Mental Resilience Training: a review

MRT for RAPTC

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# Abstract:

A review of the literature was conducted to better understand the how and why of mental resilience training (MRT) in the Royal Army Physical Training Corps (RAPTC). The review focused initially on MRT within a sporting context and identified the main pillars of resilience found in the literature. The review then focused on MRT within a military context and identified the main pillars of resilience found in the literature. This analysis of resilience in both these contexts made possible the identification of the resilience pillars necessary for the RAPTC. Eight pillars were found to be relevant for the RAPTC (social support and unit cohesion, emotional control, mindset control, purpose and motivation, leadership, facilitative environment, self-belief, coping strategies). These pillars were then described and explained how they related to the corps. Finally, the practical side of MRT was included and the review focused on the psychological skills training (PST) needed to enhance and build the eight pillars of resilience in the corps.

# 1.0 Introduction:

The Royal Army Physical Training Corps (RAPTC) is responsible for developing and maintaining physical fitness across the Army so that individuals and units are prepared for military tasks; this training is carried out by PTIs (physical training instructors). In the context of the Army, physical training takes aspects from both the roles of an athlete and those of a soldier.

Being successful, whether it is in a sporting or military context has become invaluable. Determining the underlying characteristics of successful athletes/soldiers has generated substantial research since the early 2000s. The demands put on athletes and soldiers are evolving and are as arduous as ever. Breaking records and winning championships require more training time and more strenuous sessions. Modern warfare is constantly changing and is characterised by demanding missions, extreme climate, physical and psychological fatigue, sleep deprivation, threat of serious injury or death and cultural dissonance as well as prolonged separation from family and friends (Cornum, Matthews, & Seligman, 2011).

Recent research attention has been directed at the psychological characteristics, such as mental resilience, that individuals need to overcome adversity. However, no consensus exists on a definition of mental resilience. We defined mental resilience (MR) as a set of psychological processes that contribute to the ability to overcome, adapt, persist and recover in the face of serious threats and challenges (Cornum et al., 2011; Crane & Boga, 2017; Fletcher & Sarkar, 2016; Precious & Lindsay, 2019; Reivich, Seligman, & McBride, 2011; Jason Williams et al., 2016).

High performance environments generate stressors that the athletes or soldiers must overcome. Stressors have been defined as the disequilibrium between internal and external demands (Cowden, Meyer-Weitz, & Asante, 2016). Mental resilience training (MRT) aims to build MR and overcome stressors. Mental resilience training (MRT) in a PTI capability is the deliberate development of an individual’s psychological capability in order to overcome, adapt, persist and recover in the face of demanding physical effort.

MR is considered to be a dynamic and multifactorial process that occurs and grows over time (Luthar & Cicchetti, 2000). This study is looking at how mental resilience can be taught in the corps.

2.0 Mental Resilience Training for athletes

## 2.1 Challenge mindset and metacognition:

Successful athletes are not only strong physically, but they are strong mentally. A study showed that Olympic athletes viewed stressors as opportunities to develop a psychological and competitive edge over their peers and opposition (Fletcher & Sarkar, 2012). Competition losses and omission from major competitions were seen as learning opportunities for subsequent performances by elite athletes.

The relationship between psychological resilience and optimal sport performance is crucially impacted by athletes’ appraisals. Whether they see an appraisal as a challenge or a threat will determine how resilient they are, and thus how successful they are (Fletcher & Sarkar, 2016). Olympic athletes have not only a challenge mindset, but they also use metacognition. This means that they recognise they are having negative thoughts and turn them into positive thoughts. Metacognition describes the knowledge and control an individual has over their thoughts (Flavell, 1979).

Too much control over one’s thoughts can be negative; it can lead to a lack of emotional display which will in turn lead to mental wellbeing issues (Watkins, 2008).

## 2.2 Motivation

Motivation has been found to be an important determinant of MR. High levels of motivation is reported to be a required psychological attribute to elite performance (Sarkar & Fletcher, 2014). There are multiple theories such as the Achievement Goal Theory (AGT) and the Self-Determination Theory (SDT) that are founded around motivation (see 6.2.1). Motivation is a very important aspect of performance, it is needed for an athlete to be successful (Fletcher & Sarkar, 2012; Mallett & Hanrahan, 2004).

However, motivation can be detrimental to performance if an individual is not motivated by the right things (such as ego-oriented motivation) (Friedlander & Walton, 1964; Rand, Lens, & Decock, 2007).

## 2.3 Confidence

The degree of certainty an individual possesses about their ability to be successful is called confidence. Self-confidence has been found to have a positive impact on performance. Confidence is a very important determinant of MR (K. Hays, Thomas, Butt, & Maynard, 2010; Mallett & Hanrahan, 2004).

However, too much confidence can cloud one’s judgement, and lead them to not accepting responsibility for underperformance and mistakes, but instead blaming other people. Over-confidence will stop an athlete from being their best as it could result in less engagement in training (Shipman & Mumford, 2011).

## 2.4 Focus

Focus is another important aspect of MR for Olympic champions (Fletcher & Sarkar, 2012). It is the ability to focus on oneself and not get distracted by noise, others, outcome that makes focus so important for success (Longshore & Sachs, 2015).

However, focus can be negative, if the athletes concentrate on the wrong aspects, for example, the fact that something isn’t going well in their personal life then this we cause huge detrimental effects to their performance (Ford, Ildefonso, Jones, & Arvinen-Barrow, 2017).

## 2.5 Social support

Social support, and more importantly the perception of available social support has a stress buffering effect. It was found that athletes in high stress environments, such as the Olympics, needed to know they had the social support of their friends and family. Athletes with high levels of perceived social support performed better and were less affected by the external pressure put on them (Fletcher & Sarkar, 2012; Gearity & Murray, 2011).

However, if an athlete has too much social support, this could be detrimental to their performance as they may rely heavily on their support and not gain sufficient independence to manage their training, performance and lifestyle (Shinn, Lehmann, & Wong, 1984).

## 2.6 Coping strategies

Coping with elite sport demands is a crucial factor for athletes to be successful and make their way to international podiums (Pedro, 2016). Being able to be resilient in the face of threats and adversities is necessary to improve as an athlete. To have athletes’ MR develop, adapt and grow positively, they need to be exposed to a controlled risk. This controlled risk will make sure athletes have enough exposure to pressure and the high demands of sport so they can develop their coping skills without putting them or their career in jeopardy (Sarkar & Fletcher, 2014). Different coping strategies exist that athletes can work on such as positive thinking, relaxation and goal setting.

However, some coping strategies such as drinking alcohol or smoking, are detrimental to health and wellbeing (Gilbar, Ben-Zur, & Lubin, 2010).

## 2.7 Training and engagement

Studies have shown that athletes were more prone to be mentally resilient if they had a lot of practice time and were engaged when training. More experienced athletes were shown to be more mentally resilient. Training time is only a positive factor if it is associated with engagement (Belem, Caryzzo, Nascimento, Vieira, & Vieira, 2014; Pedro, 2016).

However, too much engagement and practice time can lead to athlete burnout. A burnout is a syndrome characterised by emotional and physical exhaustion, sport devaluation and a reduced sense of accomplishment (Lonsdale, Hodge, & Rose, 2009).

## 2.8 Need for coaches

Mental resilience is of significant importance for an athletes’ success. The coach’s attitude plays a big role in an athletes’ success, and contributes to their MR (Hodgson, Butt, & Maynard, 2017). Figure 1 shows the psychological attributes that were found in elite coaches.

**Figure 1:** Attributes of a mentally resilient and successful coach within elite sport

This study suggests that to produce better coaches their psychological attributes should be developed in the early stages of their coaching career. The development of emotional abilities is particularly encouraged, considering how emotions influence their practice. Self-assessment for coaches could be used to understand what personal attributes they need to improve on (Hodgson et al., 2017).

## 2.9 Conclusion of MR in sport

Olympic gold medallists showed high levels of mental resilience (Fletcher & Sarkar, 2012; Mallett & Hanrahan, 2004). For athletes, MR is a blend of a challenge mindset, motivation, confidence, focus, social support, coping strategies, training time and positive personality traits. Athletes cannot be successful with only one of these processes, a solely confident athlete is not a champion. It is not a single psychological factor but an interaction between multiple psychological factors that gives the athletes the tools to fulfil their athletic potential, and be successful (Cowden et al., 2016; Fletcher & Sarkar, 2012, 2016; Sarkar & Fletcher, 2014).

Athletes with high resilience can interpret their emotions, reflect about their performance, make efficient decision and increase their exertion of effort (Obando, Villalobos, & Arango, 2008; Pedro, 2016). Additionally, MR is shown to promote more persistent and positive behaviours in athletes. For athletes to be successful and perform their best, not only do they need to be mentally resilient, but their coaches need to be resilient as well. Figure 2 shows all the different determinants of a successful athletes.

**Figure 2:** Psychological attributes of a mentally resilient athlete

In conclusion, MR is essential to healthy, significant and rational sport performance or simply sport experience.

3.0 Mental Resilience Training for the Army:

## 3.1 Research

Military operations expose the soldiers to countless stressors, these can lead to negative health (physical and psychological) outcomes (Bartone, 2006). There is a growing need to identify and understand the distinct stressors that soldiers encounter and the particular period of time when they are getting deployed (Fletcher & Sarkar, 2012). There is also a need to understand how soldiers can be more resilient in the face of these everchanging conditions.

### 3.1.1 Unit cohesion & social interaction

Unit cohesion has been defined as a sense of group integration and personal bonding among military service members, it is an essential dynamic for military readiness (Carron, Colman, Wheeler, & Stevens, 2002; Martin, Rosen, Durand, Knudson, & Stretch, 2000). Unit cohesion increases with positive and regular social interaction (Jason Williams et al., 2016). High rates of unit cohesion have been found to be stress-buffering. They also have a positive relationship with well-being, enjoyment, satisfaction and moderation of post-traumatic stress disorder (PTSD) (Martin et al., 2000).

Unit cohesion is developed for the first time through basic combat training (BCT). As soldiers arrive in a new environment and experience extreme physical stressors, unit cohesion is an important predictor of their success. Williams et al., (2016) found that as unit cohesion increased, resilience also increased; this shows that unit cohesion is an important determinant of MR. This study found unit cohesion to be an initialising factor in soldiers avoiding negative psychological symptoms

However, too much unit cohesion can lead to a lack of independence and a lack of independent thinking. A lack of independence may result in soldiers getting negatively influenced by their peers and being pressured into situations that could be harmful or illegal (Shinn et al., 1984).

### 3.1.2 Leadership

Resilient leaders tend to influence their subordinates to behave in a more resilient way, therefore getting better performance from them (Bartone, 2006). A study showed that soldiers high in resilience performed better as leaders. Bartone (2006), found that one of the components of resilience could be defined as a characteristic sense of commitment, control, challenge and confidence (4Cs). A resilient leader is rated a better one because they would have participated in the adjustment and performance of their group under stressful conditions.

Transformational leadership promotes admiration, respect, trust, motivation and commitment from subordinates, it leads to higher performance (Kane & Tremble Jr, 2000). Studies carried out in military training environments have shown that transformational leadership positively impact performance variables such as resilience (Fitzwater, 2017).

However, reaching for the admiration of their subordinates can push soldiers to make wrong decisions (House & Mitchell, 1975; Kane & Tremble Jr, 2000).

### 3.1.3 Challenge mindset

A stressful or painful experience can be “cognitively framed” to understand it better and turn a negative experience into a positive one, this implies that there can be beneficial psychological effects to harmful/negative experiences. Resilience is about interpreting stressful events as opportunities to grow.

However, it is important to remember that too much control over one’s thoughts will have detrimental effects to mental wellbeing (Deci & Ryan, 1980).

### 3.1.4 Sense of purpose

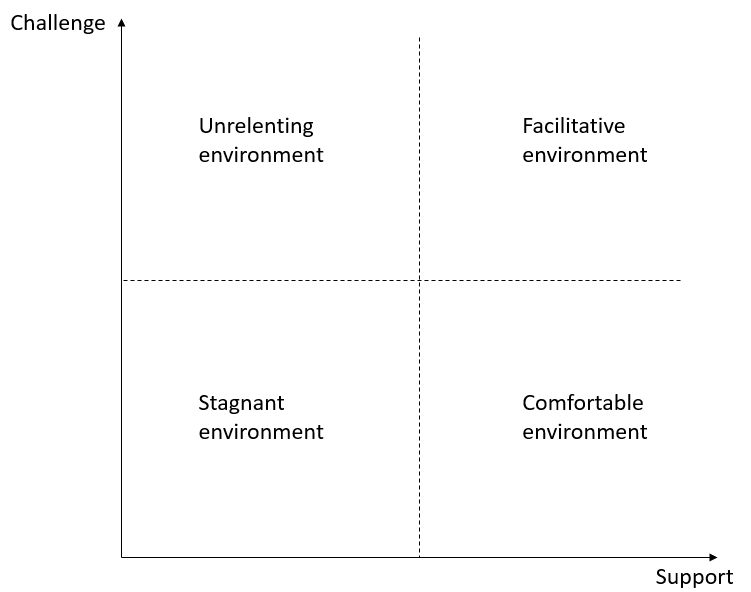
A successful resilient leader motivates and inspires their subordinates by giving them attainable goals to work towards (Bartone, 2006). They need to have good communication skills in order to give clear expectations to their team. The path-goal leadership theories states that a leader’s main objective is to help, support and guide their subordinates for them to reach their personal goals as well as the organisations goals (House & Mitchell, 1975). In other words, this is how a leader influenced their subordinates’ motivation by identifying, planning and rewarding personal goals (Alanazi, Alharthey, & Amran, 2013). Leaders should be there to guide a soldier in identifying their purpose rather than pushing it onto them.

However, a wrong sense of purpose such as being in the army for money or security could lead to detrimental effects when deployed and a lack of motivation.

### 3.1.5 Facilitative environment

To increase mental resilience and therefore performance, individuals need to be in a high support and high challenge environment. This is also called a facilitative environment (Fletcher & Sarkar, 2016).

However, there is a fine line between too much or too little support, and too much or too little challenge, if it isn’t the right amount then the soldiers won’t benefit from it (Sarkar & Fletcher, 2014).



**Figure 3:** A challenge-support matrix for enhancing MR. Adapted from Fletcher & Sarkar, 2016.

## 3.2 OPSMART

OPSMART (Optimising human Performance through Stress Management And Resilience Training) is the army programme responsible for mental wellbeing. This programme found 7 pillars to mental resilience. These are the pillars:

**Figure 4:** Psychological attribute for a mentally resilient soldier according to OPSMART

These pillars were created by the OPSMART team. These pillars need to be continuously worked on, they will vary throughout someone’s life. An individual’s resilience is measured by the strength and number of pillars they have at a specific moment. Not all pillars are required for someone’s resilience to be strong, however, the more they have the stronger their resilience is. To be resilient, soldiers need to be able to understand, identify and train these pillars throughout their career. Further explanation of the 7 pillars will be given in the following points.

### 3.2.1 Self-belief

Self-belief or self-confidence is the belief that one can overcome adversity and be successful in their endeavours. Self-belief is very important in an army context; soldiers need to believe in themselves and in their abilities to be successful (OPSMART). A mentally resilient individual has high self-belief which leads them to being relatively unaffected by adversity, competition or challenges. A study in the army found that soldiers with higher self-confidence performed significantly better on a variety of military tasks (Adler et al., 2015; Fitzwater, 2017).

However, too much self-belief can become an issue, an individual needs to be willing to understand and listen to feedback and criticism (Kate Hays, Thomas, Maynard, & Buttt, 2010; Shipman & Mumford, 2011).

### 3.2.2 Positive affect & Emotional control

Positive affect and emotional control fall under the same category, it is the way one regulates their emotions in order to generate positive thoughts. Emotions impact confidence, motivation and focus which can lead to drops in performance.

However, too much positive affect and emotional control can be detrimental to performance and wellbeing. It is important that soldiers express themselves when need be without having to control every emotion they feel (Longshore & Sachs, 2015).

### 3.2.3 Mental control

The ability to focus on one task with a hundred percent attention, this can help in problem solving and self-awareness (OPSMART). Focusing on what is right in front of you instead of thinking three steps ahead is very important, it is also called mindfulness (see Kate’s mindfulness piece).

However, too much focus can be detrimental as a soldier still needs to be aware of their surroundings (Sheard, 2009).

### 3.2.4 Sense of purpose

An individual must be sure what they are doing fits in with their beliefs and values, and they agree with it. If they do, they will work harder and be more confident and motivated (OPSMART).

However, a soldier will have to answer to their superiors without asking questions in some cases. They might not agree, but in a war context, there is not time to question orders.

### 3.2.5 Coping

These are the natural coping strategies one will have learnt through life to deal with challenges, in the army a big coping mechanism is sense of humour (OPSMART).

Certain coping strategies such as drinking are detrimental (Belem et al., 2014).

### 3.2.6 Social support

Social support is the perception one has of the available support around them; it is who one relies on, their family, friends, chain of command. It is important that individuals have people they can rely on and vent to, the perception of available social support has a stress buffering effect (OPSMART).

However, too much social support can be detrimental to soldiers as they need to be able to function without it when they are deployed (Shinn et al., 1984).

# 4.0 Mental resilience in elite sport and in the Army: summary

**Figure 5:** Psychological attributes of mentally resilient soldiers and athletes. 

# 5.0 Definitions and practical implications pillars for the RAPTC

There are eight pillars that influence the resilience of an individual within the RAPTC. As a reminder, this is what resilience is in the RAPTC: mental resilience (MR) is a set of psychological processes that contribute to the ability to overcome, adapt, persist and recover in the face of serious threats and challenges (Cornum et al., 2011; Crane & Boga, 2017; Fletcher & Sarkar, 2016; Precious & Lindsay, 2019; Reivich et al., 2011; Jason Williams et al., 2016).

There are two different types of courses in the RAPTC:

* The AAPTI course (All Arms Physical Training Instructor): Soldiers from different units come in and do a nine-week course. Once they have gone through the course, they are qualified AAPTIs.
* The RAPTCI class one course (Royal Army Physical Training Instructors): Qualified AAPTIs can come to do a nine-month course to join the corps. Once they have gone through the course, they are part of the corps.

Resilience needs to be implemented into the training at both levels so both AAPTIs and RAPTCIs can themselves be resilient and be able to teach resilience. This should be integrated into the training in order to minimise the amount of change (Fletcher & Sarkar, 2016). The outcome goal of MR in the corps is that instructors are aware of their own levels of resilience, know how to improve and train their MR, but are also knowledgeable and can teach different techniques to increase their unit’s MR. It is important to remember that an individual can be resilient without all eight pillars, but the more pillars they have, the more resilient they are.

These are the eight pillars necessary to be resilient in the corps:

**Figure 6:** Psychological attributes of a mentally resilient soldier in the RAPTC

This is how each pillar can be improved and worked on to become a more resilient individual. It is important to remember that if an individual has too high levels of some pillars, this could be detrimental to them, their career and mental resilience.

## 5.1 Social support and unit cohesion

Social support in a PTI capability is not only support from friends and family, but also, the chain of command and unit. As a reminder, social support is the perceived support of the people around the soldiers they can rely on and vent to (Fletcher & Sarkar, 2012). Soldiers with higher levels of perceived social support will perform better and be less affected by the pressure put on them (Gearity & Murray, 2011). In a PTI context, unit cohesion for AAPTIs and RAPTCIs either describes the cohesion of the soldiers within the ASPT (Army School of Physical Training) or within the units they are posted to. Cohesion in this sense, is defined as the group integration and personal bonding among members of the unit (Carron et al., 2002; Jacob & Carron, 1998; Jason Williams et al., 2016). Social support as a whole is seen as stress-buffering and performance enhancing for the soldiers (Cornum et al., 2011; Crane & Boga, 2017; Precious & Lindsay, 2019).

However, relying heavily on social support can have detrimental effects. Soldiers will have to experience long term separation from their support network without it impacting their performance. Too much unit cohesion can lead to a lack of independence and a lack of independent thinking.

## 5.2 Emotional control

Emotional control, as a reminder, is the way an individual regulates their emotions in order to generate positive thoughts. AAPTIs and RAPTCIs go through a lot of difficult training and testing such as the SCR (Soldier Conditioning Review) and the RFTS (Role Fitness Test Soldier). It is important that when they can’t get feedback, individuals are able to control their emotions and keep positive thoughts. Soldiers need to be able to move on from negative situations, learn from their mistakes and continue their training by replacing negative thoughts with positive ones (Flavell, 1979).

Ellis’ rational emotive behaviour therapy is the proposition that an individual’s cognition is critical to appraising an event and determining their subsequent adaptation (Ellis & Dryden, 1997). Negative emotions stem mainly from one’s cognitions, it depends on an individual’s interpretation of the event. An irrational belief is when an individual appraises an event in a negative and wrong way. The REBT allows individuals to identify these faulty beliefs (e.g., always wanting to be loved) and refute them (Turner, 2016).

However, too much emotional control is detrimental to performance, mental resilience and wellbeing. Soldiers will need to be able to express themselves and their feelings in certain situations.

## 5.3 Mindset control

Mindset control in a PTI context is the ability to focus solely on one task It is also the ability to see adversity as a challenge and not a threat (Fletcher & Sarkar, 2016). The appraisals of the AAPTIs and RAPTCIs during training and teaching will be the difference between failure and success of their interventions ((Fletcher & Sarkar, 2012). These instructors also need to be able to focus a hundred percent of their attention into the task in front of them. It is important for these instructors to be able to focus when they are on the assault course for example, when they need to be thinking solely about the obstacle they are on and not on the one coming up. The ability to not get distracted by the noise and people around them is a skill that is essential (Longshore & Sachs, 2015). However, being too focused will be detrimental in some contexts as soldiers still need to be aware of their surroundings when in combat.

Mindset control also involves getting out of their “comfort zones” and into a learning and growing zone (see figure 7). It is complicated for individuals to put themselves into a “fear zone”, because the reward of attaining their goal seems lesser than the possible consequences (Prazeres, 2017; White, 2009). Fear is a response to a threat; it typically results in a flight or freeze response (Karstoft, Nielsen, & Nielsen, 2018). Although fear can be beneficial in some situations, such as alerting one to real danger, fear is most often a barrier to growing and learning experiences (Sherman, 2017). To go back to. On the assault course, for example, this could be someone afraid of heights and struggling on the parallel bars or someone who is claustrophobic struggling in the tunnels.

Pain tolerance is also a predictor of performance, a member of the armed forces should be able to put their body through an immense amount of fatigue and physical/mental pain without succumbing to it. Pain is deﬁned as an ‘‘unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such tissue damage’’. However, during intense physical effort, individuals tend to experience discomfort more often than pain. The appraisal and interpretation of pain/discomfort sensations are crucial to performance, it is possible to actively develop one’s tolerance. In order to increase this threshold, individuals need to be put in an environment in which the pain/discomfort stimuli increase slowly, this will allow the individuals to gradually habituate to the increasing discomfort (Birrer & Morgan, 2010).

However, it is important that individuals do not push themselves past what their body can handle without injuring themselves.



**Figure 7:** Fear zones explained.

## 5.4 Purpose and motivation

It is very important for the soldiers coming into the RAPTC to have a strong sense of purpose and be motivated (Cho, Choi, & Kim, 2019).

These soldiers and instructors must understand why they are training the way they are and understand the benefits of the training they are giving or being given. The more they understand it and agree with, the more they will be motivated to do it properly. This is especially important when they are going through a week such as selection week where a lot of mental and physical pressure is put on them, they need to have a strong sense of purpose to make it through (Munson & Consolvo, 2012). Another incidence when motivation and purpose are essential is when a soldier who is overweight or coming back from injury does not want to go to PT sessions. The instructors must manage to help this individual find a purpose and get back into regular PT (Fry, Vitucci, & Cedillo, 2005). This is when it is also important for the instructors to give constructive feedback; a successful resilient leader motivates and inspires their subordinates by giving them attainable goals (i.e. purpose; (Bartone, 2006). High levels of motivation has been reported to be an important determinant of performance (Sarkar & Fletcher, 2014).

However, being motivated by the wrong things (negative motivation) will have detrimental effects on an individual’s self-esteem and confidence (Friedlander & Walton, 1964; Gillison, Rouse, Standage, Sebire, & Ryan, 2019).

## 5.5 Leadership

AAPTIS and RAPTCIs must be good leaders as they will have to lead training sessions. Successful leaders influence their subordinates to behave in a more resilient way and perform better (Bartone, 2006). Mentally resilient soldiers tend to perform better as leaders, and to make better decisions in high pressure environments. It is important for leaders to have the esteem, trust, respect and admiration of their subordinates; this will help them cope with stressful experiences and perform better (Fitzwater, 2017). Leaders need to empower their team, foster high levels of commitment and productivity, and look after their well-being (Munson & Consolvo, 2012). It is important to have good leadership skills in the RAPTC because instructors will have to lead PT sessions to all ranks.

Although listening and helping their subordinates is a sign of a good leader, there are situations where decisions need to be made in a strong and decisive way and not necessarily cater to every individual’s needs. This is especially important during warfare, if something doesn’t go as planned, decisions need to be made quickly and accurately.

## 5.6 Facilitative environment

A facilitative environment is an environment with high levels of challenge and support (Sarkar & Fletcher, 2014). In this environment individuals can input and take ownership of their goals as well as receive constructive feedback. In a class one course, for example, the AAPTIs and RAPTCIs must have a good relationship to ensure everyone is supported. There must also be healthy competition between AAPTIs to facilitate personal growth (Sheard, 2009). RAPTCIs must create a psychologically safe environment in which sensible risk-taking is encouraged. RAPTCIs must also recognise and celebrate the success of the AAPTIs, and the AAPTIs need to learn from their mistakes in order to improve and perform at higher standards (Baker, Cote, & Hawes, 2000; Steffens et al., 2014)

All of this creates a facilitative environment in which individuals become more resilient and perform better. However, this high support high challenge environment needs to be monitored to maintain the right balance between them (Sarkar & Fletcher, 2014).

## 5.7 Self-belief and confidence

As a reminder, self-belief and self-confidence is the degree of certainty an individual possesses about their ability to be successful (K. Hays et al., 2010). It is important for PT instructors to be confident in their knowledge and abilities to teach. They need to believe in themselves in order to be better instructors. While on course, the soldiers also need to believe in their capability to successfully go through the different tests whether it is the selection course or the SCR and RFTS. Self-belief and confidence have been shown to have a positive impact on performance and to be an important determinant of MR (Adler et al., 2015).

However, too much confidence and self-belief can become an issue; a soldier on course or an instructor needs to be willing to listen to criticism and feedback without responding negatively.

## 5.8 Coping strategies

AAPTIs and RAPTCIs must have diverse types of coping strategies to be successful in their career (Pedro, 2016). They also need to be able to instruct these coping strategies to the people they are teaching. To build these coping strategies, instructors and their recruits need to be put in a controlled risk environment, it will ensure they have enough exposure to high pressure situations. This will allow them to develop, adapt and grow positively in the face of adversity (Sarkar & Fletcher, 2014). Coping strategies are necessary to get through tough times or tough exercises, it is an important skill for soldiers as they are preparing to be fit enough (mentally and physically) for warfare.

However, not all coping strategies are positive, some strategies such as drinking, and avoidance can lead to detrimental health and wellbeing effects.

# 6.0 How to enhance resilience: Psychological Skills Training

## 6.1 Introduction to Psychological Skills Training (PST)

Psychological skills training (PST) is the “systematic and consistent practice of mental or psychological skills for the purpose of enhancing performance, increasing enjoyment, or achieving greater sport or physical satisfaction” (Birrer & Morgan, 2010; Weinberg, 2002). PST tends to be neglected because of myths built around it such as: it is from problem individuals only, elite athletes only, quick fix solution and it isn’t useful (Sheard, 2009). PST helps increase all eight pillars of MRT described above. Multiple studies have found that PST has a positive effect on performance (Fletcher & Sarkar, 2016; Munroe-Chandler, Hall, & Weinberg, 2004). There are four steps to the implementation of a PST program: education phase, acquisition phase, practice phase and self-regulation phase. The US Olympic committee gave top 10 principles for PST (McCann, 2008):

1. Mental training can’t replace physical training
2. Physical training and physical ability alone are not enough to succeed consistently at elite levels
3. A strong mind may not win an Olympic medal but a weak one will lose it
4. Coaches/Instructors will not frequently know what their athletes are thinking
5. Thoughts affect behaviour, therefore consistent thoughts will result in consistent behaviour
6. Coaches have a different view of changing technical mistakes vs mental mistakes
7. Coaches must be involved in the psychological/ mental training
8. There is a tile to force athletes to put time and effort into mental training
9. Mental skills should be measured in order to maximise performance
10. Coaches need to think about their own mental skills

A randomised control study found that between a control group of soldiers receiving no mental training and a group of soldiers receiving psychological skills training, the latter reported a greater use of cognitive skills, increased self-belief and performed significantly better on a range of different military task including the fitness related tasks (Adler et al., 2015). Figure 8 shows the different types of PST that can be implemented in training.

**Figure 8:** Psychological Skills Training

## 6.2 Motivation

### 6.2.1 Theory

The Achievement Goal Theory (AGT) is one of the theories founded around motivation (Mallett & Hanrahan, 2004; Nicholls, 1984). The main basis of this theory is that people engage in achievement situations in order to demonstrate competence (Gimeno & García-Mas, 2010). There are two conceptions of competence or ability: task or ego involvement (Isoard-Gautheur, Guillet-Descas, & Duda, 2013). A task-oriented individual views sport as an opportunity to enhance self-esteem, promote an active lifestyle and foster good citizenship, it is linked with intrinsic motivation (Duda, 1989). An ego-oriented individual views sport as an opportunity to enhance one’s popularity, enhance social status and teach superiority, it is linked with extrinsic motivation (Duda, 1989). Ego-oriented individuals tend to experience high competitive and trait anxiety, it is linked with negative responses. Task-oriented individuals tend to experience low levels of competitive anxiety, it is linked with positive responses.

The self-determination theory (SDT), is another of the widely accepted theories founded around motivation (Deci & Ryan, 1980). According to the SDT, behaviours are driven by motivations that vary along a continuum from controlled to autonomous. SDT provides a framework for intervention development by outlining the mechanisms that underpin changes in behaviour. The different types of motivation are described in the next few points. Autonomous motivation leads to positive results such as positive well-being, vitality, enjoyment, self-esteem and persistence. Controlled motivation leads to ill-being, anxiety, burn-out, boredom and drop-out. There are two types of motivation: extrinsic and intrinsic. Intrinsic motivation is to act for the satisfaction and enjoyment the activity brings whereas extrinsic motivation is to act in order to achieve a separable outcome. Intrinsic motivation is the most autonomous form of motivation. When the activity is not enjoyable, an individual may still be intrinsically motivated through integrated regulation (e.g., acting in line with one’s goals and values) and identified regulation (e.g., acting to obtain personally valued outcomes). Long-term behaviour change is very unlikely when the behaviour is not autonomous (e.g., to avoid negative emotions such as guilt through introjected motivation) but is driven by external forces (e.g., in response to reward or punishment through external regulation).

### 6.2.2 In practice

More autonomous motivation can be attained through the satisfaction of three psychological needs; autonomy (feeling empowered and having a choice), competence (feeling capable and effective) and relatedness (feeling valued by- and close to- others) (Gillison et al., 2019). This meta-analysis found 17 SDT strategies (incentives was taken out of the list), they found that a mean of seven of these strategies were used per study (Gillison et al., 2019). These are the different strategies:

**Figure 9:** Review of the SDT strategies to enhance motivation.

## 6.3Arousal regulation

### 6.3.1 Theory:

Arousal is a “state of physiological and psychological activation that varies on a continuum from deep sleep to intense excitement”. Anxiety is a “negative emotional state characterised by feelings of nervousness and worry associated with activation or arousal of the body (e.g.: becoming nervous from increased heart rate)”.

Arousal influences performance, it can increase muscle tension and coordination difficulties, it can also impact attention and concentration.

### 6.3.2 In practice:

There are many arousal regulation techniques, there are two types: techniques to reduce arousal and techniques to increase arousal. These are reducing arousal techniques:

* Breathing techniques, it is one of the easiest and most effective ways to control anxiety and muscle tension. Observing someone’s breathing gives information on their state of arousal. If someone is calm, confident and in control their breathing will be smooth, deep and rhythmical. When someone is under pressure and tense, their breathing will be short, shallow and irregular.

These are a few breathing techniques: 1:2 ratio, 5 to 1 count or “centering”.

* Biofeedback, however, this study will not go into any details on biofeedback as soldiers will not have access to EEG, EMG GSR equipment.
* Progressive relaxation and relaxation response (see 6.8 of PST)
* Autogenic training, it is a series of exercises to produce warmth and heaviness in order to produce a relaxed state. It is similar to self-hypnosis and takes several months to become proficient. As this is a long-term technique it will be harder to implement within the RAPTC.

However, not all physical and mental tension is negative and not all of it should be eliminated. Small amounts of tension are desirable when a state of alertness and attentiveness is required. These are a few signs of under-arousal: moving slowly, easily distracted, lack of concern about performance, lack of enthusiasm and anticipation and heavy legs. The following techniques are used to enhance/induce arousal:

* Increase breathing rate
* Act energised
* Listen to music
* Use energising imagery
* Use positive self-talk (see 6.9 of PST) and mood words

## 6.4 Self-efficacy

### 6.4.1 Theory

There are multiple positive effects of self-efficacy (i.e.: self-confidence): it arouses positive emotions, facilitates concentration, positively affects goals, increases effort, positively affects psychological momentum (Bandura & Adams, 1977). High self-confidence has positive effects on performance. If an individual lacks necessary skill, has insufficient motivation, or the task is ambiguous, then self-efficacy will not lead to desired performance. However, if someone has the skills and motivation, then self-efficacy is a robust predictor of performance (Bandura, 1986).

### 6.4.2 In practice

Self-efficacy is influenced by performance accomplishments, vicarious experiences, verbal persuasion and physiological states.

* Performance accomplishments: “I have done it before so I can do it again”

Past performance accomplishments have the most impact on one’s self-confidence when an individual successfully completes a difficult task without external assistance or experiences rare failure (Bandura, 2010).

* Vicarious experiences: “If she can do it, I can do it”

It is important to watch others perform the task or skill that one is trying to learn. It is an important source of information. However, this only works if the skills and attributes of the performers are the same (Wise & Trunnell, 2001).

* Persuasion: “I know you are a good athlete”

Techniques for persuasion include verbal persuasion, evaluative feedback, expectations from others and self-talk. Persuasion needs to be used with other techniques; it is harder to instil strong self-efficacy beliefs with only using persuasion techniques (Gernigon & Delloye, 2003).

* Physiological states:

The individual’s perception of their own physiological state has an important impact on their self-efficacy. For example, positive interpretations of a fast heartbeat can increase self-efficacy (Wurtele, 1986).

These are guidelines to enhance self-efficacy in different individuals:

* Establish challenging, realistic goals
* Establish progressively more difficult task
* Use positive reinforcement
* Demonstrate skills
* Encourage use of imagery
* Use realistic verbal persuasion
* Encourage positive self-talk

## 6.5 Imagery:

### 6.5.1 In theory:

There are five different types of imagery: visual, kinaesthetic, auditory, olfactory and taste. Visual and kinaesthetic are the most often used types of imagery. Imagery is using all senses to create or re-create an experience in the mind (Vealey & Greenleaf, 2001). Imagery, also known as visualisation or mental practice involves creating or recreating an experience in one’s mind, using all the senses as well as moods and emotion.

These are the positive outcomes of imagery:

* Improve concentration
* Increase and builds confidence
* Emotional control
* Acquire and practice certain sport skills and strategies
* Cope with pain and injury
* Solve strategy, technique or psychological problems

There are different types of imagery perspectives: internal and external (Short, Ross-Stewart, & Monsma, 2006). Internal imagery is from one’s own vantage point and emphasises the feel of the moment, on the other hand, external imagery is from the perspective of an observer and has less kinaesthetic involved. External imagery seems to be better for acquisition and performance skills dependent on form when internal imagery is better for tasks that depend on perception (Hardy, 1997). Internal imagery is also better for open (time pressured and responsive) and external for closed (stable environment, not time stressed) tasks (Hardy & Callow, 1999).

Soldiers should use imagery: before important events, during training, injury rehabilitation and for performance enhancement in particular leading up to big events (Cumming & Williams, 2015). However, imagery can be used at different instances depending on the skill of the individual and the nature of the task.

There are two ways of assessing whether individuals are doing imagery properly: mental chronometry and cognitive interference. Mental chronometry entails making sure the imaging correlates with the time it takes to physically complete the activity, however, imaging can also be adjusted to work on other aspects of performance and the image can be slowed down or sped up. Cognitive interference entails making sure that the imaging skills are not compromised, visualisation skills can be compromised by reading and aural imaging can be compromised by listening to music.

There are a lot of different theories to explain how imagery can have positive effects on performance:

* Psychoneuromuscular theory:

The neural pathways used for imagery are the same as while doing the physical activity, imaging not only stimulates the visual centres but also areas implicated in the mechanics of the activity one is imaging. This study found imagery produces low-level innervations of muscles, however, the experiment lacked appropriate control (Hecker & Kaczor, 1988).

* Symbolic learning theory:

This theory states that imagery strengthens mental pathways and is very good for novice learners. However, this theory does not explain the improvement in motor tasks that don’t have cognitive components, and it can’t explain why it also helps experienced individuals (Foa & Kozak, 1998).

* Bioinformational theory

This theory states that imagery mimics the responses found in real-life situations. It is also called functional equivalence which means that the same neurophysiological pathways are elicited in imagery and physical performance (Lang, 1979). This theory fits perfectly with what is known about the reason for individuals to use imagery. This is to reproduce the same neuro pathways as actual skill execution (Munroe-Chandler & Guerrero, 2017). However, this theory does not give a lot of information on the motivational functions of imagery (Foa & Kozak, 1998).

Studies looking at the effects of mental practice vs physical practice found that participants engaging in mental practice and physical practice improved the most over only using one of them or neither (control) (Jordet, Hartman, Visscher, & Lemmink, 2007).

The effectiveness of imagery depends of the nature of the task and the skill level of the performer (Björkstrand & Jern, 2013). It is better for tasks including cognitive components such as decision making and perception. There is strong evidence showing that imagery is more effective for more experienced players, it seems to improve cognitive components for novice individuals and help refine skills for experienced individuals (Cumming & Williams, 2015).

### 6.5.2 In practice:

PETTLEP is a good way of implementing imagery, PETTLEP stands for Physical, Environment, Task, Timing, Learning, Emotion, Perspective (Holmes & Collins, 2001).

* Physical: The instructors need to actively involve their subordinates using equipment and moving as appropriate for the skills they are trying to improve.
* Environment: Relevant details of the environment need to be included in the imagery process, is it a training or competition environment? Are there spectators? Noise? Different surfaces?
* Task: Key components of the task need to be imaged so that the attentional demands and situation changes are the same in the imaged and actual situation.
* Timing: The imaging should be done in the same time as the physical task; however, it can be in slow or fats motion to work on other aspects of performance.
* Learning: The imagery should evolve and adapt with learning and practice. A novice and an expert will not be imaging the same thing, the contents should regularly be reviewed and revised.
* Emotion: When imaging, the individuals need to try and include the same emotions they would be experiencing during the physical experience. If the inappropriate emotions are imaged, it may have a debilitative effect on subsequent performance.
* Perspective: Both external and internal imagery should be used appropriately. External imagery is for precise position and movements, whereas internal imagery is for well-learned skills, aiming for a certain point, when timing is important.

A study found that in a group of 48 field hockey players, all forms of imagery were effective in enhancing performance but the PETTLEP-based imagery was more effective (Smith, Wright, Allsopp, & Westhead, 2007).

## 6.6 Goal setting:

### 6.6.1 Theory:

There are three types of goals: outcome, performance and process goals (Locke & Latham, 2006; Weinberg, 2002).

* Outcome goals typically focus on a competitive result (e.g.: I want to get into the RAPTC; therefore, I have to pass the selection course and be one of the best).
* Performance goals typically focus on achieving standards or performance objectives without considering other competitors (e.g.: I need to pass the RFTS to stay on the course)
* Process goals typically focus on the actions an individual must engage during performance to execute or perform well (e.g.: I need to have good technique while doing the deadlift to do it successfully)

All three types of goals have a purpose, but the key is knowing when to use each of them. Outcome goals facilitate short-term motivation; however, they can increase anxiety and irrelevant distracting thoughts before or during competitive events. Performance and process goals can make much more precise adjustments to goals and depend much less on the opponent’s behaviour, they are very useful coming up and during competitive events (Wack, Crosland, & Miltenberger, 2014). A study found that out of 88 studies on goal setting, 70 found moderate to strong positive effects of goal setting in sport (Damon Burton & Weiss, 2008). Goals indirectly affect performance through psychological factors such as confidence and self-belief (Weinberg, 2002).

There are two fundamental aspects of goal setting, difficult goals lead to considerably higher levels of performance than easier goals and specific goals lead to higher levels of performance than vague goals (Locke & Latham, 2006). A meta-analysis on goal setting analysing 36 studies found there is a linear relationship between goal difficulty and performance until the upper levels of ability are reached. However, unrealistically high goals will have detrimental effects on performance, therefore moderately difficult goals are more effective (Kyllo & Landers, 1995). This study also found that short term goals are more effective than long term goals as they offer more opportunities to assess and correct levels and strategies. Long term goals should be used with short term goals to mark progress.

There are common problems when it comes to implementing strategies such as goal setting. Here are some problems associated with the implementation of goal setting:

* Getting the compliance of the soldiers
* Failing to set specific goals and to adjust them
* Failing to set performance and process goals
* Not providing feedback and follow-up
* Setting too many goals too soon and making them too hard

Goal setting positively influences these resilience pillars: self-belief & confidence, purpose & motivation, mindset control and unit cohesion.

### 6.6.2 In practice:

These are a few principles that should be followed when practicing goal setting (Weinberg, 2002):

* Set specific goals
* Set moderately difficult and realistic goals
* Set long term goals with short term goals to mark progress
* All three types of goals should be used (performance, progress and outcome)
* Set both practice and competition goals
* Record goals to keep track of them and adjust them if necessary
* Provide goal support and evaluation

Group goal setting can not only increase the group’s motivation, confidence and cohesion, it also is effective in improving individual performance and increasing personal goals (Johnson, Ostrow, Perna, & Etzel, 1997). No significant differences have been found between the effectiveness of goal and individual goal setting; very similar positive results arise from both of them. This is an example of how to set goals effectively:

* Long-term goals set first
* Clear short-term goals set
* Every member should be involved in goal-setting process and have a say
* The progress of the team should be monitored and rewarded
* Team confidence will be developed from team goal setting

Another goal setting programme example is this one (Weinberg, 2002):

First step: Preparation and planning

* Assess the abilities and needs of a team or oneself
* Set goals in diverse areas and not solely one
* Identify what will influence these goals

Second step: Education and acquisition

* Schedule meetings
* Focus on one goal at a time

Third step: Implement and follow up

* Identify appropriate evaluation procedures
* Provide support and encouragement
* Plan for adjustments and re-evaluation

Finally, this is one last example of how to set up goals within a team or as an individual:

SMART goals: Specific (what do you want to do?), Measurable (How will you know when you’ve reached it?), Achievable (Is it in your power to accomplish it?), Realistic (Can you realistically achieve it?), Timely (When exactly do you want to accomplish it?).

## 6.7 Focus regulation:

### 6.7.1 Theory:

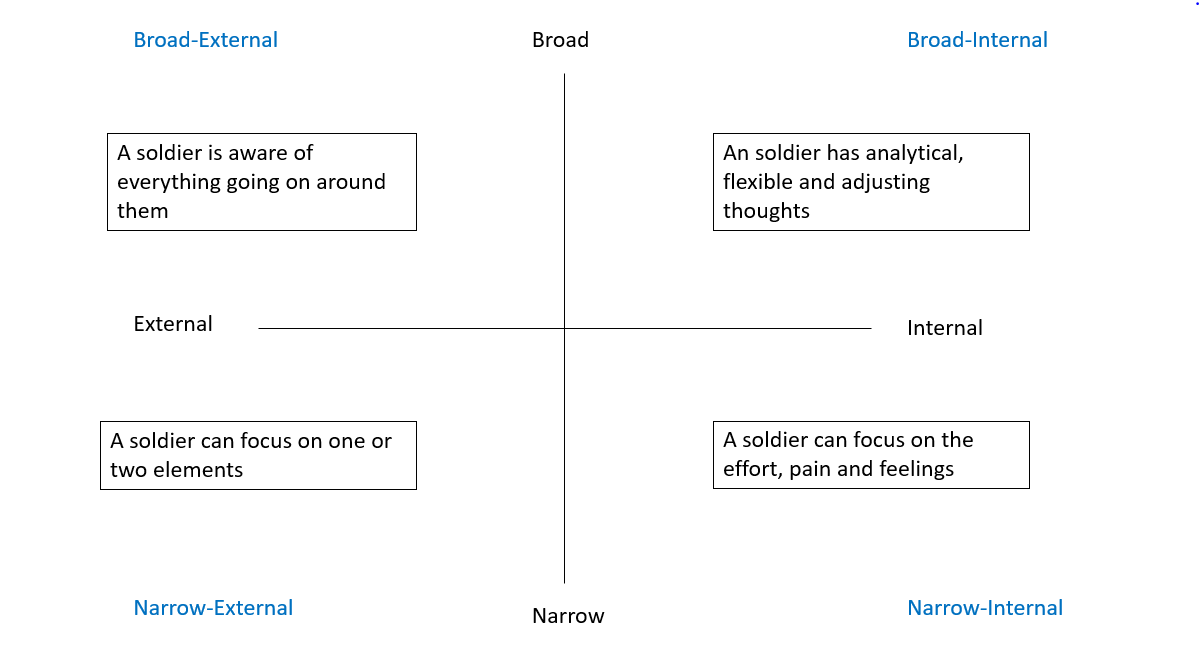
Cognitive psychologists have defined 3 dimensions of attention: concentration, selective perception and mental time sharing.

* Concentration:

Concentration is “the ability to exert deliberate mental effort on what is most important in a given situation” (Moran, 1996). Moran (1996) identified five principles of concentration: It requires effort, athletes can only focus on one thought at a time, athletes focus best when concentrating on actions that are specific, they lose concentration when focus on irrelevant factors, and finally, concentration is disrupted by anxiety. Concentration requires mental effort; it is under one’s control. It involves focusing on relevant environmental cues and it also requires effort and awareness to maintain concentration over time. A study found that successful athletes were less likely to be distracted, anticipated situations earlier and therefore made better decision.

* Selective perception

Attention is a very important construct to understand and predict behaviour. Attention can be conceptualised on two dimensions: direction (external and internal) and breadth of focus (narrow to broad) (Nideffer, 1976). Internal attentional direction involves attending to one’s thoughts, feeling and physiological cues as well as analysing and planning. External attentional direction involves attending to things going on in the environment and occurs at a more reflexive level. Broad attention involves attending to several cues when narrow attention involves attending to only one or two cues (Nideffer, 1976). Attention can always be described by both width and direction. Figure 7 gives a schematic explanation of the attention constructs:

 **Figure 10:** Theoretical consequences of the different attention styles

Narrow internal focus is better when learning new skills, but once learned the focus should shift to external factors such as the competition. Inappropriate internal focus interferes with natural smooth movements and can therefore be detrimental to performance.

* Mental time sharing

Mental time sharing describes the ability to perform two or more activities at a time.

**Distractions:**

It is important to understand what stops individuals from concentrating to resolve it; it can be internal or external distractions. Internal distractions could be over-analysing body mechanics, lack of motivation and self-belief, and emotional factors such as anxiety and choking. External distractions could be visual such as spectators, auditory such as cheers or gamesmanship.

Choking is a term used to describe unexpected failure due to anxiety, performance progressively deteriorates. It is important for athletes to be ready for choking and to be able to react and reverse it as quickly as possible.

### 6.7.2 In practice:

Improving concentration is necessary for optimal performance. There are multiple different techniques to promote concentration and combat lapses of attention. These techniques all require practice and should be athlete and environment specific.

To improve generic concentration skills, it is important for individual to learn how to “park” their intruding thoughts, learn to maintain focus, rehearse concentration in high-pressured environments and learn to shift their attention.

There are also 8 steps that can be used:

1. Use simulations in practice, practice with distractions such as crowds and noise present.
2. Use cue words to focus, such as instructional and motivational words.
3. Employ non-judgemental and positive thinking
4. Establish routines before, during and after the event
5. Develop plans, a tailored plan will help the individuals to maintain their concentration
6. Practice eye contact to avoid visual distractions
7. Stay focused on the present and push all past distractions away
8. Overlearn skills, this will make skills more automatic freeing cognitive capacity (muscle memory)

Other techniques such as self-talk and positive thinking can be used to avoid distractions.

Focus regulation is also very important to deal with pain or discomfort that comes from high-intensity physical activity. There are two strategies to deal with pain and discomfort (Salwin & Zajac, 2016):

* Dissociative strategy: This strategy involves distracting one’s attention from the pain and discomfort by focusing on external factors. This could be done by listening to music, concentrating on one’s surroundings.
* Associative strategies: This involves focusing on the information from own body and completely monitoring the pain. It isn’t about fighting the pain or forgetting it but about fraternising with it and understanding how to increase one’s tolerance to it.

## 6.8 Relaxation

### 6.8.1 Theory

Being relaxed has been found to be a key characteristic of peak performance (Davidson & Schwartz, 1976). There are different types of relaxation: physical and mental (J Williams & Krane, 1993). Physical relaxation techniques should be used to resolve somatic anxiety issues whereas mental relaxation techniques should be used to resolve cognitive anxiety issues (Khasky & Smith, 1999). There are also multimodal techniques to deal with both types of anxiety simultaneously (D Burton, 1990). Relaxation has been found to have positive enhancement effects on performance when combined with imagery and self-talk.

### 6.8.2 In practice

* Physical relaxation

Progressive muscle relaxation is used to relieve muscle tension. Decreased muscle tension will lead to decreased mental tension. It is a systematic focus of attention on the various gross muscle groups throughout the body.

* Mental relaxation:

Mental relaxation can be obtained by using a technique known as transcendental meditation, it is associated with slower heart rate, lower blood pressure and decreased responsivity of the sympathetic nervous system.

* Both physical and mental relaxation (D Burton, 1990): the following techniques deal with both types of anxiety simultaneously: stress-inoculation training (Meichenbaum & Cameron, 1989), cognitive affective stress management (Crocker, Alderman, Murray, & Smith, 1988) and visuo-motor behaviour rehearsal (Noel, 1980).

## 6.9 Self-talk

### 6.9.1 Theory

Self-talk is described as the act of talking to oneself, aloud or silently. A study found that the best discriminator of qualifiers and non-qualifiers for the US Olympic Gymnastics team was the nature and content of their self-talk just prior to competition (Mahoney & Avener, 1977). Self-talk has many potential uses such as enhancing concentration, breaking bad habits, stopping negative thoughts, staying motivated, sustaining effort, enhancing self-confidence, … There are different types of self-talk: positive (motivational), instructional, negative self-talk or thought stopping (Latinjak, Maso, & Comoutos, 2018):

* Negative self-talk tends to be associated with poor performance (Jabbari, Charbaghi, & Dana, 2019). However, more recent studies have found that negative self-talk can have positive impacts on performance when used appropriately (i.e., it can be interpreted as motivational, e.g., “a talking to” following a mistake) (Gillison et al., 2019)
* Thought-stopping self-talk is useful to stop negative thoughts before they harm performance, it is often associated with a trigger or a cue work to stop a negative thought and clear mind to refocus on a task-related cue.
* Positive self-talk can either involve motivational elements or substitute negative talk for positive (e.g., I’m going to fail -> I can do this)
* Instructional self-talk is used to perform a skill as well as possible (e.g., when performing a squat, it is important to know all the queues and coaching points and to be able to talk them through to oneself)

Individuals, in particular athletes, make extensive use of metaphors in their self-talk, such as “quick like a cheetah”. A large number of studies have found self-talk can enhance performance in a wide range of sports (Tod, Hardy, & Oliver, 2011)..

### 6.9.2 In practice

A good guide as to how to use self-talk is following the four W’s of self-talk:

* Where?

Competition and training

* When?

Pre-competition, during competition and during training

* Why?

Cognitive: skill execution and development

Motivational: to enhance focus, self-confidence and drive, as well as to regulate arousal

* What?

Structure, task instruction and nature of task

These are a few examples of the different types of self-talk:

* Positive: “I can do it”, “just hang on in there a little longer”
* Instructional: “Keep your eyes on the ball”, “push your knees out”
* Negative: “That was stupid shot”, “why are you so bad at this”
* Thought stopping:

## 7.0 Recommendations:

These are a few recommendations to make a successful MRT program and to successfully implement the different PSTs detailed above (Fletcher & Sarkar, 2016):

* MRT should start by explaining what resilience is and is not: feeling vulnerable to stress and struggling to cope should not be perceived as a weakness.
* The initial phase should seek to determine how individuals react in a pressurised situation (e.g., selection course) and utilise a range of diagnostics such as self-report, observation and physiological indices such as heart rate. However, diagnostics are not always an option, the instructors could instead simply observe the individual’s reactions and ask them a series of questions to understand how they felt the pressurised situation impacted their performance.
* Training should be endorsed at a group level but tailored to individual needs and circumstances. There should be ability groups where possible in order to push each individual equally.
* Responses to the MRT should be monitored so the content of the training can be modified and optimised accordingly. After sessions, the PTI could split the individual in groups as ask a few questions about how they felt the training went and if they feel like it impacted their personal resilience as well as their group resilience.
* Group resilience is greater than the sum of its parts, therefore it is crucial that individuals’ collective qualities are harnessed so each member can thrive. Command tasks will be useful for the team as a whole.
* MRT within teams must focus not only on individual’s capability but also interpersonal relationships, shared process and group functioning. There should be command tasks in order to get the team to work together and use everyone’s qualities and capabilities.
* Organisation’s vision should inspire those within to establish a collective identity that embodies cultural and behavioural norms of reacting positively to pressure. The moto of the corps in “mens sana in corpore sano”, this should be enough explanation as to why resilience is important within the corps.

Physical training can only be successfully carried out, implemented and practiced if it is imbedded with PST. Mental training is a crucial part of training, individuals will not be able to achieve high standards without it. Countless studies have shown that the attributes of MRT are necessary for one to succeed in what they do, and PST are practiced in order to enhance these pillars. All these strategies should be implemented gradually into training, so the least amount of change is done to the training programmes already in place.

# 8.0 Conclusion:

Mental resilience training has become a fundamental principle of military training, it is therefore necessary that the RAPTC stay current by making implementation uniform across the corps. Resilience is crucial to develop preventive measures that allow the soldiers to withstand modern military stressors, it may also act as a preventive strategy against suicide. However, MRT works better as a command function supported by the Army School of Physical Training (ASPT) but not solely delivered by them.

This review is the first to examine mental resilience training within sporting and military context in order to understand resilience within the RAPTC. This analysis of many studies shows which pillars of resilience are relevant within the physical training corps. Eight pillars (social support and unit cohesion, emotional control, mindset control, purpose and motivation, leadership, facilitative environment, self-belief, coping strategies) were identified and described in order to fully understand their role in the corps. The possible strategies (motivation, arousal regulation, self-efficacy, imagery, goal setting, focus regulation, relaxation and self-talk) to implement in the corps in order to build and enhance these pillars were then identified and described; recommendations on how to implement them were given.

This review should be used to help create a standardised training protocol for MRT in the RAPTC.

# References:

Adler, A. B., Bliese, P. D., Pickering, M. A., Hammermeister, J., Williams, J., Harada, C., . . . Ohlson, C. (2015). Mental Skills Training With Basic Combat Training Soldiers: A Group-Randomized Trial. *Journal of Applied Psychology, 100*(6), 1752-1764. doi:10.1037/apl0000021

Alanazi, T. R., Alharthey, B. K., & Amran, R. (2013). Overview of path-goal leadership theory. *Journal teknologi, 64*, 49-53.

Baker, J., Cote, J., & Hawes, R. (2000). The relationship between coaching behaviours and sport anxiety in athletes. *Journal of science and medicine in sport, 3*(2), 110-119.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of social and clinical psychology, 4*(3), 359-373.

Bandura, A. (2010). Self-efficacy. *The Corsini Encyclopedia of psychology*.

Bandura, A., & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive therapy and research, 1*, 287-310.

Bartone, P. T. (2006). Resilience under military operational stress: can leaders influence hardiness? *Military psychology, 18*, 131-148.

Belem, I. C., Caryzzo, N. M., Nascimento, J. R., Vieira, J. L. L., & Vieira, L. F. (2014). Impact of coping strategies on resilience of elite beach volleyball athletes. *Revista Brasileira de cineantropometria e desempenho humano, 16*(4).

Birrer, D., & Morgan, G. (2010). Psychological skills training as a way to enhance an athlete's performance in high-intensity sports. *Scandinavian journal of medicine and science in sports, 20*, 78-87.

Björkstrand, S., & Jern, P. (2013). Evaluation of an imagery intervention to improve penalty taking ability in soccer: a study of two junior girls team. *Nordic psychology, 65*, 290-305.

Burton, D. (1990). Multi-modal stress management in sport: current status and future directions. In J. G. J. L. Hardy (Ed.), *Stress and performance in sport* (pp. 171-201). Chichester, UK.

Burton, D., & Weiss, C. (2008). The fundamental goal concept: the path to process and performance success. *Advances in sport psychology*, 470-474.

Carron, A. V., Colman, M. M., Wheeler, J., & Stevens, D. (2002). Cohesion and performance in sport: A meta analysis. *Journal of Sport & Exercise Psychology, 24*(2), 168-188. doi:10.1123/jsep.24.2.168

Cho, S., Choi, H., & Kim, Y. (2019). The Relationship between Perceived Coaching Behaviors, Competitive Trait Anxiety, and Athlete Burnout: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health, 16*(8), 11. doi:10.3390/ijerph16081424

Cornum, R., Matthews, M. D., & Seligman, M. E. P. (2011). Comprehensive Soldier Fitness Building Resilience in a Challenging Institutional Context. *American Psychologist, 66*(1), 4-9. doi:10.1037/a0021420

Cowden, R. G., Meyer-Weitz, A., & Asante, K. O. (2016). Mental toughness in competitive tennis: relationships with resilience and stress. *Frontiers in psychology, 7*.

Crane, M., & Boga, D. (2017). A Commentary: Rethinking approaches to Resilience and Mental Health Training. *Journal of Military and Veterans Health, 25*(1), 30-33.

Crocker, P., Alderman, R., Murray, F., & Smith, R. (1988). Cognitive-affective stress management training with high performance youth volleyball players: effects on affect, cognition, and performance. *10*(4), 448-460.

Cumming, J., & Williams, S. (2015). The sport imagery ability questionnaire manual. *Birmingham research in imagery and observation group*.

Davidson, R., & Schwartz, G. (1976). The psychobiology of relaxation and related states: a multiprocess theory. In Mostofsky (Ed.), *Behavior control and the modification of physiological activity* (pp. 399-442).

Deci, E. L., & Ryan, R. M. (1980). Self determination theory: when mind mediates behavior.

Duda, J. L. (1989). Relationship between task and ego orientation and the perceived purpose of sport among high school athletes. *Journal of sport and exercise psychology, 11*, 318-335.

Ellis, A., & Dryden, W. (1997). *The practice of rational-emotive behavior therapy (REBT).* New York, NY: Springer publishing company.

Fitzwater, J. P. J. (2017). *The conceptualisation, measurement, and development of mental toughness in military training.* (Doctor of Philosophy). Bangor University,

Flavell, J. (1979). Meta-cognition and cognitive monitoring: a new area of cognitive-developmental inquiry. *American psychologist, 34*(10), 906-911.

Fletcher, D., & Sarkar, M. (2012). A grounded theory of psychological resilience in Olympic champions. *Psychology of Sport and Exercise, 13*, 669-678.

Fletcher, D., & Sarkar, M. (2016). Mental fortitude training: An evidence-based approach to developing psychological resilience for sustained success. *Journal of Sport Psychology in Action, 7*(3), 135-157. doi:10.1080/21520704.2016.1255496

Foa, E., & Kozak, M. (1998). Clinical applications of bioinformational theory: understanding anxiety and its treatment. *Behavior therapy, 29*, 675-690.

Ford, J. L., Ildefonso, K., Jones, M. L., & Arvinen-Barrow, M. (2017). Sport-related anxiety: current insights. *Open access journal of sports medicine, 8*, 205-212.

Friedlander, F., & Walton, E. (1964). Positive and negative motivations toward work. *Administrative Science Quarterly, 9*(2), 194-207.

Fry, L. W., Vitucci, S., & Cedillo, M. (2005). Spiritual leadership and army transformation: theory, measurement, and establishing a baseline. *The leadership quarterly, 16*, 835-862.

Gearity, B. T., & Murray, M. A. (2011). Athletes' experiences of the psychological effects of poor coaching. *Psychology of Sport and Exercise, 12*(3), 213-221. doi:10.1016/j.psychsport.2010.11.004

Gernigon, C., & Delloye, J.-B. (2003). Self-efficacy, causal attribution, and track athletic performance following unexpected success or failure among elite sprinters. *The sport psychologist, 17*(1), 55-76.

Gilbar, O., Ben-Zur, H., & Lubin, G. (2010). Coping, mastery, stress appraisals, mental preparation, and unit cohesion predicting distress and performance: a longitudinal study of soldiers undertaking evacuation tasks. *Anxiety, stress, & coping, 23*, 547-562.

Gillison, F. B., Rouse, P., Standage, M., Sebire, S. J., & Ryan, R. M. (2019). A meta-analysis of techniques to promote motivation for health behaviour change from a self-determination theory perspective. *Health psychology review, 13*, 110-130.

Gimeno, F., & García-Mas, A. (2010). Motivation in the teaching of physical education according to the achievement goal theory: methodological considerations. *Quality & Quantity, 44*, 583-593.

Hardy, L. (1997). Three myths about applied consultancy work. *Journal of applied sport psychology, 9*, 277-294.

Hardy, L., & Callow, N. (1999). Efficacy of external and internal visual imagery perspectives for the enhancement of performance tasks in which form is important. *Journal of sport and exercise psychology, 21*, 95-112.

Hays, K., Thomas, O., Butt, J., & Maynard, I. (2010). The Development of Confidence Profiling for Sport. *Sport Psychologist, 24*(3), 373-392. doi:10.1123/tsp.24.3.373

Hays, K., Thomas, O., Maynard, I., & Buttt, J. (2010). The Role of Confidence Profiling in Cognitive-Behavioral Interventions in Sport. *Sport Psychologist, 24*(3), 393-414. doi:10.1123/tsp.24.3.393

Hecker, J., & Kaczor, L. (1988). Application of imagery theory to sport psychology: some preliminary findings. *Journal of sport & exercise psychology, 10*, 363-373.

Hodgson, L., Butt, J., & Maynard, I. (2017). Exploring the psychological attributes underpinning elite sports coaching. *Journal of sports science and coaching, 12*(4), 439-451.

Holmes, P., & Collins, D. (2001). The PETTLEP approach to motor imagery: a functional equivalence model for sport psychologists. *Journal of applied sport psychology, 13*(1), 60-83.

House, R. J., & Mitchell, T. R. (1975). Path-goal theory of leadership. *National technical information service*.

Isoard-Gautheur, S., Guillet-Descas, E., & Duda, J. L. (2013). How to achieve in elite training centers without burning out? An achievement goal theory perspective. *Psychology of Sport and Exercise, 14*, 72-83.

Jabbari, E., Charbaghi, Z., & Dana, A. (2019). Investigating the effects of educational and motivational education at different levels on the performance and application of dart throwing. *Journal of humanities insights, 3*(2), 37-44.

Jacob, C. S., & Carron, A. V. (1998). The association between status and cohesion in sport teams. *Journal of Sports Sciences, 16*(2), 187-198.

Johnson, S., Ostrow, A., Perna, F., & Etzel, E. (1997). The effects of group versus individual goal setting on bowling performance. *The sport psychologist, 11*(2), 190-200.

Jordet, G., Hartman, E., Visscher, C., & Lemmink, K. (2007). Kicks from the penalty mark in soccer: the roles of stress, skill, and fatigue for kick outcomes. *Journal of sports sciences, 25*, 121-129.

Kane, T. D., & Tremble Jr, T. R. (2000). Transformational leadership effects at different levels of the Army. *Military psychology, 12*, 137-160.

Karstoft, K.-I., Nielsen, T., & Nielsen, A. B. S. (2018). Perceived danger during deployment: a Rasch validation of an instrument assessing perceived combat exposure and the witnessing of combat consequences in a war zone. *European journal of psychotraumatology, 9*.

Khasky, A. D., & Smith, J. C. (1999). Stress, relaxation states, and creativity. *Perceptual and motor skills, 88*, 409-416.

Kyllo, L., & Landers, D. (1995). Goal setting in sport and exercise: a research synthesis to resolve the controversy. *Journal of sport & exercise psychology, 17*(2), 117-137.

Lang, P. (1979). A bio-informational theory of emotional imagery. *Psychophysiology, 16*, 495-512.

Latinjak, A., Maso, M., & Comoutos, N. (2018). Goal-directed self-talk used during technical skill acquisition: the case of novice ultimate frisbee players. *The sport psychologist, 32*(1), 60-65.

Locke, E., & Latham, G. (2006). New directions in goal-setting theory.

Longshore, K., & Sachs, M. (2015). Mindfulness Training for Coaches: A Mixed-Method Exploratory Study. *Journal of Clinical Sport Psychology, 9*(2), 116-137. doi:10.1123/jcsp.2014-0038

Lonsdale, C., Hodge, K., & Rose, E. (2009). Athlete burnout in elite sport: a self-determination perspective. *Journal of sports sciences, 27*, 785-795.

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: a critical evaluation and guidelines for future work. *Child development, 71*(3), 543-562.

Mahoney, M. J., & Avener, M. (1977). Psychology of the elite athlete: an explanatory study. *Cognitive therapy and research, 1*, 135-141.

Mallett, C. J., & Hanrahan, S. J. (2004). Elite athletes: why does the 'fire' burn so brightly? *Psychology of sport and exercise, 5*, 183-200.

Martin, L., Rosen, L. N., Durand, D. B., Knudson, K. H., & Stretch, R. H. (2000). Psychological and physical health effects of sexual assaults and nonsexual traumas among male and female United States Army soldiers. *Behavioral medicine, 26*, 23-33.

McCann, S. (2008). At the Olympics, everything is a performance issue. *International journal of sport and exercise psychology, 6*(3), 267-276.

Meichenbaum, D., & Cameron, R. (1989). Stress inoculation training. In J. M. E. Meichenbaum D. (Ed.), *Stress reduction and prevention* (pp. 115-154). Boston, MA.

Moran, A. (1996). Concentration: attention and performance. In *The Oxford handbook of sport and performance psychology* (pp. 117-130). Oxford: Oxford University press.

Munroe-Chandler, K., & Guerrero, M. (2017). Psychological imagery in sport and performance. *Oxford research encyclopedia*.

Munroe-Chandler, K., Hall, C., & Weinberg, R. (2004). A qualitative analysis of the types of goals athletes set in training and competition. *Journal of sport behavior, 27*(1), 58-74.

Munson, S. A., & Consolvo, S. (2012). *Exploring goal-setting, rewards, self-monitoring, and sharing to motivate physical activity*. Paper presented at the 6th International Conference on pervasive computing technologies for healthcare and workshops, San Diego, CA.

Nicholls, J. G. (1984). Achievement motivation: conceptions of ability, subjective experience, task choice, and performance. *Psychological review, 91*, 328-346.

Nideffer, R. M. (1976). Test of attentional and interpersonal style. *Journal of personality and social psychology, 34*, 394-404.

Noel, R. C. (1980). The effect of visuo-motor behavior rehearsal on tennis performance. *Journal of sport and exercise psychology, 2*(3), 221-226.

Obando, O. L., Villalobos, M. E., & Arango, S. l. (2008). Resilience in children with abandonment experiences. *Acta colombiana de psicologia, 13*(2), 149-159.

Pedro, S. D. G. (2016). Athletes engagement, resilience, and rate of perceived exertion on portuguese national- and international-level wrestlers. *International journal of wrestling science, 6*(1), 5-10.

Prazeres, L. (2017). Challenging the comfort zone: self-discovery, everyday practices and international student mobility to the global south. *Mobilities, 12*(6), 908-923.

Precious, D., & Lindsay, A. (2019). Mental resilience training. *Journal of the Royal Army Medical Corps, 165*(2), 106-108. doi:10.1136/jramc-2018-001047

Rand, P., Lens, W., & Decock, B. (2007). Negative motivation is half the story: achievement motivation combines positive and negative motivation. *Scandinavian journal of educational research, 35*(1).

Reivich, K. J., Seligman, M. E. P., & McBride, S. (2011). Master Resilience Training in the US Army. *American Psychologist, 66*(1), 25-34. doi:10.1037/a0021897

Salwin, E., & Zajac, A. (2016). Pain tolerance in sport. *Baltic journal of health and physical activity, 8*(3), 71-80.

Sarkar, M., & Fletcher, D. (2014). Psychological resilience in sport performers: a review of stressors and protective factors. *Journal of sport science, 32*, 419-434.

Sheard, M. (2009). A cross-national analysis of mental toughness and hardiness in elite rugby league teams. *Perceptual and Motor Skills, 109*(1), 213-223. doi:10.2466/pms.109.1.213-223

Sherman, R. O. (2017). Transcending your comfort zone. *American nurse today*.

Shinn, M., Lehmann, S., & Wong, N. (1984). Social interaction and social support. *Social issues, 40*(4), 55-76.

Shipman, A. S., & Mumford, M. D. (2011). When confidence is detrimental: influence of overconfidence on leadership effectiveness. *The leadership quarterly, 22*(4), 649-665.

Short, S., Ross-Stewart, L., & Monsma, E. (2006). Onwards with the evolution of imagery research in sport psychology. *The online journal of sport psychology, 8*(3).

Smith, D., Wright, C., Allsopp, A., & Westhead, H. (2007). It's all in the mind: PETTLEP-based imagery and sports performance. *Journal of applied sport psychology, 19*, 80-92.

Steffens, N. K., Haslam, S. A., Reicher, S. D., Platow, M. J., Fransen, K., Yang, J., . . . Boen, F. (2014). Leadership as social identity management: Introducing the Identity Leadership Inventory (ILI) to assess and validate a four-dimensional model. *Leadership Quarterly, 25*(5), 1001-1024. doi:10.1016/j.leaqua.2014.05.002

Tod, D., Hardy, J., & Oliver, E. (2011). Effects of self-talk: a systematic review. *Journal of sport and exercise psychology, 33*(5), 666-687.

Turner, M. J. (2016). Rational Emotive Behavior Therapy (REBT), irrational and rational beliefs, and the mental health of athletes. *Frontiers in psychology, 7*, 1-16.

Vealey, R. S., & Greenleaf, C. A. (2001). *Seeing is believing: understanding and using imagery in sport*. Paper presented at the Applied sport psychology: personal growth to peak performance, Mountain View, CA: Mayfield.

Wack, S. R., Crosland, K. A., & Miltenberger, R. G. (2014). Using goal setting and feedback to increase weekly running distance. *Journal of Applied Behavior Analysis, 47*(1), 181-185. doi:10.1002/jaba.108

Watkins, E. R. (2008). Constructive and unconstructive repetitive thought. *Psychological bulletin, 134*(2), 163-206.

Weinberg, R. S. (2002). Goal setting in sport and exercise: research to practice. *Exploring sport and exercise psychology*, 25-48.

White, A. (2009). From comfort zone to performance management. 20.

Williams, J., Brown, J. M., Bray, R. M., Goodell, E. M. A., Olmsted, K. R., & Adler, A. B. (2016). Unit Cohesion, Resilience, and Mental Health of Soldiers in Basic Combat Training. *Military Psychology, 28*(4), 241-250. doi:10.1037/mil0000120

Williams, J., & Krane, V. (1993). Psychological characteristics of peak performance. *Applied sport psychology*.

Wise, J. B., & Trunnell, E. P. (2001). The influence of sources of self-efficacy upon efficacy strength. *Journal of sport and exercise psychology, 23*(4), 268-280.

Wurtele, S. K. (1986). Self-efficacy and athletic performance: a review. *Journal of social and clinical psychology, 4*(3), 290-301.