Dyk (2016) endorse that training soldiers to live together, train together, and wear the same clothes teaches them to elevate the objectives of the group above their own to enhance group cohesion. They further emphasise that high morale leads to high performance and resilience. This is evident during any military training - where candidates have high morale they tend to perform better because the group's objective is prioritised. Recce operators work and are trained in small teams and it is, therefore, a requirement to have good relations with others.

2.9.1.6   Self-acceptance

Self-acceptance is the most critical aspect of psychological well-being, as it focuses on mental health and effective functioning (Ryff, 1989). It is suggested that healthy levels of self-acceptance create a positive attitude and improved satisfaction with life (Ryff, 1989). Moderate levels of confidence lead to greater achievement and acceptance of positive feedback from others is important in the maintenance of self-confidence and belief (Weinberg, 2008). Self-acceptance is a key component of self-actualisation, enhanced psychological functioning, and development (Ryff, 1989; Ryff et al., 2004). It entails accepting the past and present and maintaining direction for the future. The Ryff's Scales of Psychological Well Being are used to measure this construct (see par 3.5.1) in Chapter 3.

2.10   RESILIENCE

According to Garmezy (1991) resilience is defined as "the capacity for recovery and maintaining adaptive functioning following incapacity" (p. 56). Psychological resilience is the ability to bounce back from emotional experience during stressful situations. The

construct of resilience characterises a psychological frame of mind that is linked to behavioural and psychological outcomes. Most commonly, the term resilience has come to mean an individual's ability to overcome adversity and continue his or her normal development (Alonso-Tapia et al., 2017).

This perception is sustained by other researchers who describe the concept "as a set of processes that enables good outcome in spite of serious threat" (Barton, Barry & Armstrong, 2009, p. 89). The emphasis is on the ability to persist even in the face of challenges and to bounce back from adversity. Several documented factors influence and positively contribute to the development of resilience, namely optimism, effective problem-solving, faith, sense of meaning, self-efficacy, flexibility, impulse control, empathy, close relationships, and spirituality, among others (Barton et al., 2009). Price, Bush and Price (2015) explain resiliency as the ability to stretch much like an elastic (like a suspension bridge) in response to the pressures, challenges and strains posed by life situations. The bridge will bend to take whatever pressure is imposed on it but will still bounce back to its original form and shape thereafter.

Ungar (2005) introduces a perceptual prism to understanding resilience. The author suggests that resilience should be understood in the context of exposure to significant adversity - resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways. This description broadens our understanding of resilience from an individual concept, popular with western-trained researchers and human services providers, to a more relational understanding of well-being embedded in a social-

ecological framework. Resilience requires individuals to have the capacity to find resources that bolster well-being to find ways to cope and get through challenging situations. In this sense, resilience is the result of both successful navigations to resources and negotiation for resources to be provided meaningfully (Ungar, 2005; Eid, Johnsen, Bartone & Nissestad, 2008).

There is a common misconception that people who are resilient experience no negative emotions or thoughts and display optimism in all situations. Contrary to this misconception, resilience is demonstrated by individuals who can effectively and relatively easily navigate their way around crises and use effective methods of coping. Recent research indicates that resilient individuals use an approach to life that is optimistic, are open to experiences, and have positive emotions (Masten, 2001). Further research concurs with this analogy that resilient individuals foster positive emotions through optimistic thinking, humour, and relaxation techniques.

Resilient individuals maintain high levels of positivity and well-being in the face of significant adversity. When a resilient individual experiences a negative outcome, they are able to process information provided by the participating event, learn from it, and control their biological systems to minimise the negative effect that they have experienced (Folke et al., 2010). Soldiers display a wide variety of responses to stress in combat. This is either through pathological responses such as PTSD, depression, and suicide or resilience. Military psychology has been at the forefront of scientific and clinical advances in understanding resilience.

Resilience emerges in a soldier's life when they have to spend long periods away from family and loved ones often in foreign countries where the soldier does not speak the language or understand the culture (Folke et al., 2010).

A soldier's resilience (ability to withstand, recover, grow, and adjust under these challenging circumstances) is vital to force protection. Without such resilience, members' performance (ability to successfully complete tasks) suffers and their fitness and combat readiness for deployment is adversely affected. Research on resilience endorses the notion that it draws on the negative in human experience by articulating the many ways in which life can be hard, but it also emphasises the positive in describing how some, despite their difficulties, are able to bounce back (Rutter,1990). The Resiliency Questionnaire for Adults is used to investigate the contribution of resilience on selection success (see par 3.5.4).

2.11 SELF-EFFICACY

According to Bandura (1977; 1997) self-efficacy describes how an individual regulates his or her behaviour when interacting with the environment. It is assumed to develop through perceived ability, feedback, and reflection, which then regulate behaviour accordingly. Bandura and Locke (2003, p.87) point out that "self-efficacy focuses on the individual's belief about their own abilities to reach specific objectives. This implies that human interaction is regulated by self-efficacy through cognitive, emotional, motivational, and decision-making processes". Thus, self-efficacy is elucidated by what the individual thinks and how they are motivated in the face of adversity and show perseverance. This then influences their decision-making and, ultimately, their behaviour (Bandura & Locke, 2003).

According to Bandura's cognitive theory (1986) people's beliefs about their efficacy can be developed by four main influences: mastery experiences, vicarious experiences, verbal persuasion, and emotional-physiological states.

Mastery experiences: this is a direct experience of mastery to increase self-efficacy. Succeeding in mastering a task or controlling an environment will build a robust self-belief in that area, whereas a failure will undermine that efficacy belief. As the Recce selection and training is structured in phases, soldiers develop self-efficacy along with the positive feedback they receive with each successfully completed phase. This increases the belief that one can overcome the next challenge.

Vicarious experiences: observation of people within one's environment, especially those considered to be models, instructors, and leaders. Seeing people similar to ones 'self-succeed by their sustained effort raises own beliefs that one to possess the capabilities to master the activities needed for success in that area. The Recce selection and training is presented annually and there are annual success stories shared. Candidates who have not done the training are at times motivated by their fellow unit members who have successfully completed the program, especially if they are of the same intake and come from the same company, unit, or regiment.

Verbal persuasion: persuasion usually comes from influential people such as platoon commanders who have nominated candidates to be on course.Instructors who motivate candidates during training and the social support from family can strengthen beliefs that

we have what it takes to succeed. Being persuaded that we possess the capabilities to master certain activities means that we are more likely to put in the effort and sustain it when problems arise.

Emotional and physiological states: the state in which candidates are in when they report to the selection and training has an immense influence on how they will judge their ability and self-efficacy to successfully complete training. Bandura (1994) alludes that depression, for example, can dampen confidence in one's capabilities. Stress reactions or tension are interpreted as signs of vulnerability to poor performance whereas positive emotions can boost our confidence in our skills. Figure 2.5 describes the interaction of the aforementioned influences and their possible outcome. From this diagram, it can be observed that for a soldier to have self-efficacy there should be an influence from one of the sources. The magnitude of the influence will result in candidates exerting effort and endurance by being persistent in achieving set goals which will require constant positive performance. One important aspect of self-efficacy is that it regulates how one approaches challenges, especially in the military training environment.

Figure 2.5 Sources of self-efficacy

Van Dyk and Ditsela (2014) further observed self-efficacy as people's beliefs about their own capabilities, abilities, and skills to produce the required levels of performance that exercise influence over events that affect their lives. With self-efficacy, beliefs determine how people feel, think, motivate themselves and behave when they are expected to perform. Applied to the military, it relates to the soldier's personal judgement of how well he can perform in dealing with challenging situations. Self-efficacy serves as motivation by influencing the tasks pursued by the individual and their perseverance in the face of challenges. In the military, self-efficacy is linked to overcoming challenges at work, thus improving performance and motivation to apply effort and persisting in overcoming challenges and being successful in given tasks. The Generalized Self-Efficacy Scale was used to measure the construct (see par. 3.5.3).

Studies have further indicated that the relationship between personality factors and performance may be mediated by self-efficacy beliefs. Fosse et al. (2015) found that self-efficacy was a partial mediator for the relationship between the Big Five conscientiousness domain and military performance. Personality traits and self-efficacy have both been found to affect performance but are assumed to operate on different levels. Personality traits are regarded as describing the inherent character of a person (McCrae & Costa 1999), whereas self-efficacy describes how the person regulates his or her behaviour when interacting with the environment (Bandura 1997). Self-efficacy is assumed to develop through perceived ability, feedback, and reflection, which then regulate behaviour accordingly (Bandura 1994, 1997).

Self-efficacy beliefs have been suggested to play an important role in the actual coping ability in extreme situations in which expectations of success are highly related to the outcome in the specific situation (Bandura 1982, 1997, 2014). Self-efficacy influences motivation, which influences the amount of energy one is willing to expand.

2.12   GRIT

Duckworth and Duckworth (2016, p.89) state that "grit is one personality characteristic relevant to courage and perseverance", defined "as the tendency to pursue long term goals with the sustained zeal and hard work". Dodd (2016, p. 102) defines grit as a "predictor of success in the military, referring to working hard and diligently over long periods", alluding that grit as a trait predicts retention and the completion of military selection courses. It is not enough to measure ability alone as sustained effort and interest are needed to ensure success. Grit has often been shown to be a good predictor of achievement in various streams of life. Within grit are two distinct facets, the first being perseverance of effort which measures diligence and commitment. Perseverance reflects endurance, commitment, and effort towards goals; in other words, no one is so talented that they do not have to work hard. Effort is a function of two factors: the importance of success and the perceived difficulty of attaining the goal. The importance of success defines how much effort people are willing to expend; the difficulty of attaining it defines actual effort (Duckworth & Duckworth, 2016).

The second facet is consistency of interest, which measures the involvement and eagerness from the individual (Duckworth, & Duckworth, 2016).

Personality traits, like grit, describe tendencies to act, think, and feel that are relatively stable across time and situation, motivational traits describe enduring individual differences in what people want and need (Roberts, Harms, Smith, Wood, & Webb, 2006).

Duckworth, Kirby, Tsukayama, Berstein and Ericsson (2010) point out the common perceptual overlaps between grit and perseverance of both constructs manifests in endurance with long term goals. Grit purely entails working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and challenges in progress. Maddi (2004) endorsed that grit is the ability to make realistic plans and being capable of taking the steps necessary to follow through with them. It can be seen as the positive self-concept and confidence in one's strengths and abilities like communication and problem-solving skills. People who possess high levels of grit adopt a positive approach in challenging situations which drives them to not merely work hard on tasks at hand but rather work diligently toward higher-order goals over extremely long periods.

Duckworth et al., (2010) found that grit predicts success in military leadership programs and success in competitive spelling bee competitions even after accounting for the variance attributable to self-control. Gritty individuals possess self-control and regular commitment to goals that allows them to resist impulses (to engage in self-harm) and focus on future goals. There are several reasons why grit may be a viable source of resiliency. First, people who exhibit grit are more likely to persevere following setbacks, loss, and adversity.

These people view negative events as painful; they may be more likely to maintain or alter their course instead of aborting goal related efforts (Brown, Carruthers & Hood, 2004). Georgoulas-Sherry and Kelly (2019) state that grit does not demand an adverse environment or situation as it is not dependent on sustaining effort through a critical incident. However, this is not the same for resilience, which is characterised by a positive outlook and mindset which allows for positive re-adjustment during adversity. This construct is measured using the Grit Scale (see par 3.5.2).

2.13 CONCEPTUALISNG THE RELATIONSHIPS BETWEEN CONSTRUCTS

This section of the chapter examines the links between theoretical and empirical findings to substantiate the relationship between the constructs. A detailed review of existing research findings and the researcher's hypothesis of the relationship between the variable in this study is outlined below. Several of these constructs have not been studied in the context of this military sample.

2.13.1 Relationship between psychological well-being and selection success

Research suggests that in the military factors such as stress emanating from the separation of military wives and their spouses due to training and deployments has adversely affected their psychological well-being and adjustment. Green, Nurius and Lester (2013) found that accumulated stressors and perceived military-related stress accounted for a significant portion of the variance in psychological well-being. The results suggest that during an extended separation, the lower the accumulation of stressors and perceived military stress, the greater the psychological well-being of Army wives.

Furthermore, Skomorovsky, Kerry and Sudan (2011) found that psychological well-being had a positive contribution in military training and job performance. However, Hustad (2017) found psychological well-being as relevant to life transitions because people with high PW indicated being able to overcome challenges, adapt to new environments, maintain relationships, and continually developed themselves. Those who score higher in psychological well-being tended to easily adjust in changing situations by employing strategies like commitment, positive reappraisal or seeking instrumental, and emotional support compared with those with lower psychological well-being (Chow, 2007).

2.13.2 Relationship between grit and selection success

Duckworth et al., (2007) found that grit predicts success in military leadership programs and success in spelling bee competitions of adolescents. Hogan and Larkin-Wong (2013) suggested that people high in grit are more passionate about their goals and more dedicated to accomplishing them, so it seems reasonable that the importance of success and hence the level of potential effort should be higher for gritty people. What makes one person successful, while another might struggle, has nothing to do with being smart. Instead, it largely depends on personality traits such as grit and conscientiousness. It is not that intelligence is not really important (Duckworth et al., 2007). Furthermore, studies have endorsed the importance of grit as a driver of achievement and success, independent of and beyond what talent and intelligence contribute (Duckworth & Quinn, 2009).

More recently, the personality trait of grit, perceived as the tendency to pursue long-term goals with sustained zeal and hard work, has been shown to predict achievement in academics and the domain of work (Duckworth et al, 2007; Duckworth& Quinn, 2009).

While in some studies grit has been found to predict: academic success amongst Ivy League undergraduates and retention in the military, grit in these studies was the driver for commitment and endurance resulting from the passion and dedication gritty people have (Eskreis- Winkler, Duckworth, Shulman & Beal, 2014; Salles, Cohen & Mueller, 2016).

2.13.3   Relationship between self-efficacy and selection success

Social cognitive theory has identified self-efficacy as a powerful self-regulatory mechanism in affecting behaviour (Bandura 1997), and several studies have demonstrated that task-specific efficacy beliefs are crucial in the prediction of performance in a given situation (Stajkovic & Luthans 1998). Self-efficacy has repeatedly been shown to be related to task performance in a variety of settings such as training, sport, the military and educational (Tannenbaum, Mathieu, Salas & Cannon-Bowers, 1991). Furthermore, personality research has highlighted the importance of motivational processes and self-efficacy is a central motivational construct in behavioural prediction, (Ng, Ang & Chan, 2008). Cadets with greater levels of self-efficacy show a greater improvement of military skills during military academy training (Myrseth et al., 2018).

2.13.4   Relationship between resilience and selection success

Masten (2001) describes resilience as the positive side of adjustment after extenuating circumstances. However, theoretical background indicates that resilience empowers one to carry on pursuing their gaols even through adverse situations and still come out victorious (see par 2.9).

Hourani et al. (2012) established that marines who have high resilience have the ability to mentally and emotionally cope with crisis, combat exposure and find it easy to return to pre-crisis by using these metal processes as resources to protect them from potential effects of stress.

Werner (1995) referred to resilience as one of the mechanisms that moderate a person's reaction to a stressful situation or chronic adversity so that re-adjustment to normality and mental health is far more successful. Based on the above mentioned it can be concluded that a psychologically resilient soldier would cope well not only with the stressors associated with training and combat exposure, but also with the physiological stressors associated with military operations.

Therefore, psychological resilience has effects not only for mental health, but also for the physical health of a soldier (Fletcher & Sarkar, 2012). Additionally, there is considerable experimental evidence reporting that psychological stressors like mental fatigue can negatively impact on physical performance and not just on cognitive performance (Fletcher & Sarkar, 2012). Therefore, selecting and developing psychologically resilient soldiers would ensure that they can perform optimally during military operations that require physical and cognitive capabilities. For all these reasons, psychological resilience is deemed most critical for military readiness.

Warner (2013) maintains that during challenging circumstances resilient people experience more hope, have a positive outlook, and are generally better enabled to cope with training and operational demands.
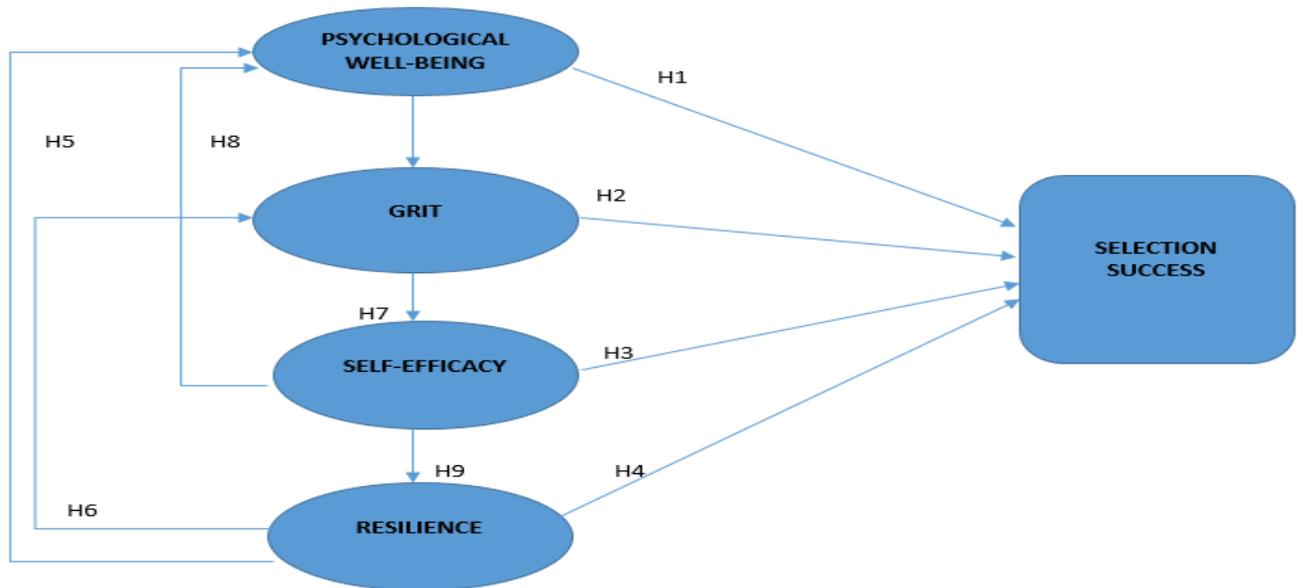
Figure 2.6 Proposed interaction model of factors that contribute to selection success.

Literature has indicated that there are numerous factors including the variables of this study that may contribute to either success or ineffectiveness of military training. In addition, the above illustrated variable interaction proposes that these variables may at some point affect each other. Georgoulas-Sherry and Kelly's (2019) study affirms that resilience and grit produce an array of protective mechanism that shield individuals from stressful environments and situations. These constructs are essential for assisting individuals with sustaining an emotional and psychological equilibrium when faced with adversity and challenges because this enables the continuation of positive health both mentally and physically and decreases maladaptive coping strategies.

Laureano, Grobbelaar and Nieghbors (2014) study found that increased self-efficacy had a positive effect on rugby player's psychological well-being indicative that PWB and self-efficacy may influence each other as far as the athlete's capacity and ability to cope effectively with stress is concerned. Similar to findings emphasising the role of self-efficacy being extremely significant in bringing variation in psychological health and a significant factor in PWB among university teachers. Suggesting that the implication of self- belief in the form of self-efficacy are in essence directed more towards enhancing PWB (Naz, 2015). There were further observations of differences between candidates who had low PWB and their perceptions of self-efficacy (Bentea, 2017).

Jaeh and Madihie (2019) concede that the intrinsic motivation that comes through self-efficacy has an inter-relational link and effect to resilience. Self-efficacy beliefs can affect motivation and self-regulation in a number of ways which become evident through the choices and course of action that take place. The authors further established that through self-efficacy it can be determined to what degree will a candidate exert effort, how long they will endure challenges, how resilience will develop in difficult situations. Therefore, one can conclude that the higher the self-efficacy, the higher the effort, persistence, and resilience. On the contrary, Delahaij, van den Berg and Kamphuis (2016) postulate that self-efficacy has a downfall, in that when circumstances are not challenging enough, high self-efficacy may lead to frustration thus leading to negative affect and boredom which can lead to demotivation and underperformance.

2.14   CHAPTER SUMMARY

This chapter discussed the theoretical body of knowledge in terms of theories that influence selection success and performance. Furthermore, from a positive psychology perspective, various positive psychology concepts were discussed. A significant body of research has demonstrated the need to better understand constructs that are integral in influencing and predicting performance. The chapter aimed to provide a theoretical background and understanding of the interaction between psychological strength and performance in military training.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

Igwenagu (2016) refers to methodology as "the systematic and theoretical analysis of the methods applied to a field of study" (p. 3). Methodology encompasses aspects such as paradigms, theoretical models, statistical techniques, and qualitative and quantitative techniques. According to Mouton (1996), methodology is a term "derived from the Greek words 'methodos' and 'logos' (logic or study). 'Methodos' in turn is made up of two words: 'meta' meaning alongside and 'hodos' meaning either 'a road' or 'journey'" (p. 35). In essence, it is the means of doing something, specifically the necessary means to fulfil the requirement of a specific stage in the research process. Igwenagu (2016) further posits that methodology in itself is not the end state of problem-solving but rather it sets out the theoretical underpinning for understanding which method would adequately address the research question.

Research is a process of obtaining in-depth information and producing knowledge for understanding (Muchinsky, 2003). It is the most appropriate way of discovering and analysing problems and questions because it anchors on scientific processes and procedures and results in scientific reasoning and findings. Rosnow and Rosenthal (2013) highlight that research involves different systematic means of investigating a question to develop knowledge and gain understanding.

Coetzee and Schreuder (2016) state that the basic research process unfolds over a series of five interconnected steps: (a) what is the research question? (b) research design: how can I investigate this question? (c) data collection: which information do I need to help me answer the question?

(d) data analysis: what is the information telling me? (e) what can I conclude from the research? Therefore, methodology is the guideline on how best to answer the presenting research question which is formulated for this study as: to what extent do psychological well-being, resilience, self-efficacy, and grit contribute to selection success?

Thus far, the study has broadly presented on the multidimensionality of military training and the complexities of the military environment thriving with multiple stressors that require unique coping strategies (Hartmann, Sunde, Kristensen & Martin, 2003). This drives an interest in understanding the intricacies of successful completion of training and actual effective performance. As previously highlighted, the objectives of this study (see par 1.4) are to conduct empirical research on the relationship and contribution of psychological factors on selection success and assess the importance of psychological strength in military training and selection. The theories discussed in the previous chapter establish a basis for the formulation of hypotheses to be discussed in this chapter together with the research design, sampling design, measuring instruments, data collection, data analysis, limitations, and ethical considerations.

3.2 HYPOTHESES

The literature review was designed as the theoretical foundation of the study in line with the theoretical objectives: to provide a comprehensive review of the literature on the constructs of psychological well-being, resilience, self-efficacy, and grit; to conceptualise these constructs concerning the sample to be studied; and to describe the extent to which psychological factors contribute to selection success in reconnaissance training, which will be utilised as the foundation upon which selection success will be measured to

determine the extent to which psychological factors contribute to candidates' behaviour and response to challenges (see Figure 1.3).The following hypotheses were formulated to investigate the relationship between the dependent and independent variables of the study (see Figure 2.6):

H1: There are significant differences between successful and non-successful candidates in the levels of psychological well-being.

H2: There are significant differences between successful and non-successful candidates in the levels of grit.

H 3: There are significant differences between successful and non-successful candidates in the levels of self-efficacy.

H 4: There are significant differences between successful and non-successful candidates in the levels of resilience.

H5: There is a significant relationship between resilience and psychological well-being.

H6: There is a significant relationship between resilience and grit.

H7: There is a significant relationship between self-efficacy and grit.

H8: There is a significant relationship between self-efficacy and psychological well-being.

H9: There is a significant relationship between self-efficacy and resilience.

3.3   RESEARCH DESIGN

Mouton (1996, p.107) defines a research design as "a set of guidelines and instructions to be followed in addressing the research problem".

He further describes the design component in research as the blueprint which serves as a step-by-step guide on what needs to happen in the process of solving a problem. There

are two main research paradigms used by most researchers, namely quantitative and qualitative. Qualitative research is mostly used to gain a deeper understanding of underlying beliefs, values, attitudes, and perceptions, while quantitative research is commonly used to provide a description and explanation of variables using numerical figures and statistical analysis (Coetzee & Schreuder, 2016).

According to Coetzee and Schreuder (2016), qualitative research is heavily based on the researcher's skills and abilities. Outcomes of qualitative studies may not be reliable primarily because the technique has an element of subjectivity given that a researcher formulates arguments based on subjective interpretations and personal judgements of the data. On the other hand, the statistical element in quantitative research warrants for objective interpretations given the general statistical formulas and data analysis. For this study, a quantitative approach was undertaken to investigate the relationship between the variables in the study.

Within each research approach are research techniques guiding how best the research question can be answered. Because of the limited research on the predictors and factors contributing to selection success in reconnaissance military training, the study adopted an exploratory approach. Exploratory research is normally carried when the researcher examines a new interest or when the subject of study is relatively new (Babbie, 2010).

Based on the aforementioned, a non-experimental exploratory research design is used to explore the statistical correlation between the variables of the study (psychological well-being, grit, self-efficacy, and resilience) while also studying the contribution these variables may have to successfully completing gruelling military Recce training and

selection. Babbie (2010) asserts that non-experimental research involves the observation of the relationship between the variables without controlling or manipulation thereof.

Goddad and Melville (2014) describe variables as factors a researcher is interested in studying. These variables are divided into two distinct forms, namely dependent and independent variables. Researchers describe the dependant variable as that which is observed and measured by the researcher to determine the impact that the independent variable has on it. In this study, the said dependent variable is selection success.

The independent variable is that which is expected to have a contribution to the dependent variable, or in other words, the researcher would like to see how they affect or even determine selection success. The independent variables for this study are psychological well-being, self-efficacy, resilience, and grit.

3.4   SAMPLING DESIGN

Non-probability sampling was chosen because the participants are soldiers partaking in the reconnaissance selection and training. This sampling technique is mostly used when the rest of the population is not given an equal chance to participate in the study based on distinguishing characteristics (Etikan, Musa, Alkassim, 2016).

Purposive or judgemental sampling was also used primarily due to the nature and aim of the research (Babbie, 2010). Participants for this study comprised of 158 members of the South African National Defence Force (SANDF), specifically from the army and in the infantry corp undergoing reconnaissance selection and training (n= 158).

3.5   MEASURING INSTRUMENTS

The constructs in this study were measured predominantly using self-report pencil-and-paper questionnaires. The following test measurements were utilised:

- Psychological well-being measured by the Ryff's Scales of Psychological Well Being (Villar et al., 2010).

- Grit was measured using the Grit Scale (Duckworth et al, 2007).

- Self-efficacy was evaluated using the Generalized Self-Efficacy Scale (GSES) Schwarzer and Jerusalem (1993).

- Resilience measured using the Resiliency Questionnaire for Adults (RQA) (Alonso-Tapia et al., 2017). These instruments are discussed in detail below.

3.5.1   Psychological well-being

The Ryff's Scales of Psychological Well Being--Simplified Version (Villar et al., 2010) measures hedonic and eudemonic aspects of psychological well-being among older adults. This self-report instrument contains 22 items. Respondents are asked to indicate if a statement describes them accurately or not on a 4-point scale (1 = strongly disagree and 4 = strongly agree). The scale contains four components, namely self-confidence (seven items), orientation to present (seven items), stress (three items), and social tension (five items). The Chronbach's alpha coefficients ranged from .70 (social tension) to .81 (stress). In a South African study conducted by Edwards, Ncobo, Edwards and Palavar (2005), its reliability coefficient was reported ranging at .89.

3.5.2 Grit

The Grit Scale (Duckworth et al., 2007) is a brief, self-report measure of individual levels of grit, which is defined as perseverance and passion for long-term goals. This measure focuses on the extent to which respondents work vigorously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress. It consists of two factors: consistency of interests and perseverance of effort. Each of the 12 items is rated using the following 5-point scale: 1 = strongly disagree, 2 = Disagree, 3 = neither, 4 = Agree, and 5 = strongly agree. This scale demonstrated a high internal consistency of .85 in a study conducted by Kannangara et al. (2018).

3.5.3 Self-efficacy

The Generalized Self-Efficacy Scale (GSES) devised by Schwarzer and Jerusalem (1993) consists of ten items examining the strength of an individual's generalised sense of self-efficacy (Item 1: I can always manage to solve a difficult problem if I try hard enough). The measure was adopted from the mainstream self-efficacy approach to include the general beliefs in one's ability to respond to and control environmental demand. The measure is a 4-point Likert-type scale ranging from 1 (not at all true), 2 (barely true), 3 (moderately true), and 4 (exactly true). It was found to be valid and reliable internationally with alpha's ranging from .80 to .93 (Schwarzer & Jerusalem, 1993; Chen, Li & Leung, 2009).

3.5.4 Resilience

The Resiliency Questionnaire for Adults (RQA) (Alonso-Tapia et al., 2017) was developed to assess resiliency characteristics in a Spanish adult population.

The items in the questionnaire assess nine personal factors: optimism, self-efficacy, adaptability, trust, support, comfort, tolerance, sensitivity, and impairment.

This 36-item measure utilised a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The inventory has indicated acceptable internal consistency coefficients ranging from .75 to 88 (Alonso-Tapia et al., 2017).

3.5.5 Selection success

Selection success is defined as the successful completion of the selection week. A selection board's decision and results were used to determine the successful candidates from those who withdrew (all those that withdrew from training, either voluntarily or due to failure, including those that were discharged on medical grounds). Therefore, this research considered the results and conclusions of the selection board.

3.6 DATA COLLECTION

Permission to conduct the study within military premises was first requested from the Infantry Formation General Commanding Officer (GOC) for the availability of the personnel and subsequent request was submitted to the Defence Intelligence Director of the SANDF for clearance. In addition, the Ethics Committee of Stellenbosch University was approached for ethical clearance, which was granted for this study. Upon receiving permission, data was collected at the Infantry School of Excellence in Oudtshoorn from the candidates of the reconnaissance training programme. Members were convened after completing the fitness evaluation which is the first component of the selection. The purpose of the study was explained. Candidates were then invited to participate in the study at a voluntary basis; no obligation was imposed.

Consent forms were issues to all interested candidates. Thereafter, questionnaires were issued, and members given an opportunity to complete the questionnaires in a safe and conducive space in the presence of the researcher for assistance with questions and clarity, because English is a second language for most of the members. Online surveys were not considered for collecting data in the military training environment. That option would not have been appropriate given that the sample is multigenerational and may not be conversant with the internet apart from the general lack of resources in the organisation. All questionnaires were self-report and pencil-and-paper, composing of two sections; A and B. Section A collected biographic information section requiring information that was deemed useful for the descriptive purposes of the sample. Section B comprised of the different questionnaires. Participants were informed of the ethical obligations of the research, mainly that information would be treated with extreme confidentiality and they may with draw from the study as and when they feel uncomfortable.

3.7 STATISTICAL ANALYSIS

The Statistical Package for Social Sciences (SPSS 25)/ STASTICA 12 was used to compute descriptive statistics to provide an overview of the sample observing the mean and standard deviations. Furthermore, the reliability and convergent validity (factor loading $\leq$ .50) of the measures used in this study was computed by investigating the Cronbach's Alpha ($\grave{\alpha} \geq$ .70) and the composite reliability per scale. Muchinsky (2003) describes reliability "as the consistency or stability of the measure while validity is the accuracy and appropriateness of drawing inferences from the scores" (pp. 89-92).

These are calculated to ensure the usefulness of the test measures used in the study (Pallant, 2016).

An analysis of variance was used to examine the difference between successful and non-successful candidates. Furthermore, the Spearman's correlation coefficient was calculated to test the hypotheses to determine the relationship between variables. Coetzee and Schreuder (2016, p. 41) posit that "a correlation coefficient reflects the degree of a linear relationship between variables and is indicative of the direction of the relationship and its magnitude ($r \geq 1$)".

3.8   CHAPTER SUMMARY

The chapter discussed the methodology of the study, research design, sampling, research measures, data collection and data analysis. This chapter outlined how the hypotheses of the study were empirically investigated and it is followed by a discussion of the results (Chapter 4). These results are presented using tables and graphs to illustrate the relationship between the variables. A discussion of these results is presented in accordance with the theoretical and empirical literature in the previous chapters.

CHAPTER 4: RESULTS

4.1   INTRODUCTION

The following chapter presents the results from various statistical analyses conducted on the data collected. The presentation of results begins with reporting on the descriptive statistics of the samples and outlining the central tendencies of the variables of the study. Thereafter, the reliability analysis results of the instruments used to examine the constructs of the study are discussed. Inferential statistics are explored and the results of the ANOVA and correlation through the use of Spearman's correlation coefficient to test the studies hypotheses and confirm objectives are examined. Finally, conclusions are drawn based on the results of the study.

4.2   DESCRIPTIVE STATISTICS

According to Gravetter and Wallnau (2016), descriptive statistics are defined as "the statistical procedure used to summarise, organise and simplify data" (p. 5), hence, the use of diagrams and graphs is more popular in reporting sample data. Blanche, Durrheim and Painter (2006) state that one of the aims of descriptive statistics is to represent scores and observations in a summarised fashion. Likewise, Hinton, McMurray and Brownlow (2014, p. 38) assert that descriptive statistics allow for simplifying the presentation of large data to accurately describe what was observed with the sample quicker and more easily and thus provide a clearer picture from which to later draw inferences. McLeod and Thomson (2009) state that descriptive statistics allow for comparison of samples from one study to another.

To illustrate the general tendencies shown by the participants towards the variables of the study, the central tendency was computed. Blanche et al. (2006) describe the central tendency as the estimate of the most centremost score in the distribution. The most common measures of the central tendency are the mean and median. The mean is described as an "arithmetic average of all the values in data set" (p. 197). The median is the "middlemost score in a data set that has been ranked from lowest to highest". The median is particularly useful for ordinal data or when scores are strongly, positively, or negatively skewed (Blanche et al., 2006).

Furthermore, a measure of dispensation is reported to improve understanding of the spread of the data, which is reported with measures of percentiles and standard deviation (SD) scores (Goddad & Melville, 2014). Savin-Baden and Howell (2013, p.42) define SD as the "average of the deviation of each score from the mean". It is also regarded as the indicator of the variability and distance between the individual measures from the mean score. Thomson (2009) suggests that a low standard deviation indicates that data points are clustered tightly around the mean value, whereas a high standard deviation indicates that the data are less precise and spread across a large range of value. A brief description of the sample in terms of gender, race group, age, and military rank is presented in the figures below.

N = 158
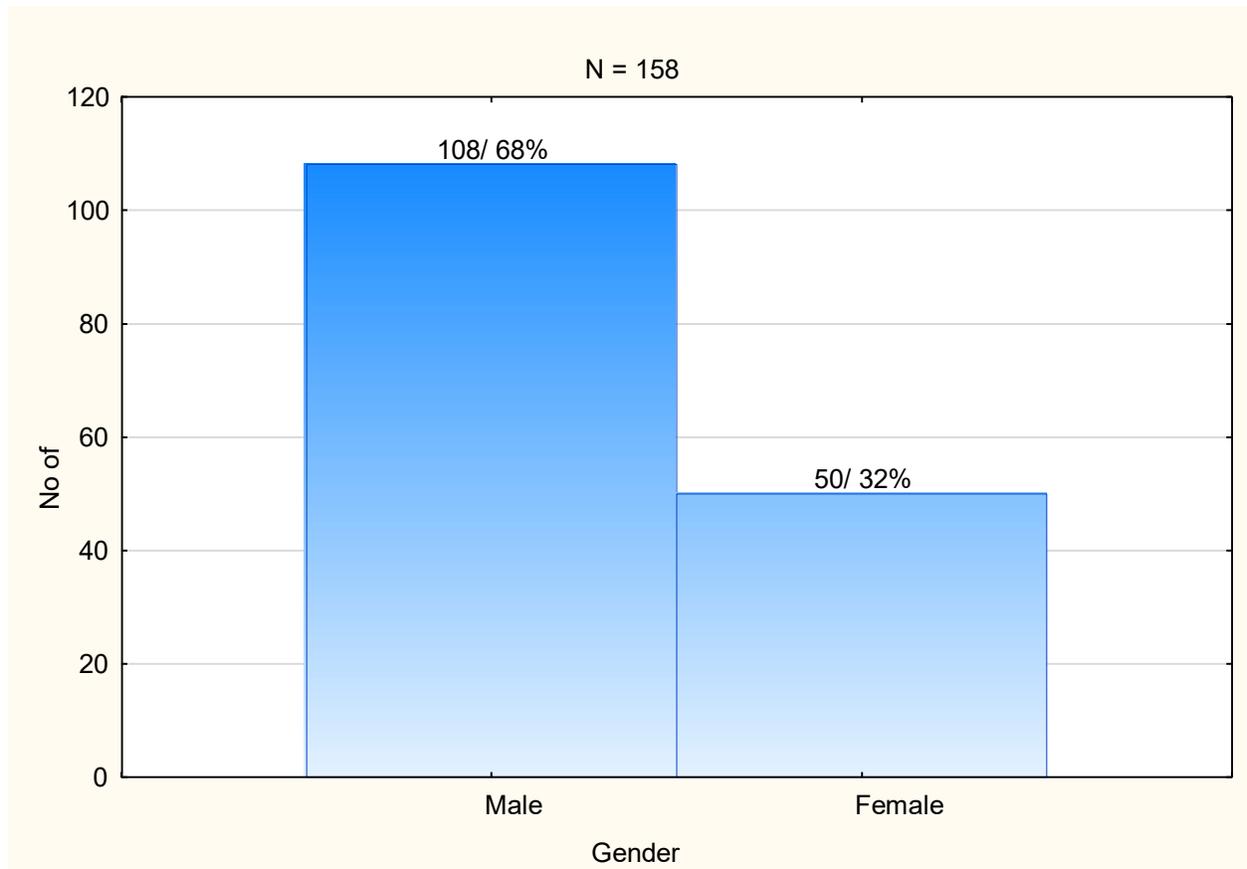
Figure 4.1 Histogram of gender

The sample comprised of 158 military personnel, amongst which proportionally 108 (68%) were males, while 50 (32%) were females. This is generally expected as the military is historically known to be male-dominated (Boldry, Wood & Kashy, 2001). Furthermore, due to the rigorous nature of the selection process, female soldiers are commonly less interested in participating in the selection and training. However, this has no bearing on the performance capabilities and abilities of men and women.
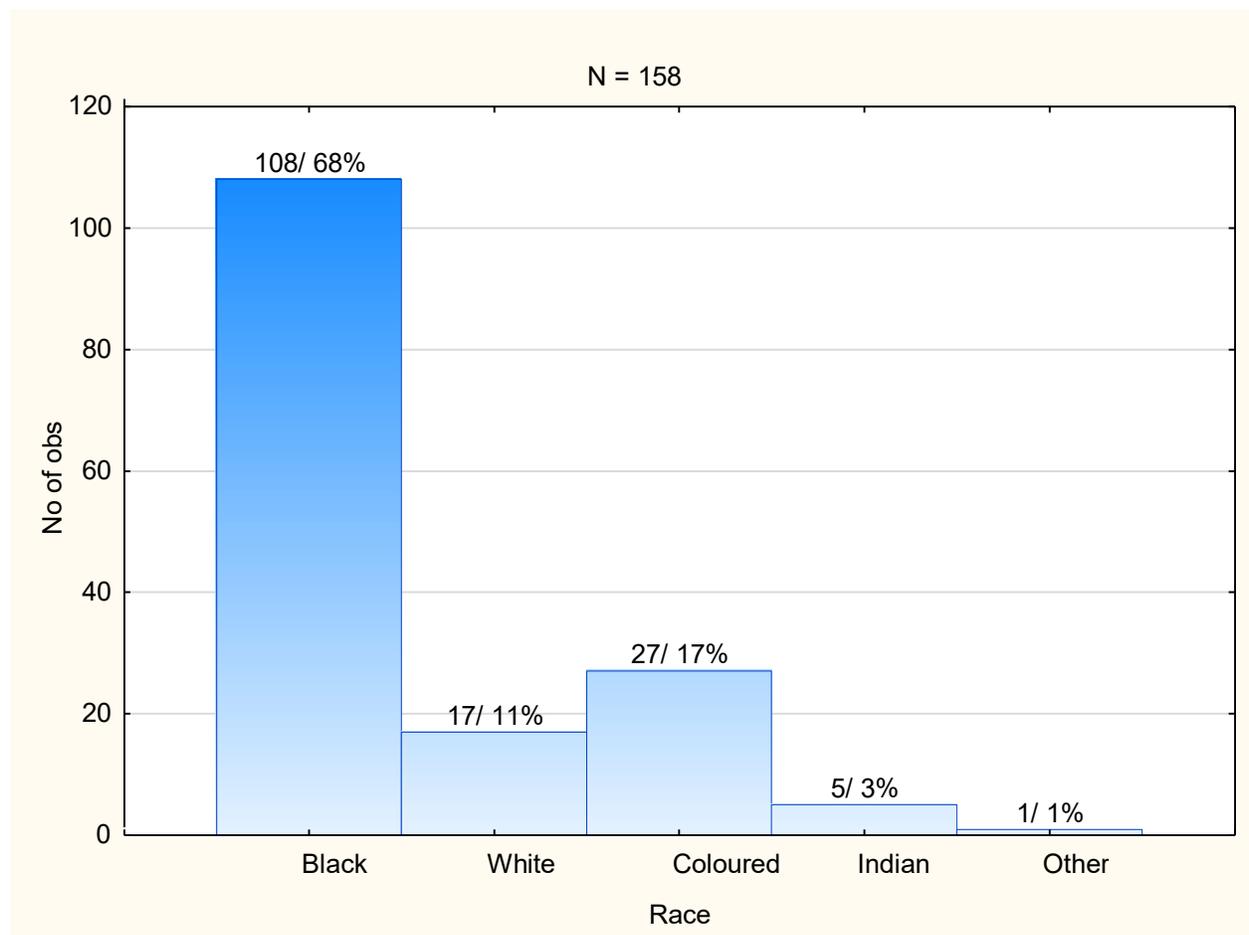
Figure 4.2 Histogram of race

The sample was a true representation of the SANDF as the participants represented different racial groups with the majority of participants being Black 108(68%) followed by Coloured 27 (17%) and Whites 17 (11%), and others (see Figure 4.2 above).
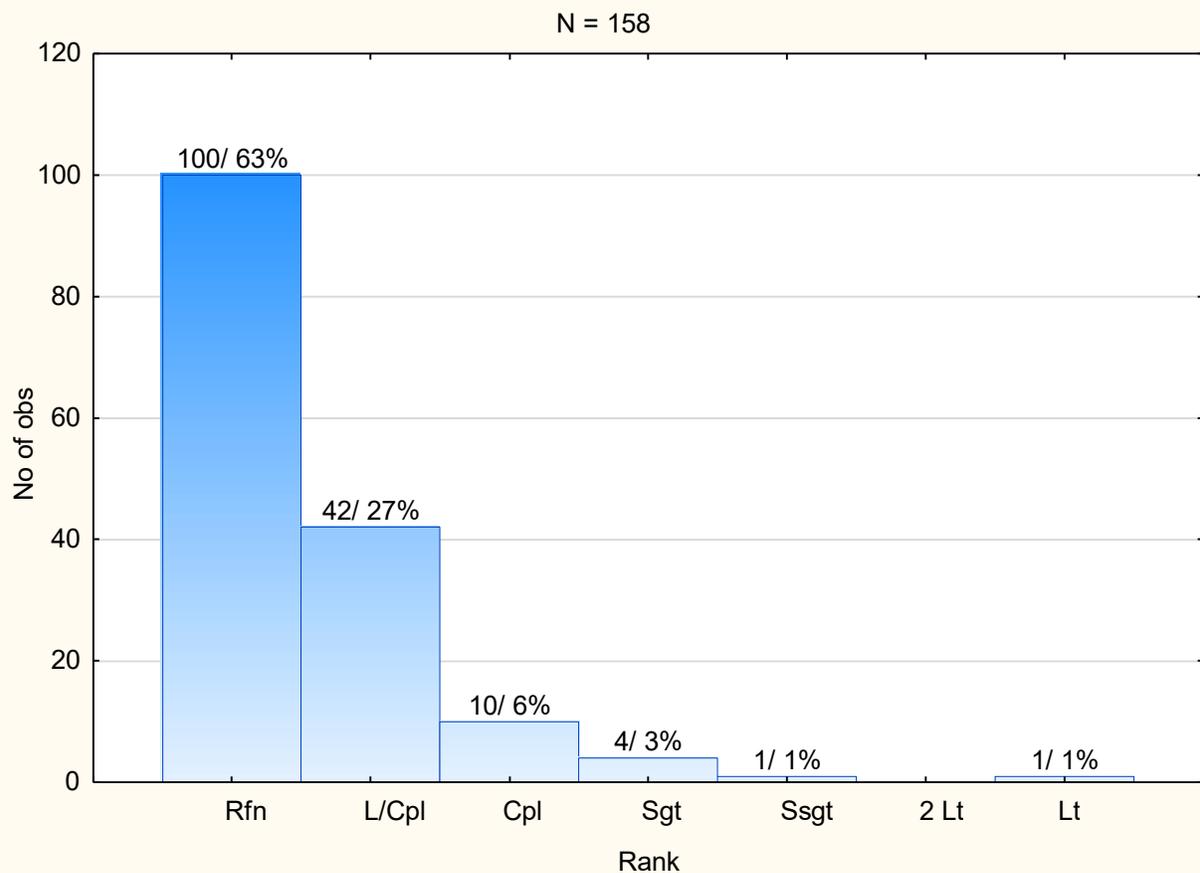
Figure 4.3 Histogram of rank

Figure 4.3 above indicates that the majority of candidates in the selection were Riflemen 100 (63%), followed by Lance/Corporals 42(27%), and a small representation of officers, with 1 (1%) Lieutenant in the group.
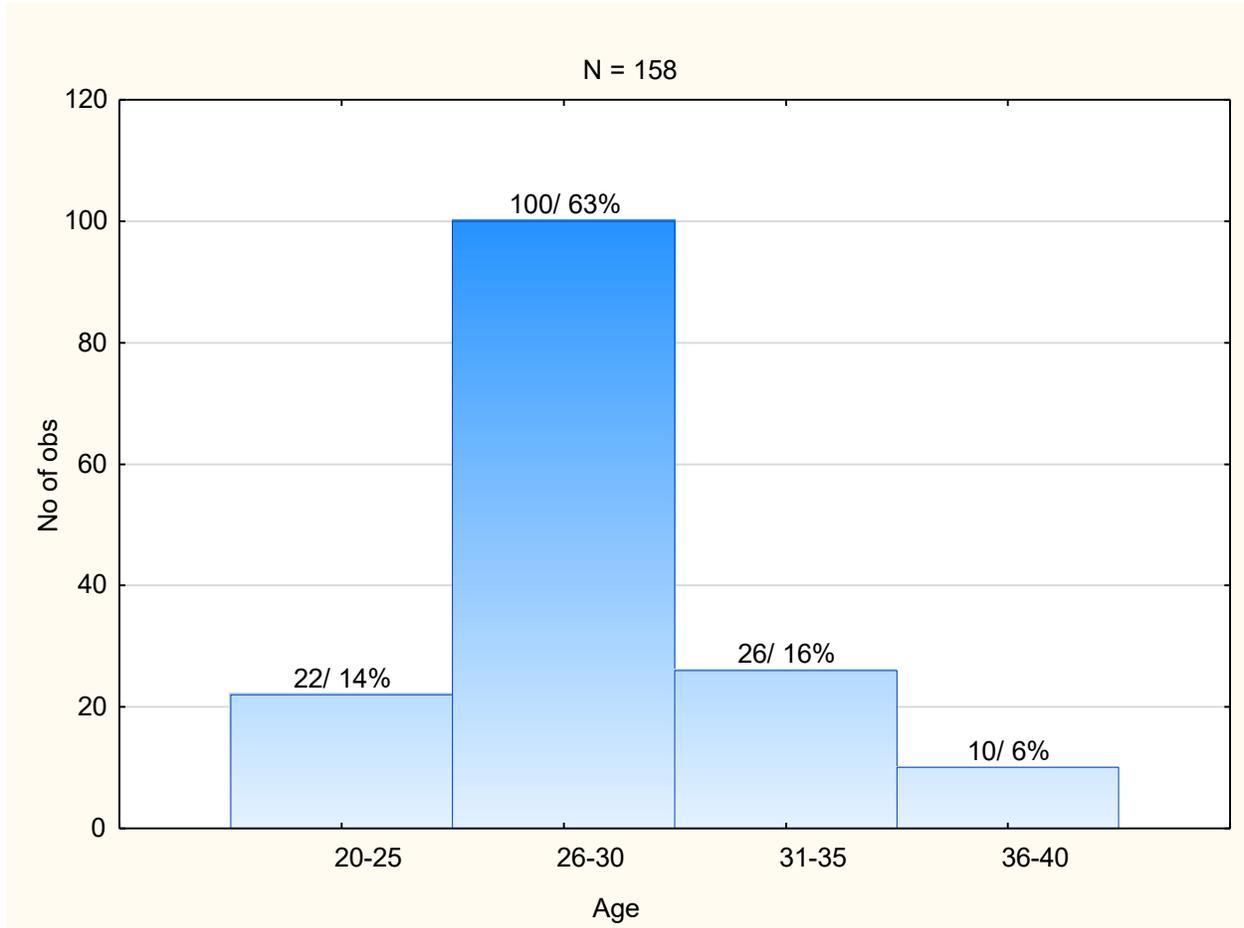
Figure 4.4 Histogram of age

Participants represented different age groups ranging from 20-25 being the young group of Riflemen to 40 years forming the combination of the rest of the rank groups (see Figure 4.4). The majority of candidates were between the ages of 26-30, 100 (63%) followed by the age group 20-25 comprising of 22 (14%) of the candidates. Those between the ages 31-35 comprised of 26 (16%) candidates, with those above 36 years consisting of 10 (6%) candidates.
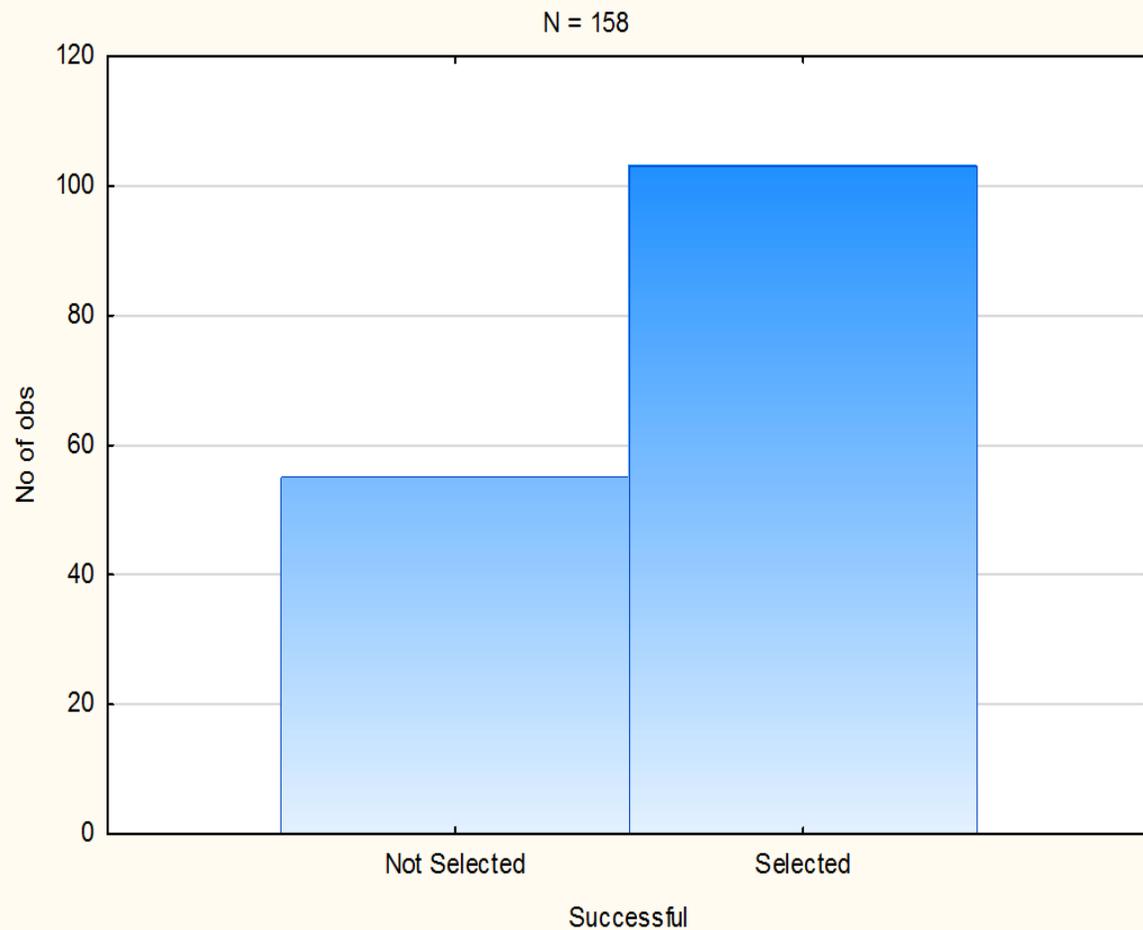
Figure 4.5 Histogram of the success status

Among the 158 candidates who reported for the selection, not all would be successful and selected to complete the training. Figure 4.5 indicates that of 158 participants, only 103 (65%) successfully completed the selection and were further selected to complete the learning program. Fifty five (35%) were unsuccessful and therefore did not participate in the training program.

To thoroughly analyse the relationship between the variables, central tendencies were computed (see Table 4.1). A total of four variables were analysed and their relationship examined as follows: (a) Resilience was examined using the 35-item Resiliency Questionnaire for Adults using a five-point Likert scale (as discussed in par 3.2.4). Self-efficacy was examined using the 10-item Generalized Self-Efficacy Scale and candidates were expected to indicate the extent to which they agreed with the statements on a four-point Likert scale (see par 3.2.3). Grit was examined using the 12-item Grit Scale and Psychological well-being with responses ranging on a five-point Likert scale (as elaborated in par 3.2.2). Lastly, Ryff's 22-item Scale of Psychological Well-Being examined psychological well-being using a four-point Likert scale (see para 3.2.1)

Table 4.1

Measures of central tendency

Variables	N	Mean	SD	Minimum	Maximum
Psychological well-being	158	3.0	.47	1.3	4.0
Grit	158	3.6	.63	2.0	5.0
Self-efficacy	158	3.4	.43	2.3	4.0
Resilience	158	4.4	.61	2.1	5.0

The results in Table 4.1 indicate the extent to which participants rated their perceptions of and agreement with the variables of the study.

For psychological well-being, candidates indicated high perception levels of PWB (Mean = 3.0, SD = .47). At least one candidate indicated low levels of PWB, while at least one candidate had high perception levels of PWB.

The results (Mean = 3.6, SD =.63) indicated that the candidates had high levels of grit. At least one candidate indicated below-average levels of grit, although there were no observations of extremely low levels amongst the candidates. At least one candidate reported extremely high levels of grit.

The results further indicated high perception levels of self-efficacy (Mean = 3.4, SD = .43). The lowest levels were observed as below average and an extremely high level of perception was recorded for at least one of the candidates.

Candidates further illustrated (Mean=4.4, SD=.61) high levels of resilience, with the lowest perceptual level being below average.

4.3 RELIABILITY ANALYSIS

Hanson, Creswell, Clark, Petska and Creswell (2005) state that reliability is concerned with the stability and consistency of the scores of an instrument, meaning the scores should remain consistent when the instrument is administered repeatedly at different times. Field (2013) further explains that a reliability analysis is conducted to ensure the internal consistency of the instrument by analysing the extent to which items in the scale measures the same attribute or construct. Analysing the internal consistency of a scale

provides an understanding of the performance of that scale in relation to other items and constructs (Gravetter & Wallnau, 2016).

Kimberlin and Winterstein (2008) affirm that reliability estimates are used to determine the stability of the test measure when used at different times. Cronbach's alpha coefficient was used to report the reliability of the questionnaires used in the study. Pallant (2016), like many other researchers (Field, 2009; Gravetter & Wallnau, 2011), highlights the rule of thumb: that ideally for a scale to be regarded as reliable, the Cronbach's alpha coefficient should be above .70. A higher value indicates a strong relationship between the items of the test and a lower value indicates a weaker relationship (Mohamad, Sulaiman, Sern & Selleh, 2015). However, there remains a divide in research in terms of the acceptable level as there are many factors that contribute to a good or poor reliability of the scale, such as the length of the scale, the number of subscales and reverse score, sample group, misunderstanding, duration of the scale, etc. Therefore, Zhou, Taber, Arcona and Li (2016) assert that "there is no general level (such as .70) where alpha becomes acceptable, but rather that instruments with quite a low value of alpha can still prove useful in some circumstances" (p.16). The four instruments used in this study have indicated acceptable levels of internal consistency in previous studies (refer to section 3.9).

Table 4.2

Measures reliability coefficient results

Variables (scale)	Cronbach's alpha (α)
Psychological well-being (Ryff's PWB)	.63
Grit (GS)	.76
Self-efficacy (GSES)	.84
Resilience (RQA)	.89

A reliability analysis was conducted on all the scales used in this study to establish the validity and usefulness of instruments for the identified sample. The results indicated usable and acceptable significant alphas ranging from α = .63 to .89 as indicated in Table 4.2.

Table 4.3

Internal reliability and inter-item correlation for subscales

Variables (scale)	N	Cronbach's alpha (α)	Average inter-item correlation
Psychological well-being:			
Self-confidence	158	.87	.29
Orientation to present	158	.66	.45
Stress	158	.81	.49
Social tension	158	.54	.44

Resilience:

Optimism	158	.33	.71
Self-efficacy	158	.62	.67
Adaptability	158	.56	.74
Trust	158	.37	.70
Support	158	.36	.70
Comfort	158	.49	.64
Tolerance	158	.45	.48
Sensitivity	158	.30	.61
Impairment	158	.44	.63

Table 4.2 tabulates a summary of the inter-item consistency of all the instruments used in the study. Item analysis was carried out for the various scales used in the study. Cronbach's alpha showed grit (α = .76) and self-efficacy (α = .84) to have reached acceptable reliability with no problematic items as most items were worthy of retention.

However, for psychological well-being, the reliability of the different subscales: self-confidence, orientation to present, stress and social tension, indicated moderate to acceptable reliability ranging from α= .66 to .87 with social tension being the exception with a poor coeffient of α = .54. The internal consistency was compromised as various items within its dimensions indicated problems given that the internal consistency of all sub-dimensions ranged between, α = .29 to .44, which is quite low. When examining the

individual items, there would have been no substantially significant difference had the items been deleted, hence the items were retained. The decision was also informed by the fact that the reliability of the composite dimension and scale remained acceptable.

Conversely, the resilience scale indicated a few problematic items (items 10, 2, 12, 4, 28, 20, 30, 22, and 36) that were negatively worded and designed to be negatively scored. The items were adequately reversed and scored, however, they still indicated being compromised, despite that further attempts to delete problematic items indicated no substantial significant contributions to the composite alpha of the scale $\alpha = .89$. Consequently, the items were retained in the scale.

4.4 INFERENTIAL ANALYSIS

Asadoorian and Kantarelis (2005) describe inferential statistics as the use of "probabilistic techniques to analyse sample information from a certain population (known part) to improve our knowledge about the population (unknown whole)" (p. 2). Inferential statistics allow a researcher to make inferences and draw conclusions based on the presented data and information. This will further allow for the testing of the studies hypotheses by confirming or rejecting the hypotheses (Field, 2013; Coetzee & Schreuder, 2016). For this study, the inferential statistics used to test the hypotheses are analysis of variance and correlation.

4.4.1 Analysis of variance

Analysis of variance (ANOVA) is a statistical method to test differences between two or more means, mostly used to test general rather than specific differences (Hocking, 2013). ANOVA was used to study the difference between successful and unsuccessful

candidates' perception levels of the variables of the study. Pallant (2016) states that the P- value should be less than or equal to .05 (e.g. .03 or .001) to regard the difference between groups as significant. The results are reported below.

H1: There are significant differences between successful and non-successful candidates in the levels of psychological well-being.
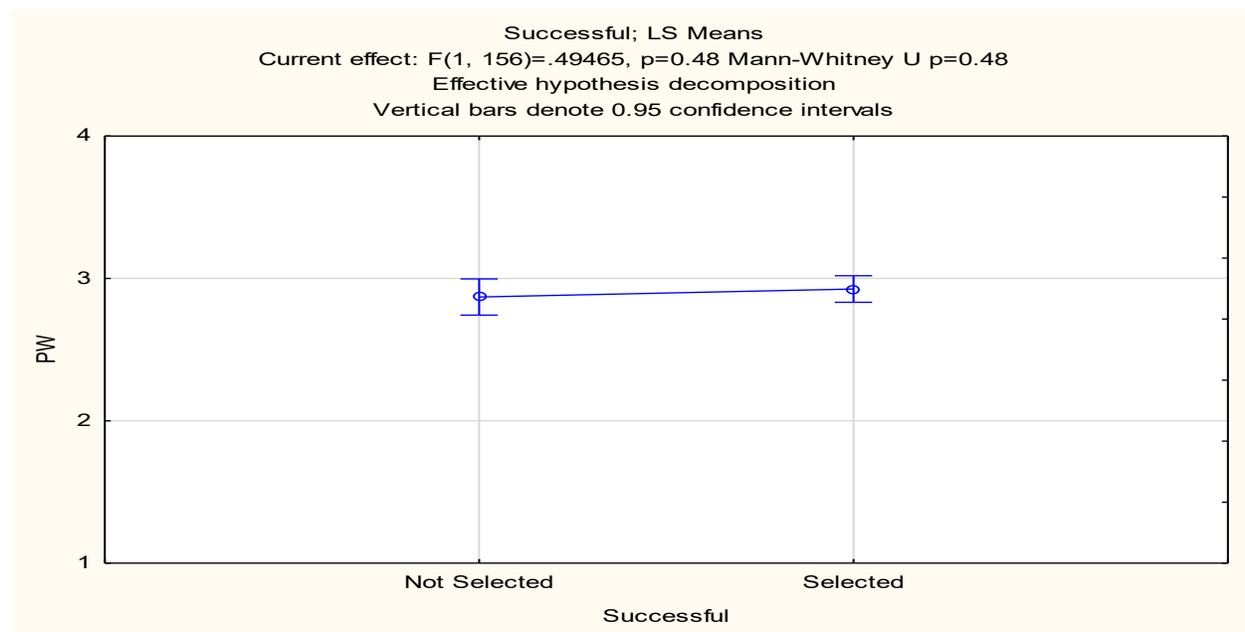
Figure 4.6 Psychological well-being levels between successful and non-successful candidates

The analysis indicates that there were no significant differences between successful and non-successful applicants on the perceptions of PWB (M= 2.93 successful and M= 2.87, F= .495; p > 0.05). Based on these results, candidates who successfully complete reconnaissance selection and training did not have significantly higher levels of PWB than non-successful candidates. Therefore, H1 was not substantiated and is rejected.

H2: There are significant differences between successful and non-successful candidates in the levels of grit.
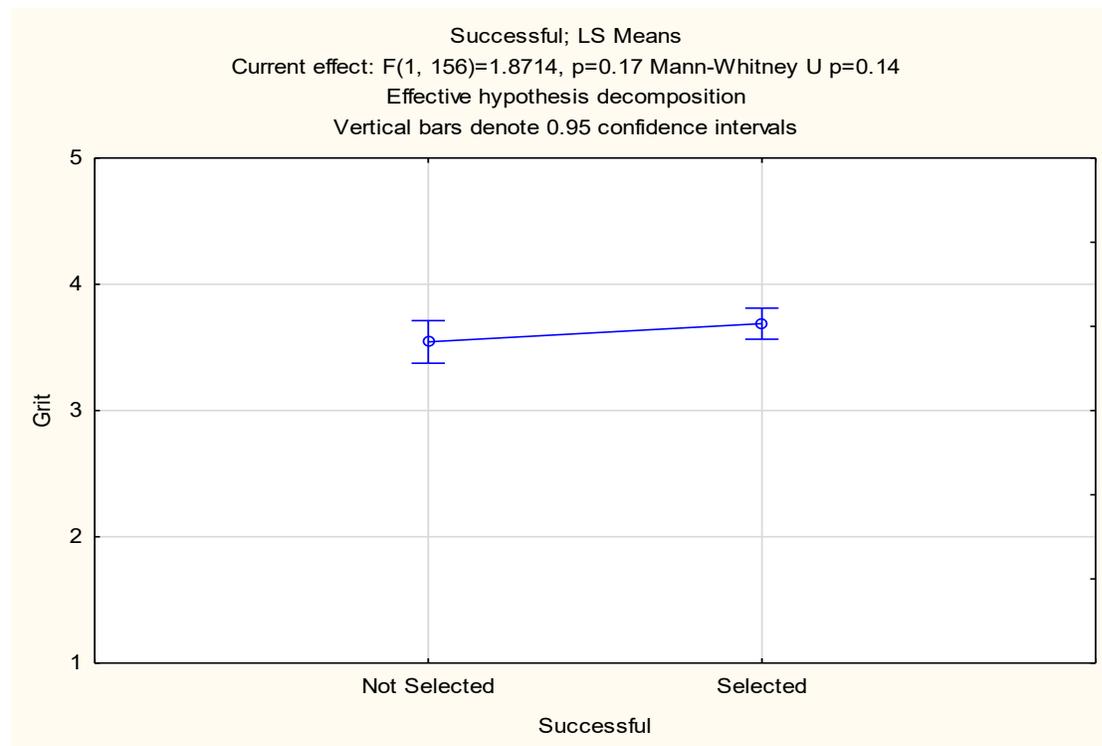
Figure 4.7 Grit levels between successful and non-successful candidates

The results in Figure 4.7 indicate mean differences (M = 3.69 successful and M = 3.54 non-successful) on the levels of grit between successful and non-successful candidates (F = 1.871, p > 0.05). Based on the results, there were no significant differences between the levels of grit between successful and non-successful candidates. Therefore, H2 was rejected.

H 3: There are significant differences between successful and non-successful candidates in the levels of self-efficacy.
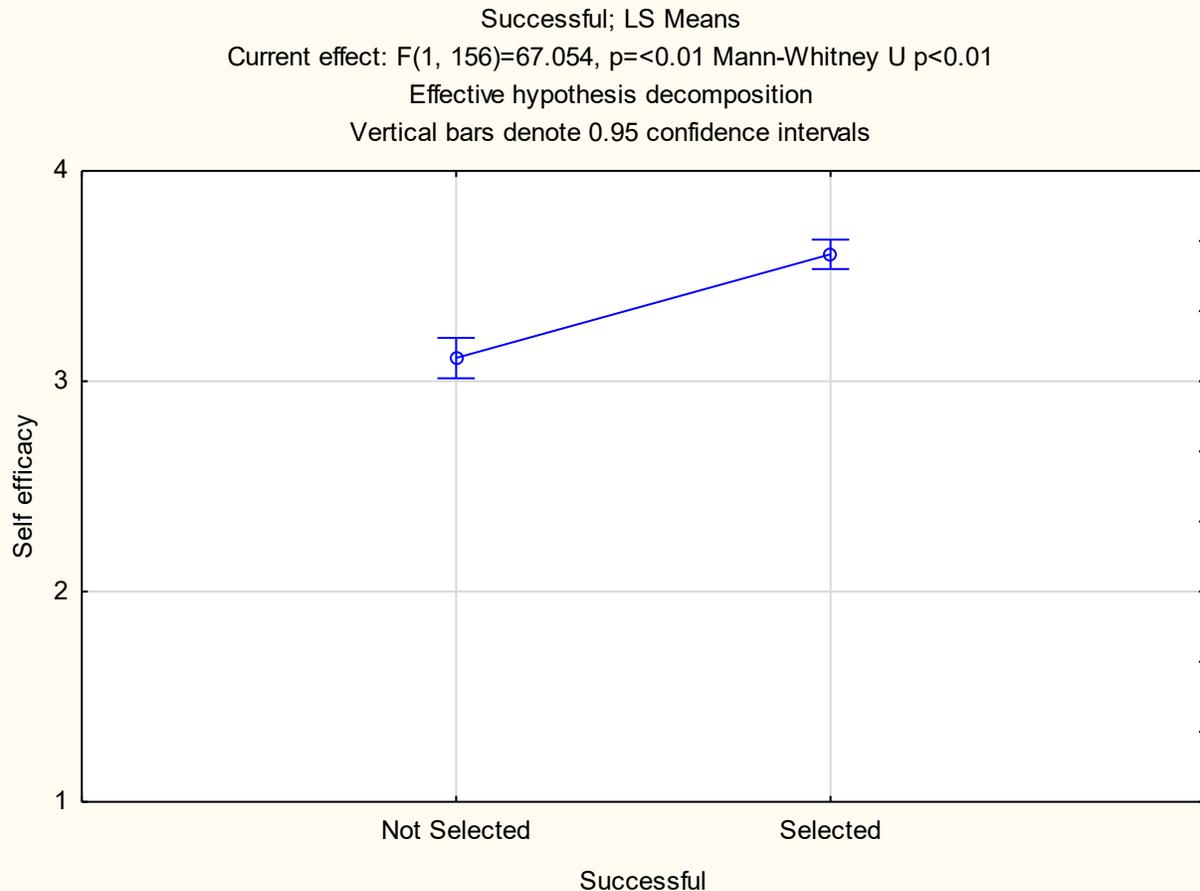
Figure 4.8 Self-efficacy levels between successful and non-successful candidates

Figure 4.8 results indicate mean differences (M = 3.6 successful and M = 3.11 non-successful) on the levels of self-efficacy between successful and non-successful candidates.

The results indicate that there were significant differences (F = 67.054, p < 0.05) between the successful and non-successful candidates on the levels of self-efficacy. Descriptive statistics indicate that the successful group had significantly higher levels of self-efficacy than the non-successful candidates. Based on these results, H3 is supported and accepted.

H 4: There are significant differences between successful and non-successful candidates in the levels of resilience.

Successful; LS Means
Current effect: F(1, 156)=.26578, p=0.61 Mann-Whitney U p=0.46
Effective hypothesis decomposition
Vertical bars denote 0.95 confidence intervals
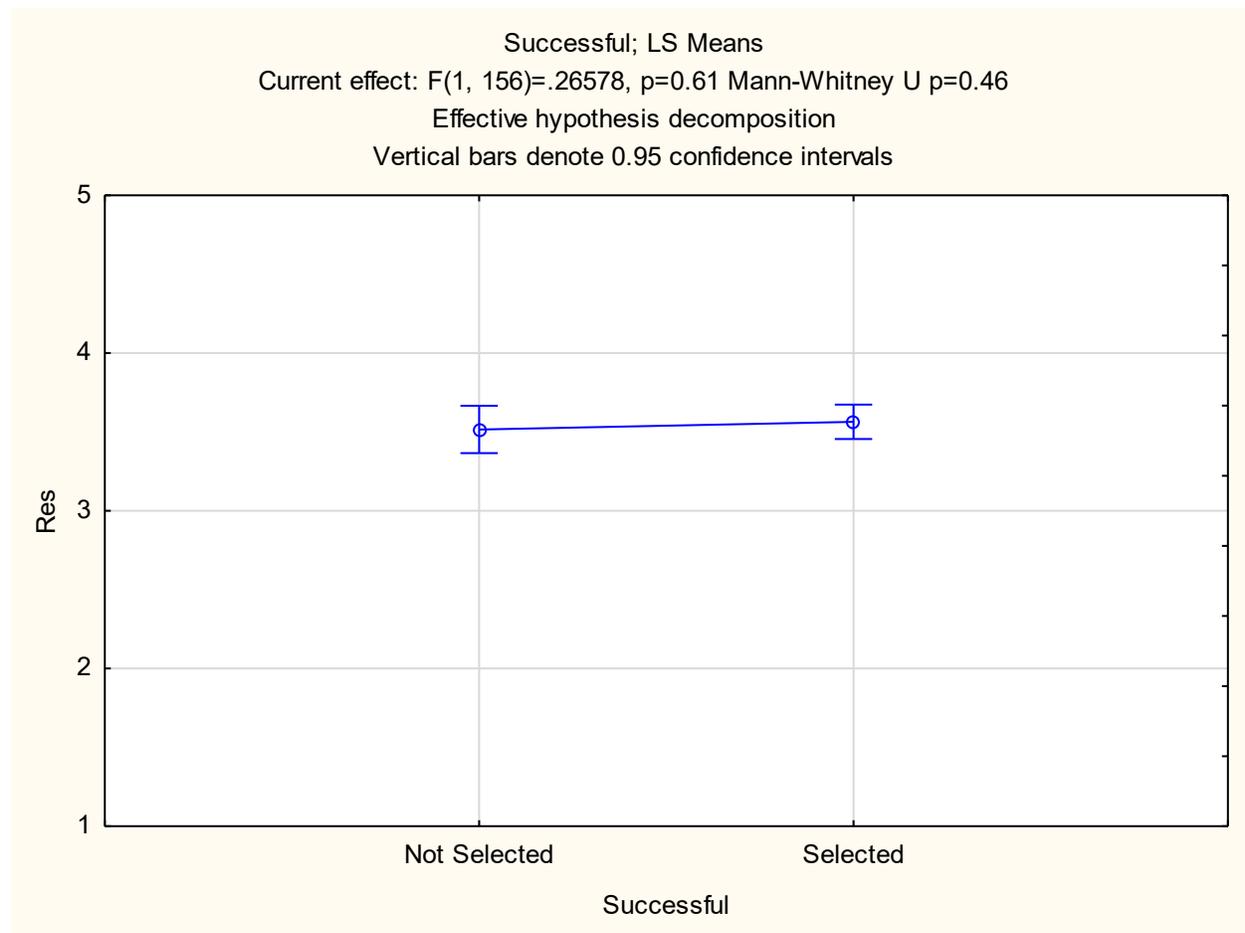
Figure 4.9 Resilience levels between successful and non-successful candidates

Figure 4.9 provides results indicating differences in the level of resilience of successful and non-successful candidates.

The results indicate that there were no significant differences between successful and non-successful candidates on resilience levels (M= 3.56 successful and M= 3.52, F = .266, p > 0.05). Based on these results, H4 is not substantiated and is thus rejected.

4.5   CORRELATION ANALYSIS

According to Pallant (2016), correlation is conducted to analyse how variables change together and determine the strength and direction of a linear relationship between two variables. This indicates the positive (as the one variable decreases, so does the other) and negative (as the one variable increases, the other variable decreases) direction of the relationship. Spearman's correlation was used to report the results. For a correlation to be significant Spearman's correlation coefficient should be +1.00 (or -1.00) indicating a perfectly consistent relationship (Gravetter & Wallnau, 2016). They further provide guidelines for interpretation of correlations. A correlation of ± .80 to ± 1.00 is referred to as a 'high' correlation and acceptable, a correlation of ± .60 to ± .79 is referred to as 'moderately high' and acceptable, a correlation of ± .40 to ± .59 is referred to as 'moderate', a correlation of ± .20 to ± .39 is referred to as 'low', and any correlation below ± .20 is disregarded (Gravetter & Wallnau, 2016).

Table 4.4

Summary of Spearman's correlation matrix

Variables	*M*	SD	1	2	3	4
1. PWB	3.0	.47	1.00			
2. Grit	3.6	.63	0.45**	1.00		
3. Self-efficacy	3.4	.43	0.18	0.21**	1.00	
4. Resilience	4.4	.61	0.32**	0.27**	0.11	1.00

**Correlation significant at the 0.01 level (2 tailed).   Note: N= 158

Table 4.4 provides a summary of the correlation relation between the variables of the study. These results confirm the study's empirical objectives (see par.1.3.2).

The objectives were to determine the contribution of psychological well-being, resilience, self-efficacy, and grit on selection success, and to reflect the correlation between psychological well-being, resilience, self-efficacy, and grit to selection success by examining the statistical relationship shared between each paradigm. Below are the results indicating the hypotheses testing.

H5: There is a significant relationship between resilience and psychological well-being.
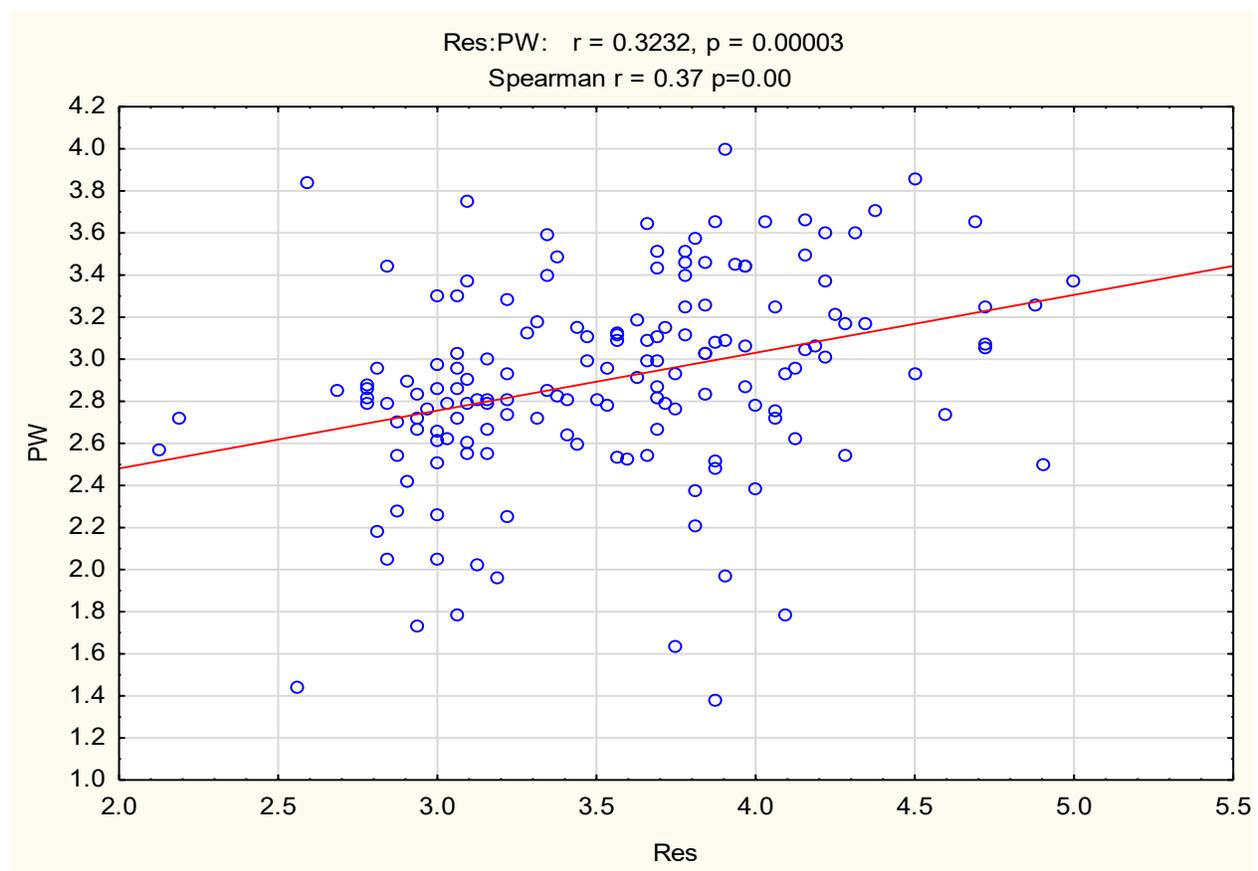
Figure 4.10 Relationship between resilience and psychological well-being

The results in Figure 4.10 indicate a low but significant linear correlation between resilience and psychological well-being (r = 0.32, p <0.00). This means that as resilience increases so does psychological well-being. Based on these results, H5 is accepted.

H6: There is a significant relationship between resilience and grit.
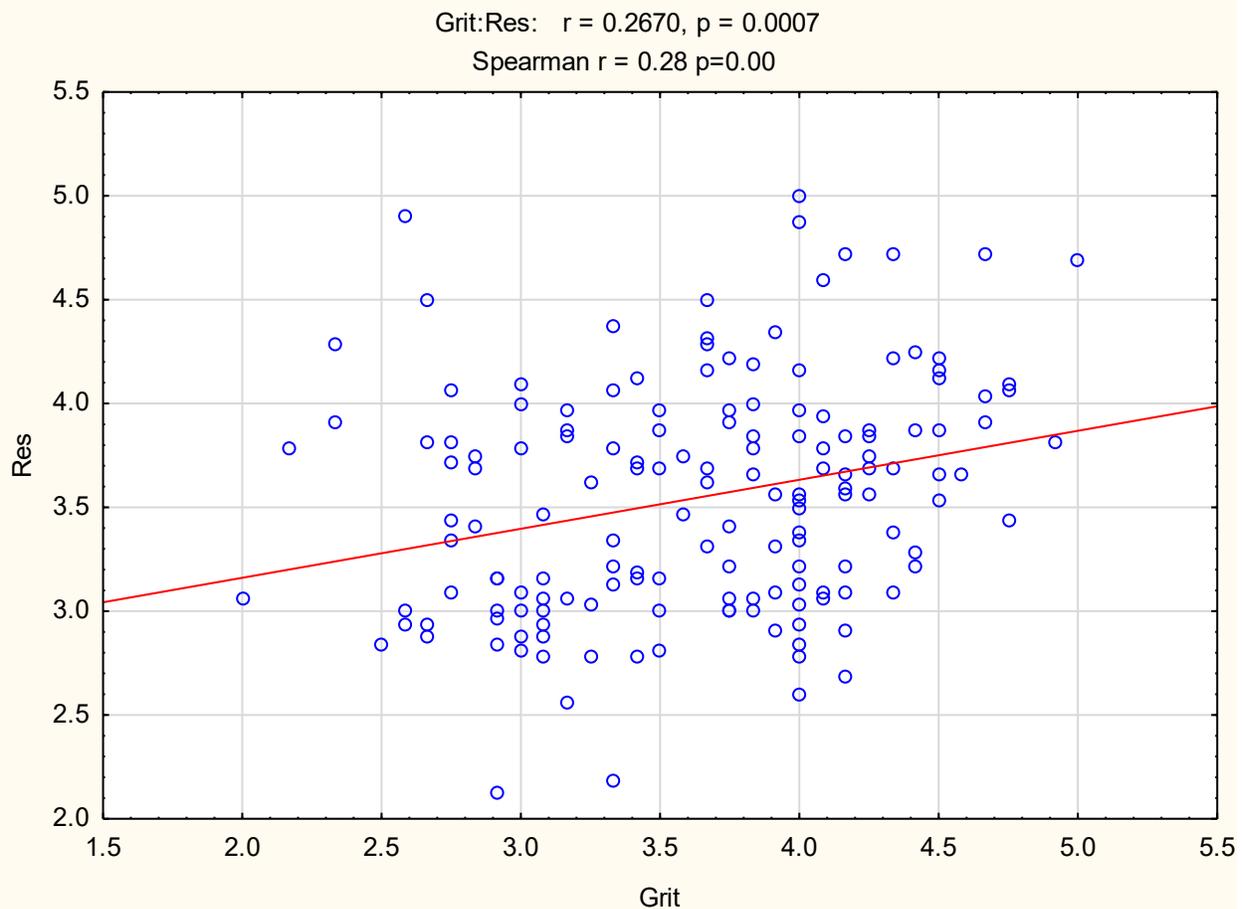
**Figure 4.11 Relationship between resilience and grit**

The results in Figure 4.11 depicts a low but significant linear correlation between resilience and grit (r = 0.27, p <0.00).

This means that as resilience increases so does grit in the same direction. Therefore, H6 is substantially supported and accepted.

H7: There is a significant relationship between self-efficacy and grit.
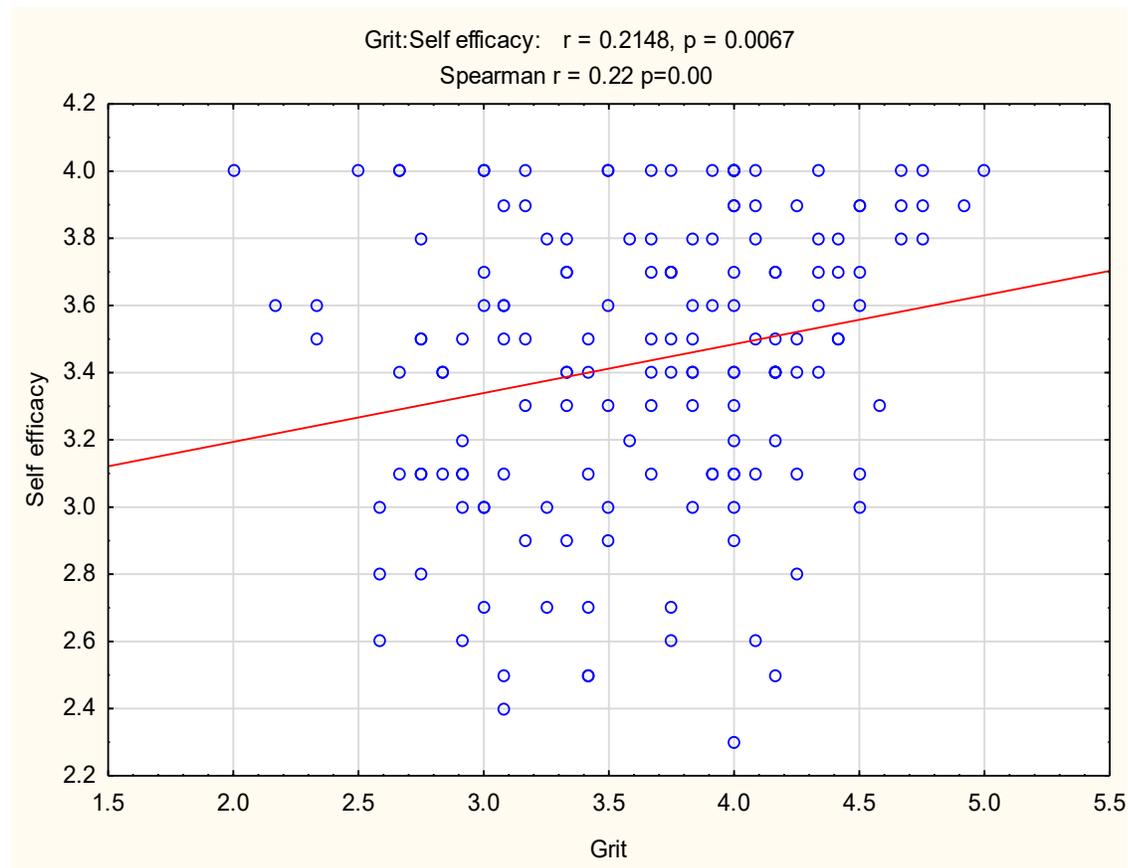
Figure 4.12 Relationship between self-efficacy and grit

The results in Figure 4.12 illustrate a low but significant linear correlation between self-efficacy and grit (r = 0.21, p <0.00). This indicates that as self-efficacy increases the same can be observed with grit. Consequently, H7 is accepted.

H8: There is a significant relationship between self-efficacy and psychological well-being.
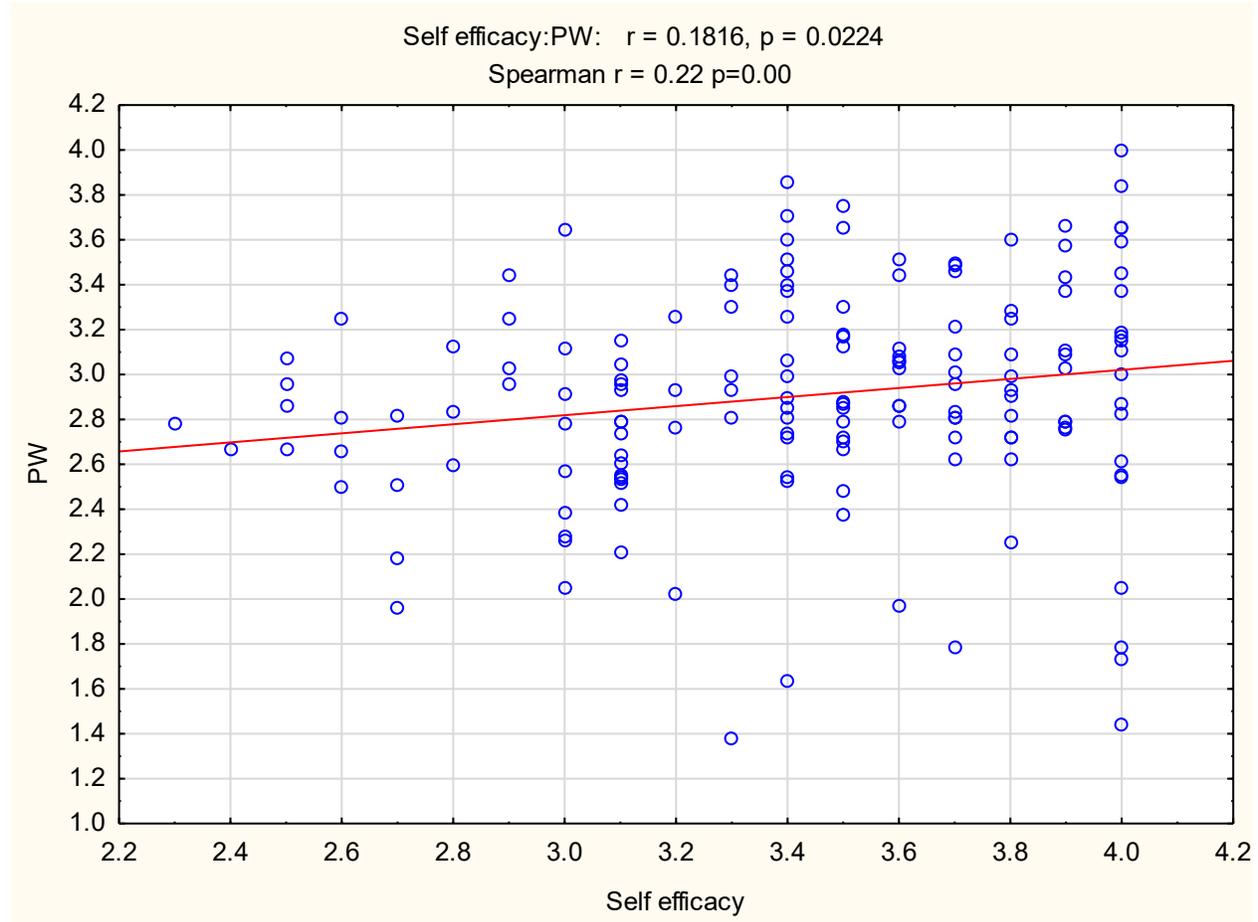
Figure 4.13 Relationship between self-efficacy and psychological well-being

The results in Figure 4.13 shows no significant correlation between self-efficacy and psychological well-being (r = 0.18, p = 0.02). Based on these results, H8 could not be substantiated and is therefore rejected.

H9: There is a significant relationship between self-efficacy and resilience.
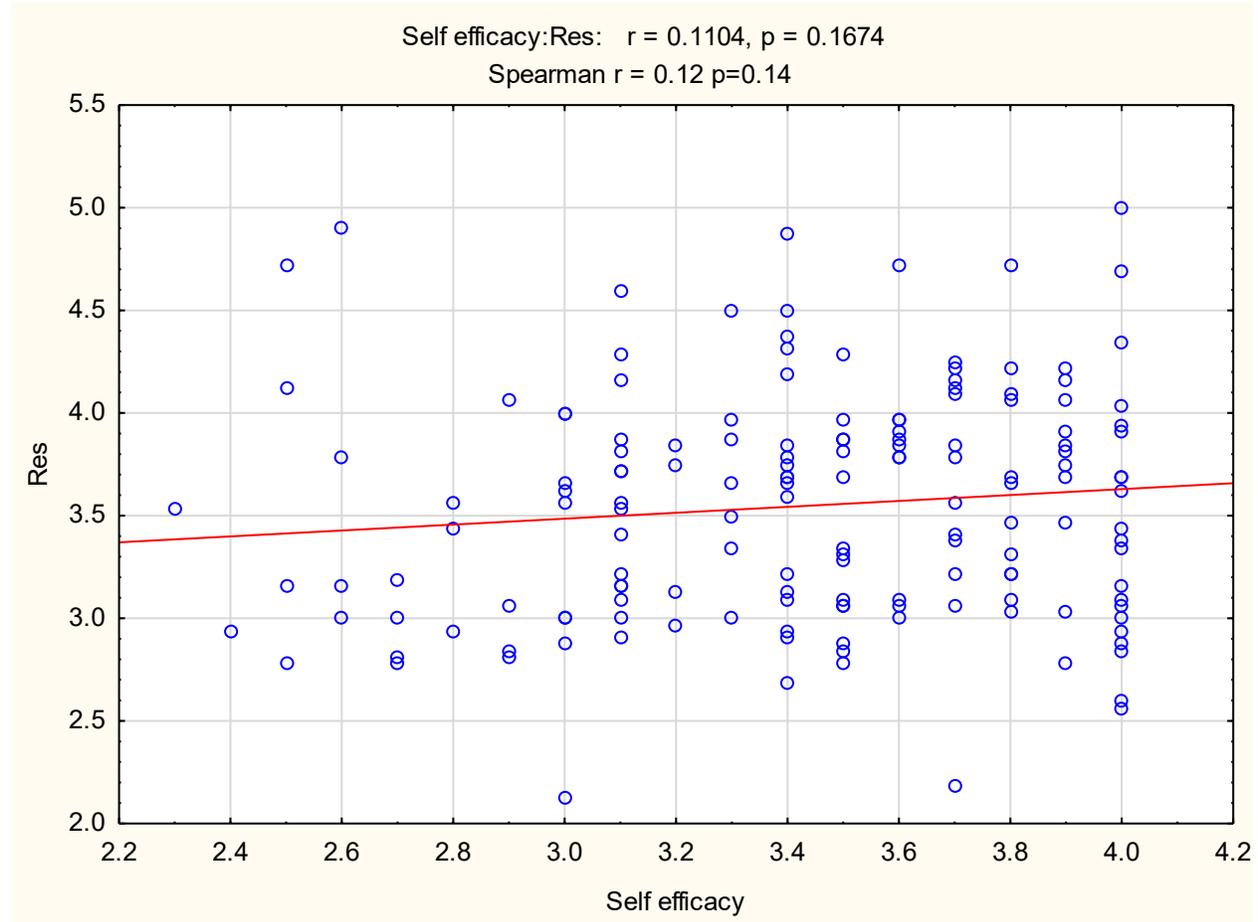
Figure 4.14 Relationship between self-efficacy and resilience

The results in Figure 4.14 indicate no significant correlation between resilience and self-efficacy (r = 0.11, p <0.17). Based on these results, H9 is rejected. Furthermore, a logistic regression (not reported) was computed and the findings were similar to what has already been reported in this chapter.

4.6   CHAPTER SUMMARY

The purpose of this chapter was to present from the various statistical analysis computed. Beginning with descriptive statistics of the sample and presenting measures of central tendencies for the various variables, a report was given on the reliability analysis conducted on all the instruments used to measure the variables of the study, which were all acceptable and usable. Results on the ANOVA analysis were detailed, determining that only the variable of self-efficacy had a significant contribution to selection success for the chosen sample. Furthermore, to test the hypotheses of the study, correlation results were reported. Five (H3, H5, H6, H7, and H9) of the hypotheses were significant and therefore accepted. However, four (H1, H2, H4, and H8) could not be substantially supported and thus were rejected. The implications of the results presented in this chapter are discussed in the following chapter.

CHAPTER 5: DISCUSSION OF RESULTS

5.1   INTRODUCTION

This chapter presents the summary and interpretation of the findings based on the data presented in the previous chapter. The discussion of results mirrors their order of presentation in Chapter 4. Therefore, the discussion begins from descriptive statistics in the form of means, SD, and minimum and maximum values. A discussion of inferential statistics in the form of ANOVA means, f-values and significance, and correlation coefficient values follows.

5.2   DISCUSSION OF MEASURES OF CENTRAL TENDENCY

The mean 3.0 (see Table 4.1) was found for PWB which represented the perceptions held by candidates who went through Recce selection towards their experience of PWB. This mean value indicates that Recce candidates perceived high levels of PWB. A low standard deviation of .47 for psychological well-being was observed, meaning that there were slight discrepancies in terms of the perceptions of PWB as indicated by the majority of the candidates having high perceptions of PWB. This is supported by the maximum value of 4.0 endorsing the majority perception, while a minimum of 1.3 indicated the few candidates who disagreed with the majority perception. These results correspond with the description of PWB by Ryff (1989) who asserts that psychological well-being refers to the effective psychological functioning that can be related to happiness and the development of human potential. Further literature has shown that PWB is a multidimensional construct (MacLeod & Moore, 2000; Ryff, 1989; Wissing & Van Eeden, 2002). It is developed through a combination of positive life attitudes, such as self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in

life, and personal growth. As suggested by Ryff (1989), there are several ways to show psychological functioning, as discussed in par. 2.8. Through the uniqueness of the military environment, soldiers are bound to experience some of these positive life attitudes merely through exposure, such as positive relations with others, environmental mastery, and personal growth. Examples include attending military courses, selection, and training programmes, such as Recce. It is regarded as part of personal development and it is through such experiences that personal relations are enhanced through the course which requires soldiers to work together in small groups and the course morale.

The mean 3.6 (see Table 4.1) was found for grit, which represented the perceptions held by candidates towards grit. This mean value indicates that Recce candidates perceived high levels of grit. A low standard deviation of .63 for grit was observed, indicating slight disagreements in the perceptions of grit as indicated by the majority of the candidates having high perceptions of grit. This is supported by the maximum of 5.0 endorsing the majority perception, while a minimum of 2.0 indicated the few candidates who disagreed with the majority on the perception of grit. The results are similar to the literature presented (see par. 2.11) which states that grit is associated with the ability to continuously pursue long term gaols with consistent zeal and hard work (Duckworth, 2010). Maddi (2004) corroborates that grit can be seen as the positive self-concept and confidence in one's strengths and abilities.

Soldiers who possess high levels of grit adopt a positive approach in challenging situations which drives them to not merely work hard on tasks at hand, but rather work diligently toward higher-order goals over extremely long periods.

The mean 3.4 (see Table 4.1) was found for self-efficacy which represented the perceptions held by Recce candidates towards their experiences of self-efficacy. This mean value indicates that Recce candidates perceived high levels of self-efficacy. A low standard deviation of .43 for self-efficacy was observed, indicating slight discrepancies in terms of the perceptions of self-efficacy as indicated by the majority of the candidates having high perceptions of self-efficacy. This is supported by the maximum of 4.0 endorsing the majority perception, while a minimum of 2.3 indicated the few candidates who disagreed with the majority perception. The results are similar to the notion of Bandura and Locke (2003) that self-efficacy focuses on the individual's belief about their own abilities to reach specific objectives. When reporting for Recce selection, candidates already know its extreme physical requirements and they come believing that they can make the selected list and further be found competent on the course. This corresponds with Van Dyk and Ditsela (2014) report of self-efficacy as people's beliefs about their own capabilities, abilities and skills to produce required levels of performance that exercise influence over events that affect their lives. In the military, therefore, it serves as motivation by influencing the tasks that the individual pursues and their perseverance in the face of challenges. Previous research has established that self-efficacy has an important role in coping ability in extreme situations in which expectations of success are highly related to the outcome of the specific situation (Bandura 1986, 1997, 2014).

The mean 4.4 (see Table 4.1) was found for resilience which represented the perceptions held by candidates towards their experience of resilience. This mean value indicates that Recce candidates perceived quite high levels of resilience. A low standard deviation of .61 for resilience was observed, indicating slight discrepancies in terms of the perceptions of resilience as indicated by the majority of the candidates having high perceptions of resilience. This is supported by the maximum of 5.0 endorsing the majority perception, while a minimum of 2.1 indicated the few candidates who disagreed with the majority perception. These results are corroborated by Folke et al. (2010), who established that resilient individuals maintain high levels of positivity and well-being in the face of significant adversity. When a resilient individual experiences adversity, they are able to analyse the environmental factors for situational awareness by processing information and learning from it. As a result, they formulate their response to minimise the negative effects, which enables them to control their psychological and physiological systems. Further, it is expected that soldiers will have above-average levels of resilience given their constant exposure to stressful working conditions which have influenced adaptive coping strategies enhancing resilience. These results are further endorsed by the theory of positive psychology, which emphasises psychological resilience with a shift focus from what makes ones psychologically ill to what makes one psychologically healthy (McGowan et al., 2006). This corresponds with findings of researchers who have observed that positive human functioning is perhaps most remarkable and evident in the context of significant life challenges and adversity (Beehr, 2014; Schmidt & Hunter, 1998).

Therefore, soldiers may experience a number of challenges from the culture, climate, and working conditions of the organisation, which may build the strong and high resilience levels observed in this sample (Beehr, 2014; Schmidt & Hunter, 1998).

5.3 DISCUSSION OF THE ANOVA RESULTS

The purpose of the current study was to explore and analyse how these factors (PWB, grit, self-efficacy, and resilience) contribute to the selection success of soldiers, the relationship between these factors, and how they influence each other. Subsequently, hypotheses were formulated to indicate the possible contribution and relationship of each construct towards selection success. The ANOVA analysis was used to establish whether there were differences in the experience and perceptions of the identified variables between successful and unsuccessful candidates. The only variable that indicated a significant mean difference ($p < 0.05$) was self-efficacy. The rest (PWB, resilience and grit) did not indicate significant mean differences. These results are discussed below.

5.3.1 Differences between successful and non-successful candidates on the levels of psychological well-being

Hypothesis 1 stated that there are significant differences between successful and non-successful candidates on the levels of PWB. The results indicated an insignificant mean difference (M= 2.93 successful and M= 2.87, F= .495; $p > 0.05$) see (Figure 4.6). Therefore, this hypothesis was rejected based on the criteria (Pallant, 2016). The results are contrary to findings in previous research. Skomorovsky et al. (2011) found that psychological well-being from the perspective of protective personality characteristics such as hardiness had a positive contribution in military training and job performance. Contrastingly, Hustad (2017) found psychological well-being relevant to life transitions

because it is indicative of being able to overcome challenges, adapt to new environments, maintain relationships, and continual development.

While soldiers have indicted perceiving high levels of PWB (see Figure 4.1), there seems to be no significant predictive relationship to success in military training. One can thus speculate that the construct PWB did not contribute to this sample. Many arrive at the selection with adaptive skills learned from previous experiences and military training, who to some extent are hand-picked and usually the cream of the crop. No previous research has been conducted on the relationships between PWB and selection success in the military, therefore leaving a gap for further research to prove this result.

5.3.2 Differences between successful and non-successful candidates on the levels of grit

Hypothesis 2 states that there are significant differences between successful and non-successful candidates on the levels of grit. The results showed insignificant mean differences (M = 3.69 successful and M = 3.54 non-successful, F = 1.871, p > 0.05) see (Figure 4.7). Thus, the hypothesis could not be substantiated and was therefore rejected in line with the stipulated criteria (Pallant, 2016). These results are contradictory to Duckworth et al. (2010), who purport that grit predicts success in military leadership programs and success in competitive spelling bee competitions even after accounting for the variance attributable to self-control. The results are further not in line with the notion established in studies that have endorsed grit being imperative as a driver of achievement and success, independent of and beyond what talent and intelligence contribute (Duckworth & Quinn, 2009). This could explain that there are reasons other than the variable of the study that would lead to either success or failure to the selection.

5.3.3 Differences between successful and non-successful candidates on the levels of self-efficacy

Hypothesis 3 states that there are significant differences between successful and non-successful candidates on the levels of self-efficacy. The results showed significant differences between the successful and non-successful candidates on the levels of self-efficacy (M = 3.6 successful and M = 3.11 non-successful, F = 67.054, $p < 0.05$) see (Figure 4.8) was accepted in line with the stipulated ANOVA criteria (Pallant, 2016). The results correlate with some of the research emphasising the positive influence of self-efficacy on achievement and success. The notion of the social cognitive theory has identified self-efficacy as the most powerful self-regulatory mechanism in affecting behaviour (Bandura 1997). Stajkovic and Luthans (1998) corroborate that task-specific efficacy beliefs are crucial in the prediction of performance in a given situation because self-efficacy has been shown to be related to task performance in a variety of settings, such as training, sport, military, and educational (Tannenbaum et al. 1991). As a result, cadets with greater levels of self-efficacy show a greater improvement of military skills during military academy training (Myrseth et al., 2018). In addition, Fosse et al. (2015) found that self-efficacy was a partial mediator for the relationship between the Big Five conscientiousness domain and military performance.

In line with the results found in this study, Bandura (1994; 1997) affirms that self-efficacy describes how an individual regulates his or her behaviour when interacting with the environment, assumed to develop through perceived ability, feedback, and reflection, who then regulates behaviour accordingly.

The process of any military training will always require an interaction with the harsh environment which from a positive psychology perspective soldiers can use this interaction to develop as they receive feedback and regulate their behaviour to motivate themselves to reaching the goal.

5.3.4 Differences between successful and non-successful candidates on the level's resilience

Hypothesis 4 states that there are significant differences between successful and non-successful candidates on the levels of resilience. The results indicated an insignificant mean difference (F = .266, p > 0.05) see (Figurer 4.9). Therefore, this hypothesis was rejected based on the criteria (Pallant, 2016). These results are contradictory to some of the research findings such as Warner (2013) who established that during challenging circumstance, resilient people experience more hope, have a more positive outlook, and are generally better enabled to cope with training and operational demands. However, the results of this study suggest that that differences between candidates who completed the selection successfully and those who were not successful is quite insignificant and cannot be attributed to the one group having more hope and a positive outlook as opposed to another. This may steer perceptions that other unobserved factors contribute to success in military training which leaves ground for future research that can be used to inform the SANDF allocation to training and return on investment of this type of skills set. The results sustain the notion that psychological resilience has effects not only for mental health, but also for the physical health of a soldier (Folke et al., 2010). This warrants consideration of and developing psychologically resilient soldiers to ensure that they can perform optimally during military operations that require both physical and cognitive tasks.

5.4   DISCUSSION OF THE CORRELATION RESULTS

The relation between variables together with the strengths and direction are discussed below.

5.4.1   Relationship between resilience and psychological well-being

Hypothesis 5 states that there is a significant relationship between resilience and PWB. This hypothesis was accepted. The results indicated a low but significant linear correlation between resilience and psychological well-being ($r = 0.32$, $p < 0.00$) see (Figure 4.10). These results were accepted in accordance with the set criteria (Pallant, 2016). The results correlate with previous research findings that emphasise the effects of resilience on PWB. As resilience increases, PWB will be influenced positively, thus also increasing marginally. Sheridan and Radmacher (as cited in Nkewu & Van Dyk, 2014) advocated for the notion that resilience and psychological well-being contribute to the mechanisms people can use in dealing with stress. Effectively dealing with stress culminates into health and well-being contributing to effective performance on military training and operations (Ryff, 1995). Furthermore, Ungar (2005) observed that resilience should be understood in the context of exposure to significant adversity which requires the soldier to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being. In the military environment with all its challenges, resilient soldiers adjust easily to in unpredictable situations and importantly are more equipped to regulate their responses by using inner psychological resources to bolster well-being. Furthermore, PWB is developed through a combination of emotional regulation, personality characteristics, identity, and life experience (Helson & Srivastava, 2001).

5.4.2 Relationship between resilience and grit

Hypothesis 6 states that there is a significant relationship between resilience and grit. The hypothesis was accepted. The results depict a low but significant linear correlation between resilience and grit ($r = 0.27$, $p < 0.00$) see (Figure 4.11). These results were accepted in accordance with the set criteria (Pallant, 2016). The results corroborate previous research findings. Maddi (2004) established that people who possess high levels of grit adopt a positive approach in challenging situations which drives them to not merely work hard on tasks at hand but, rather, work diligently toward higher-order goals over extremely long periods. This ability to adjust is seen in the metaphoric explanation of resilience as a suspension bridge as described by Price et al. (2015) that resiliency is the ability to stretch much like an elastic (like a suspension bridge) in response to the pressures, challenges, and strains posed by life situations. The bridge will bend to take whatever pressure is imposed on it but will still bounce back to its original form and shape thereafter. Therefore, as resilience increases there is an observed positive effect on grit. Georgoulas-Sherry and Kelly (2019) affirm that resilience and grit produce an array of protective mechanism that protects individuals from stressful environments and situations. These constructs are essential for assisting individuals with sustaining an equilibrium balanced state when faced with adversity and challenges. This then merits why resilience training has always been encouraged for military personnel in the SANDF.

5.4.3 Relationship between self-efficacy and grit

Hypothesis 7 states that there is a significant relationship between self-efficacy and grit. The hypothesis was accepted. The results illustrated a low but significant linear correlation between self-efficacy and grit resilience ($r = 0.21$, $p < 0.00$) see (Figure 4.12).

These results were accepted in accordance with the set criteria (Pallant, 2016). These results are supported by previous research. Self-efficacy beliefs have been suggested to play an important role in the actual coping ability in extreme situations in which expectations of success are highly related to the outcome in specific situations. Self-efficacy will influence motivation which influence the amount of energy one is willing to exert in persevering in tough times for the sake of achieving set objectives (Bandura 1986, 1997, 2014). Locke and Latham (2006) assert that for as long as there is commitment and the required abilities to achieve a set objective there will be a positive linear relationship for the successful attainment of that given objective.

5.4.4 Relationship between self-efficacy and psychological well-being

Hypothesis 8 states that there is a significant relationship between self-efficacy and PWB. The hypothesis could not be substantiated and was rejected. The results showed no significant correlation between self-efficacy and psychological well-being (r = 0.18, p = 0.02), see (Figure 4.13). These results were accepted in accordance with the set criteria (Pallant, 2016). The results are contrary to previous research. Laureano et al.'s (2014) study found that increased self-efficacy had a positive effect on psychological well-being, similar to findings emphasising the role of self-efficacy being extremely significant in bringing variation in psychological health and a significant factor in PWB among university teachers. This suggests that the implications of self-belief in the form of self-efficacy are in essence directed more towards enhancing PWB (Naz, 2015).

5.4.5 Relationship between self-efficacy and resilience

Hypothesis 9 states that there is a significant relationship between self-efficacy and resilience. This hypothesis was rejected. The results indicated no significant correlation

between self-efficacy and resilience (r = 0.11, p <0.17) see (figure 4.14). These results were accepted in accordance with the set criteria (Pallant, 2016). The results diverged from previous research. According to Jaeh and Madihie (2019), intrinsic motivation that comes through self-efficacy has an inter-relational link and effect to resilience. Self-efficacy beliefs can affect motivation and self-regulation in a number of ways which become evident through the choices and course of action that take place. The authors further established that through self-efficacy can be determined by what degree a candidate exerts effort, how long they will endure challenges, and how resilience will develop in difficult situations. Therefore, one can conclude that the higher the self-efficacy, the higher the effort, persistence, and resilience. On the contrary, Delahaij et al. (2016) postulate that self-efficacy has a downfall, in that when circumstances are not challenging enough, high self-efficacy may lead to frustration, resulting in boredom which can lead to demotivation and underperformance. However, for this study, soldiers who did not successfully complete the selection also did not demonstrate high levels of self-efficacy.

5.5   CHAPTER SUMMARY

This chapter focused on the discussion of the research results as presented in the previous chapter. This began with a discussion of descriptive statistics, followed by a discussion of ANOVA and correlation results. Positive and negative correlations were discussed. Of the nine hypotheses of this study, only four were significant and accepted (H3, H5, H6, and H7). All supporting empirical research and that contradictory to the study's findings was discussed, and where possible, explanations provided for the incongruity.

CHAPTER 6: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

6.1   CONCLUSIONS

This study aimed to explore the factors contributing to selection success in military selection and training. The hypothesised variables chosen for this study include psychological well-being, grit, self-efficacy, and resilience (see Ch. 2). This also led to the investigation of the inter-correlational relationship between the constructs of the study. The literature highlighted the parallels between the unique and dynamic military working environment, demands, and stressors emanating therefrom. In addition, the complexities of selection and training were analysed to fully comprehend the functionality of the proposed interaction of the variables of the study. The study can aid the SANDF and Recce instructors in firstly understanding the importance of training soldiers from a total force approach that will result in a holistically (physically and mentally fit) combat-ready soldier. Secondly, it will assist training program coordinators to employ selection approaches that will ensure that the best are selected in from the most fundamental phase of training as means of ensuring a return on investment.

To guide the study, theoretical objectives were provided (see Par. 1. 3. 3) while empirical objectives were provided to scientifically test the hypothesised relationships among the variables of the study (see Par. 1.3.4). The significance of the study was seen through the empirical results that were presented. The study contributed in exploring factors that contribute to selection success in military training. These factors were presented as factors that contribute to effective performance under unpleasant, uncomfortable, and challenging circumstances.

The effect of these variables was presented from a perspective of motivation theories: goal-setting theory and positive psychology.

Data was collected from 158 soldiers undergoing Recce selection, using existing measuring instruments (questionnaires) which were valid and reliable both in previous studies and the present study. The results indicated that there were no significant differences between soldiers who performed effectively during selection and those who were unsuccessful. In addition, there were further insignificant differences on the observed perceptions of psychological well-being, grit, and resilience in both groups. However, positive and significant differences were observed in the perception of self-efficacy among the two groups. The results corroborated findings in other studies and where they were not in agreement, a possible explanation was provided.

6.2 LIMITATIONS

The limitations associated with this type of study immediately become apparent. Exploratory research only allows a researcher to explore the relationships between variables of the study and cannot be used to establish causality. Therefore, the researcher is prevented from confidently concluding that the relationships between variables exist as a result of unknown unobserved extraneous variables.

The majority of the participants were males while the minority were females (see Fig. 4.1). This may create an impression that the results represent factors that are prevalent in males. Furthermore, the sample size consisted of 158 participants, suggesting that the results of this study cannot be generalised to the population of the study.

The data measuring instruments used were all self-report, therefore an element of response bias (positive/negative social desirability and acquiescence) must be considered, which may have influenced the results of the study. One of the greatest realisations was that the majority of the participants were Africans and more fluent in their native mother languages compared to English (see Fig. 4.2) in which all the questionnaires were phrased. During the collection of data, this realisation became clear when some participants would ask for clarity of questions and certain words. Therefore, the language barrier may have influenced the study's results. The duration of the battery of assessment along with the length of some of the questionnaires, such as the psychological well-being and the resilience questionnaire (22 and 36 items), may also have had consequences for the results.

6.3 RECOMMENDATIONS

Indicated in previous studies, many factors influence effective performance during military training. This study has only revealed one variable to have influenced effective performance. It is thus paramount to investigate which other factors which could have an influence of selection success of soldiers. As indicated above, adopting a screening process will ensure that training is budgeted for and provided to candidates who have the skills to effectively perform under any circumstances during training and operations. Further research is thus recommended to fill the research gap in the military context.

Based on the study's findings, a holistic approach to military training and selection is paramount for the maintenance of a combat-ready force. Personnel should equally be trained in psychological resources designed to bolster effective responses and

functioning under stressful situations. Soldiers should be trained to harness personal resources that can be buffers and psychologically protective factors against pathologies resulting from exposure to war, deployment pressure, demanding training, separation from families, etc. The SANDF can ensure that each candidate is exposed to:

- A psychologically sound screening before training, in cases of potential lack in essential psychological factors training can be introduced as an intervention.

- Resilience training: programs aimed at developing resilience as a skill to cope with stress.

- Stress management programs: directed specifically to dealing with training, operational and family/life stress that has a spill over effective into effective performance and functioning of the soldier. This training should equip personnel with identifying and management of stress.

- Adjustment training to new wars techniques: the battlefield is constantly changing, and soldiers need to be trained continuously to address the demands of the battlefield. Although they may not be able to respond immediately with the required equipment, they should have the psychological and cognitive ability to hold ground in any form of operation under new wars.

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