

**The Effect of Instructor Experience on the Motivation of Aspiring NCOs
Within Military Training**

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Abstract

Introduction: Motivation is essential when individuals want to succeed in their military training. However, multiple factors can influence a person's motivation to achieve their goal. This study tested whether the level of experience of the instruction team positively affects aspiring NCOs' motivation to pass their initial military training program. The expectation is that psychological safety, social cohesion and rapport in this relationship act as mediators and explain the relationship between instructor experience and motivation.

Methods: Psychological safety, social cohesion, rapport, and motivation are questioned in a 62-item questionnaire. In addition, the study used three open-ended questions to further clarify group motivation, instructor motivation, and estimated reasons for dropping out of training. Furthermore, data about instructor experience was obtained using a human resource report. The average score per platoon is used to define the instructor experience.

Results: The level of instruction experience within the platoons is not a predictor of the NCOs' motivation to pass their training. Nevertheless, even though psychological safety has no mediating function in the equation, psychological safety, social cohesion and rapport do significantly affect motivation. Moreover, these components all correlate positively with each other. Furthermore, the results of the open questions indicate that although instructor experience is not a significant predictor of motivation, the instructor's role in staying motivated is a crucial factor. The answers demonstrate the importance of the instructor building rapport between them and the aspiring NCO, creating social cohesion and providing a psychologically safe educational environment.

Discussion: The instructor is one of the most important influencers of military training despite this research demonstrating that instructor experience does not affect motivation. Nevertheless, when creating rapport to establish a psychologically safe environment in which aspiring NCOs personally and professionally grow and in which the trainee can bond with their group, motivation increases to pass the course. Therefore, the army needs to educate instructors on how to build rapport, invest in social cohesion, and create a psychologically safe environment. That is, to ensure an optimal training environment for personnel to develop.

Keywords: motivation, instructor experience, psychological safety, social cohesion, rapport

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1. The Effect of Instructor Experience on the Motivation of Aspiring NCOs Within Military Training

Nowadays, a well-equipped armed force proves necessary for the current European security situation. To support allies and defend national territorial integrity, these armed forces are an essential asset that nations must possess. The importance of investing in a qualitatively and quantitatively optimal military force is highlighted by the ongoing unstable security situation in Eastern Europe (Ministry of Defence, 2020). The variety of global challenges caused by climate, economic, and political factors emphasise the need to ensure that the Royal Netherlands Army is prepared for possible threats in the future. This is among the reasons why the Dutch Parliament decided to raise the budget for additional investments in the Dutch Ministry of Defence, making it more resilient to emerging threats (Ministry of Defence, 2020). Not only resources like weapons and ammunition affect this resilience, but also the most important weapon systems of the Netherlands Armed Forces, namely the men and women within the organisation. Ultimately, it is the people, the soldiers who are willing to pay the ultimate price, with their boots on the ground, who win wars, hold the ground, and win the hearts and minds. Therefore, it remains of great importance to recruit, commit and retain personnel to enable the Dutch armed forces to protect what we hold dear and bring freedom and security to those who cannot do so themselves.

Within most Western armies, human capital is divided into three categories. The various ranks are situated within these categories, and each category fulfils a specific role or function within the military organisation. First, the officers are the formal leaders and directors of the military organisation. They are responsible for developing policy, creating an overall vision and being the commanders of operational units. Often, tactical, operational, and strategic decisions are taken by this category. The second category is the Non-Commissioned Officers (NCOs) who are referred to as the "backbone" of the organisation (Haans, 2010) since they are the link between the officers and the soldiers on the work floor. NCOs are characterised as professionals, instructors, and leaders. They are the leaders on the lowest tactical level and the trainers within the organisation. In addition, NCOs are often known for 'speaking truth to power' in positions as advisers alongside the commanders. NCOs are a crucial category as they mostly bring operational experience within their functional areas, and therefore able to develop colleagues in a professional setting. The third category consists of privates and corporals, which are the

workforce within the armed forces. The importance of the connection between the three different categories is demonstrated by information derived from the war in Ukraine, which shows, for example, that the lack of NCOs is considered one of the main reasons for the failure of the Russian armed forces (Dalsjö et al., 2022; Gilliam & Van Wie, 2022). This example demonstrates the NCO being one of the most essential roles within the army system.

A major aspect that makes the army powerful is the camaraderie between soldiers. Research has shown that comradeship is one of the main motivators for soldiers to stay employed within the army (Ministry of Defence, 2020). It can be established in a short time, often through shared, sometimes challenging experiences that create a bond. This motivation is found both within operational as well as in training units. It is this kind of social cohesion that, when in battle, propels soldiers and keeps them in the fight, in support of their brothers in arms (Smith, 2005). Soldiers fight for a cause and their country, but ultimately they fight for each other. The genesis of camaraderie starts already in military training, where all aspiring soldiers go through the same challenging situations. Instructors can use this as a motivating factor while training military personnel to build cohesion and team spirit. Since most of the instructors at the Royal Netherlands Army Military School (Koninklijke Militaire School, KMS) possess prior military experience, they can link contemporary theory and practice using real-life examples, which motivates trainees. In addition, they have experience working within platoons and groups and are aware of the importance of social processes within a group. This can influence social factors in NCO training, such as psychological safety, social cohesion, and rapport.

To develop, a trainee needs to feel safe and heard when speaking up about insecurities or being unconfident about their professional development. Therefore, an instructor-trainee relationship requires an environment that is psychologically safe and builds rapport from the first day of training. When building blocks such as psychological safety, rapport and social cohesion are present, this enables an optimal learning environment (Decuyper et al., 2010). Since teams are best able to adapt and improve their knowledge using team learning behaviour (Edmondson, 1999), it is important for instructors to consciously invest in building a team out of their training platoon. To build this team, interdependent transactions can establish high-quality relationships, including mutual trust, in accordance with the social exchange theory (Elgoibar et al., 2016, p. 6). This theory focuses on the elements that mediate the construction, maintenance, and deterioration of exchange relationships (García et al., 2016, p. 32). Putting effort into creating a

psychologically safe environment and creating social cohesion in the platoon is part of these elements (Elstgeest, 2016). When building on this, the personal experience of the instructor can be a determining factor (Hennessey, 2019), which can also motivate trainees to complete their training. Gaining an understanding of how instructors influence the underlying motivations of aspiring NCOs will help instructors adjust their approach and provide them with the support and guidance needed to maximise trainees' success. This is in the interest of the trainee and the army.

Nowadays, the Royal Netherlands Army wants to prevent its employees from dropping out of their (initial) military courses (Ministry of Defence, 2021). Since there is a high number of vacancies, every trained soldier is of added value within the army. Therefore, it is important to ensure that instructors have the necessary experience and training to create a positive and effective training environment. Considering that the NCOs are the “backbone” of the army and considering that NCOs form the main part of the instructor’s corps, the focus of research should be on the NCO community who educate at the NCO education centre, the KMS. However, within the researched literature, it has not been documented before whether their level of experience can stimulate or hamper aspiring NCOs in passing their course. Consequently, this exploratory research will be driven by the research question: *How do social cohesion, psychological safety, and rapport mediate the relationship between instructor experience and the motivation of aspiring NCOs to pass their initial military training program?*

1.1 Theoretical Framework

In this study, the relationship between instructor experience and motivation is tested. Furthermore, three mediators (social cohesion, psychological safety, and rapport) are examined if they explain the relationship between the instructor's level of experience on the aspirant NCO's motivation during the military training programme. It is therefore important to research the instructor's influence on the three mediating factors to understand the relationship between instructor experience and motivation. The different variables in this theoretical framework are all defined, starting with motivation, followed by instructor experience, and ending with defining the mediating variables.

1.1.1. Motivation

An instructor can be crucial in shaping trainees' beliefs, attitudes, and perceptions. They influence motivation by building rapport, creating social cohesion and ensuring psychological

safety. Therefore, providing clear expectations, providing feedback, and creating a positive and supportive learning environment can stimulate intrinsic motivation when trainees feel related, competent, and autonomous (Deci & Ryan, 2008). It motivates trainees to know what is expected of them, to know what the final goal entails and work towards it. Motivation according to scholars (Deci & Ryan, 2008) is not entirely intrinsic and is amalgamated with extrinsic factors, often characterised as more superficial or short-term in nature. These extrinsic factors arguably are mostly connected to external rewards, benefits and outcomes linked to reaching a goal or finishing a task. As such, instructors influence both intrinsic and extrinsic motivation, with this as a common thread throughout the training.

Researchers agree that irrespective of the specific theory applied, a range of situational and individual factors influence the concept of motivation as a multi-faceted and complex phenomenon (Bandura, 1977; Van Eerde & Thierry, 1996; Wigfield & Wentzel, 2007; Wood & Bandura, 1989). Moreover, motivation is a critical and complex component of human behaviour that affects the fulfilment of a person's psychological needs (Deci & Ryan, 2008). As a result, it is hard to define motivation, however, multiple theories explain this multifaceted concept. Within the military, these theories can also be applied aiming to motivate soldiers to complete their training. Instructors play a crucial role in this process.

Firstly, the self-determination theory purports that motivation is influenced by a combination of extrinsic as well as intrinsic factors, intertwined with elements of autonomy, competence, and relatedness. Instructors can influence both forms of motivation. When focussing on the intrinsic part of the theory, motivation is a concept used to describe the underlying internal drive or strength that stimulates individuals to perform certain behaviours (Deci & Ryan, 2008). For aspiring NCOs, it is important for them to feel competent or experience mastery of the learned skill where intrinsic motivation predicts completion of challenging tasks and therefore leads to long-term, sustained engagement (Deci & Ryan, 2008). Mastery of the skill will be encouraged in a psychologically safe environment where support from a close-knit group can be stimulating. Moreover, the instructor needs to let the trainee experience autonomy to make choices since intrinsic motivation factors are related to the personal reasoning and inherent drive people possess when an individual wants to succeed (Deci & Ryan, 2008). Furthermore, instructors need to create a relationship in which it is clear to the

trainee that they can make their own choices. The instructor needs to define the end state, where the aspiring NCO needs to make choices about how to work towards the end state. This is what is called in the army “Mission Command” (Van Wigen, 2016, p. 95). When instructors know how this process works, they understand the urgency of creating a psychologically safe environment and working on a professional relationship between them and the trainee.

Furthermore, two other theories that can influence motivation are the Self-efficacy theory (Bandura, 1977) and the Expectancy theory (Van Eerde & Thierry, 1996). The Self-efficacy theory describes that motivation affects a person's belief in their abilities and their self-efficacy to complete a task. According to the Expectancy theory, individuals' self-interest causes effort for tasks that lead to desired outcomes. According to these theories, individuals consciously choose actions based on beliefs, attitudes and perceptions to avoid disappointment or pain and achieve a positive feeling as an outcome (Heneman & Schwab, 1972). This increases motivation to complete a task (Wood & Bandura, 1989). In addition, how much value the person attaches to the outcome achieved also matters to be motivated to strive towards the final goal (Isaac et al., 2001). As a result, to achieve training goals, the instructor plays a major role to provide a supportive and positive social environment to increase one's perceived effectiveness and belief in one's ability.

In contrast, a negative and unsupportive environment can do the opposite and reduce one's perception of competence and belief in one's ability. This will reduce motivation to complete a task successfully (Wheeler, 1983). Therefore, the instructor can also negatively influence the trainee's motivation. When using its experience as the holy grail, this can also be experienced as paternalistic when guiding a trainee towards his goal (Callahan, 1986). This can negatively affect rapport or psychological safety and therefore harm motivation. Moreover, when an instructor is keen on solely sharing information and consequently hampers interactivity, it may unintentionally obstruct building rapport with trainees, leading to an inability to coordinate and balance the interaction. As a result, the trainee may feel incapable of working independently and autonomously towards the established goal.

1.1.2. Instructor's Experience

Instructor experience can be defined as the knowledge and skills a person brings to the position of instructor (Burke & Sadler-Smith, 2006). Here, experience is based on knowledge

gained in previous positions, in the army within the NCO domain and especially during missions. This experience ensures that one's own previous NCO training and subsequent experience in leadership, instruction or operations abroad demonstrably influence the style of instruction. Higher instructor experience is expected to increase trainees' motivation, as experienced instructors are believed of knowing how to create a psychologically safe environment and actively build rapport between them and the aspiring NCO and between trainees themselves. Ultimately, the instructor uses this experience, along with other hard and soft skills, to turn young individuals into disciplined soldiers who can operate both independently and in groups on the battlefield.

Instructorship is the main role of the experienced NCO, giving them influence on the mental training of aspiring soldiers, among other things. Because there are hierarchical differences between them and the trainee, the instructor must be aware of the position of power this role entails. In addition, it is a role that entails high levels of trust. Moreover, to motivate and inspire all trainees, the diverse backgrounds and motivations of starting military personnel dictate that tailor-made training is required (Ogle et al., 2015). To achieve this, instructors need to invest in a training environment that includes psychological safety (Edmondson, 1999) while simultaneously building rapport between them and the trainee. Aspiring soldiers need to experience safety to both learn from their mistakes and speak out when they feel insecure. The instructor must provide these preconditions. Partly from experience, the instructor should know and have the skills to build such an environment.

Overall, to meet the objective of the army's personnel level (Ministry of Defence, 2021), it is important that as many starting soldiers as possible succeed in their military training. The instructor, with his experience, plays a major role in this and is expected to positively influence aspiring NCOs' motivation. Through sharing best practices, conveying information through storytelling, and linking theory to operational examples, the instructor can achieve this. Nevertheless, instructor experience can also counteract the creation of social processes. Building rapport, psychological safety and social cohesion can be interrupted or reduced if, for example, the instructor uses his experience in a paternalistic way, or even as a tool of authority. Therefore, when knowing better, or constantly offering good advice, you deprive trainees of their learning moment. Student autonomy can be impacted, interests and preferences may be diminished, and

benefits may not always be distributed back to students (Jones, 2017). In fact, some harm may occur as a result. Consequently, trainees become less able to make mistakes and learn from them. Moreover, an authoritarian way of using experience can be intimidating. This can reduce the optimal learning environment of the trainee or the group (Jones, 2017). Therefore, to determine which aspects of instructor leadership have a positive effect on motivation in addition to experience, we must also consider psychological safety, social cohesion and rapport.

Providing the trainees with positive critical feedback and developing an environment of rapport, makes them believe the instructor is committed to developing them and treating them as colleagues rather than recruits. As a result, the instructor builds psychological safety and rapport. This will increase the levels of performance, creativity, and engagement (Edmondson, 1999). Furthermore, experienced instructors can create a sense of belonging and unity within a group of trainees (Ahronson & Cameron, 2007). This form of social cohesion can lead to increased respect and trust in the group (Siebold, 2007), which benefits the construction of effective teams. It is expected that any positive effect of instructor experience occurs through positive effects on psychological safety, social cohesion and rapport. When aiming for high motivation, instructors need to take these aspects into account. Moreover, reflecting on their experiences and knowing how to use their experience will contribute to an optimal learning environment.

1.1.3. Mediating Variables

The relationship between the three mediating variables *social cohesion*, *psychological safety*, and *rapport* is that they all lead to a social environment in which a trainee feels safe, accepted, and confident to perform. Understanding the contribution of these variables enables knowledge of how instructors influence motivation. This can be used in the future to increase trainees' motivation.

1.1.4. Social Cohesion

Social cohesion is a process that occurs within groups. Having the skills to create social cohesion is something instructors should be aiming to develop. This is beneficial since a group's social relations play a crucial role in its ability to attract and retain members (Schiefer & Van der Noll, 2017). According to Kearns and Forrest (2000), social cohesion entails all social components within a group fit together and contributing to the individual's well-being. Despite the lack of consensus on a global definition of social cohesion and what it entails, Schiefer and

Van der Noll (2017) describe it as a construct that has three essential dimensions: identification with the geographical unit, orientation towards the common good, and social relations. To develop these aspects in aspiring NCOs, instructors are expected to actively introduce and develop this.

First, the social cohesion of a group can be decisive for group members. Being part of socialization contexts, lifestyles, and shared values, geographical affiliations provide a sense of self-esteem and security and promote participation and social networks (Schiefer & Van der Noll, 2017). Instructors and other experienced NCOs have an important role in this process as they know the importance of having a cohesive team. Within a military unit, many unit members identify with the unit's values. Traditions, habits, and culture can play a considerable part in this context (Kirke, 2010). This can enhance group spirit, which also increases their affective commitment to each other. Therefore, social cohesion is an important social process within army units.

Second, orientation towards the common good of the group implies a sense of responsibility for the well-being of the community and adherence to social order and rules. Having an orientation towards the common good also includes accepting the prevailing social order and observing social rules and norms prevailing in the group (Schiefer & Van der Noll, 2017). Often, experienced NCOs are the guardians of social rules and norms within units. Instructors can use their experiences to educate aspiring NCOs about the do's and don'ts within the army. If in their future units group members adhere to these, social cohesion is maintained and the common good remains unchanged. This will be a motivating factor.

Finally, Ahronson and Cameron (2007) explain that social (group) cohesion is crucial in the military as within this organisation, the team is more important than the individual. The camaraderie and social relationships among soldiers in a military unit can promote cooperation and coordination among members, thereby improving performance, effectiveness, and ultimo the chance of survival on the battlefield (Van Wiggen, 2016). Camaraderie is considered the ultimate form of social integration in which soldiers can rely on each other or the team (Siebold, 2007). Instructors fulfil an important role during military training by creating an atmosphere in which camaraderie can emerge. This can have a motivating effect on the trainees. Moreover, they are a guiding example for aspiring NCOs on how to create cohesion and camaraderie in a group.

The role of other psychological processes such as perceived psychological safety is also relevant in achieving social cohesion (Ahronson & Cameron, 2007). Cohesion among military units can be seen as the process of social integration between members, group leaders and larger groups, with trust being one of the most important aspects (Siebold, 2007). Camaraderie has a positive effect on the performance of military teams (Kohan et al., 2018), with it having a positive effect on job performance and job satisfaction (Ahronson & Cameron, 2007). This suggests that camaraderie is an important component for military personnel when it comes to teamwork, whereby social cohesion within a team and work-related self-efficacy beliefs contribute to an individual's psychological safety (Elstgeest, 2016). Therefore, the military's task assignment makes social cohesion an important construct.

Despite the positive effects of high levels of social cohesion on team processes and performance, it can also negatively impact motivation and team learning. Wise (2014) indicates that too much social cohesion can be harmful and can lead to negative outcomes. As a result of high levels of social cohesion within a team, there is an increased tendency for groupthink, where team members lose track of critical thinking and decision-making as they focus too much on maintaining harmony and cohesion. Subsequently, individuals in a group may be prevented from developing optimally, both personally and professionally. Moreover, a team will be hindered to experience optimal learning processes, as it results in a lack of critical thinking and providing sincere feedback. Historical examples of the My Lai massacre and the Abu Ghraib torture demonstrate the dangers of groupthink within military operations (Olafsson, 2017). It is therefore needed for individuals in a team to find the right balance between social cohesion and performance.

1.1.4. Psychological Safety

Psychological safety is an important social process as it involves the perceived consequences people experience when taking interpersonal risks in a given setting (Edmondson & Lei, 2014). Edmondson (1999) explains that psychological safety and social cohesion are positively related and contribute to a learning environment in which people perform behaviours that contribute to development. Furthermore, when building rapport psychological safety is an important component and predictor of this process (Edmondson, 1999). Therefore, instructors should strive to develop the ability to create psychological safety for their trainees as

interpersonal anxiety is not a factor of influence in a psychologically safe work environment. When one feels safe, one experiences room to make mistakes. Moreover, one learns from critical thinking as it is not considered a risk. Furthermore, embarrassment or fear is not experienced as people feel valued and supported by their colleagues. As a result, people are more likely to open up and feel safe to share their opinions with others. This leads to a development in perception and problem-solving (Edmondson, 1999).

Psychological safety is also an essential part of organisational learning. It is recognized that psychological safety is a crucial element in comprehending phenomena including voice, collaboration, team learning, and organisational development (Edmondson & Lei, 2014). Since military training is all about group work and team assignments, psychological safety can be considered an important element. Among (aspiring) NCOs it is vital to their ability to share ideas, express concerns and provide constructive feedback to each other. To develop optimally and create maximum motivation within military training, psychological safety is a prerequisite. Since much of the military training consists of problem-solving and (personal) reflection, it is important to experience psychological safety to gain a shared understanding, exchange all information with one another, and make optimal use of (critical) reflection. Thus, psychological safety influences employees sharing of information and knowledge, which affects the other social processes within a team as well. On the part of instructors, it is important to invest in psychological safety to create the best possible learning environment for trainees (Van den Bossche et al., 2006). Overall, all this suggests that psychological safety is an essential aspect of educating and training people. Instructors should be able to create this safe environment too, amongst others, motivate their trainees to complete their training.

1.1.5. Rapport

Rapport is a complex phenomenon that affects psychological safety, among other things (Edmondson, 1999). This also occurs within the military context, where building rapport is important when reaching a goal as a team. As the military only works in units such as platoons, companies, battalions, etcetera, the rapport between the members of these groups is important to succeed. Within this context, also the interaction between the leader and the group is important to create a bond. People need to relate to each other when they work closely with their colleagues 24 hours a day and communication is a crucial aspect when working together in a unit. The same

counts for military training, in which an individual needs other group members to complete tasks or manage to carry group equipment.

Rapport cannot be captured in a fixed definition, as some explain rapport in terms of how effective communication is established, and others define rapport in terms of functional relationships (Weiher, 2020). It can be considered as the basis for effective interaction and as a concept that fosters bonding between individuals (Abbe & Brandon, 2013) or as the critical stage in building confidence and a relationship (Collins et al., 2002). Nevertheless, rapport is proven to be effective in several ranges of contexts, for instance during investigative interviews (Collins et al., 2002; Gabbert et al., 2021; Weiher, 2020). During these interviews, the interviewer builds rapport with the interviewee, resulting in the interviewee being more motivated to disclose more information. Within military training, the expectation is that when an instructor builds rapport with the trainee, it results in the trainee being more motivated to achieve the end goal of succeeding. Since this context is about relying on each other, achieving a common goal and camaraderie, commanders and instructors need to be aware of the importance of this specific social component and how to establish it. Especially, as it is expected to influence the motivation of individuals. In this research, the Tripartite Model of Rapport (Tickle-Degnen & Rosenthal, 1990) is used as the basis to explain the concept of rapport.

The Tripartite Model of Rapport (Tickle-Degnen & Rosenthal, 1990) identifies three essential components that form the structure of rapport: mutual attentiveness, positivity, and coordination. First, *mutual attentiveness* ensures a directed and coherent interaction founded on reciprocal interest and engagement between participants (Tickle-Degnen & Rosenthal, 1990). Secondly, *positivity* is the component that includes feelings of respect, trust, and warmth and which refers to caring and mutual friendliness between individuals. People are more likely to develop rapport when they experience positivity towards the other. Lastly, *coordination* is the behavioural part of the model and refers to the occurrence of mutual responsiveness in which every participant in the situation reacts spontaneously to the response of the other participants (Tickle-Degnen & Rosenthal, 1990). Within the process of building rapport, these three components can interact, change, and develop and therefore have their influence on the creation of the bond between individuals (Gabbert et al., 2021). Within the context of military training,

the instructor plays a crucial role in building rapport and creating a relationship of interest and engagement, trust and warmth, and responsiveness between him and the aspiring NCOs.

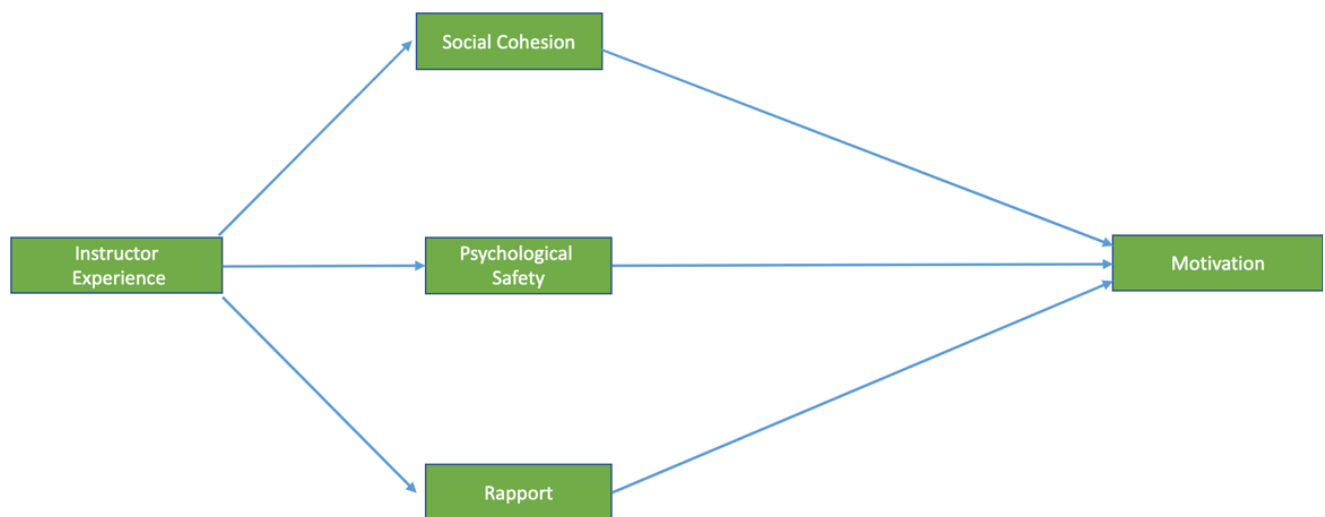
1.2. The Current Study

This bachelor thesis aims to investigate the influence of instructor experience, psychological safety, rapport building, and social cohesion on motivation within the training platoons between the military instructor and the aspiring NCO of the KMS. The conceptual model visualizes the research question *How do social cohesion, psychological safety, and rapport mediate the relationship between instructor experience and the motivation of aspiring NCOs to pass their initial military training program?* These concepts are closely related as presented in Figure 1 and can even overlap as the theoretical framework implicitly indicates. This study will entail exploratory research to gather information, identify the relations between the key concepts and variables, and explore how the concepts influence the aspiring NCOs' motivation and passing the initial military training. Furthermore, this research paper contains an additional exploratory analysis to examine underlying factors.

1.2.1. Conceptual Model

Figure 1

Conceptual Model



The components together enable this study to investigate the following hypotheses:

1. The military instructional experience instructor promotes the psychological safety of an aspiring NCO.
2. The military instructor's instructional experience promotes social cohesion within the platoon of aspiring NCOs.
3. The military instructor's instructional experience promotes building rapport between the instructor and the aspiring NCO.
4. The perception of experiencing psychological safety, social cohesion and rapport contributes positively to the aspirant NCO's motivation.

2. Method

2.1. Participants

To answer the research question, the full student capacity of KMS was utilised: a total of 10 platoons of three groups each. This resulted in the data of 30 groups of 10-15 participants. Furthermore, ethical approval from the University of Twente was granted before the start of the project. Simultaneously, the KMS (on behalf of the Ministry of Defence) also approved to start the questionnaire. To start, the platoon commanders were informed in detail about the survey before completing the questionnaires and received the QR code for the link to the digital questionnaire. Following, when they invited their aspiring NCOs to participate, they provided them with all the necessary information. Due to this process, it was not possible to exactly determine how many participants were approached. What can be determined is that of the ten platoons approached, eight platoons were represented in the sample size. In addition, the aspiring NCOs completed the questionnaires independently, using their smartphones and scanning the QR code, in consultation with the group commander who ensured their participation. This was done to minimise disruption to their training schedule. To complete the survey, the commanders and participants had two to three weeks available.

The final sample consisted of 186 assigned participants, including 26 women (14%) and 160 men (86%). Several descriptive statistics (age, number of instructors, weeks of training, background, education level, and pre-entry experience) were computed to provide an overview of the sample characteristics. The sample ranged in age from 17-19 (9.7%), 20-21 (22%), 22-24 (24.7%), 25-27 (18.8%), 28-30 (11.3%) and <30 (13.4%). In addition, 141 participants (75.8%) were part of a batch of future NCOs that went through pre-entry. Furthermore, 45 participants (24.2%) had no pre-entry, mainly because they were previously enlisted in the army as soldiers or corporals.

Furthermore, the sample was composed of participants who are trained in one of the 10 platoons. Each platoon consists of three groups, which make up a total of 30 groups. 5.9% of the participants are trained by a single instructor, 73.7% are trained by two instructors, and 20.4% are trained by three instructors. The KMS aims to provide year-round starting opportunities for aspiring NCOs. As a result, all ten platoons differ in their start date and therefore in their progress through the nine-month training programme. 23.7% of participants engaged in the first

four weeks of training, weeks 4-8 (0%), weeks 9-12 (4.3%), weeks 13-16 (21.5%), weeks 17-20 (1.1%), weeks 21-24 (0%), weeks 25-28 (11.83%), weeks 29-32 (5.91%), weeks 33-36 (0%), weeks 37-40 (11.3%), and <40 weeks (20.4%).

The most common background reported was non-military background (50%), followed by previous military background as private or (lance) corporal (25.3%), military student experience called *Safety & Workmanship* (VEVA) (20.4%), re-entrant within the army (2.2%), and aspiring NCOs who did not succeed the officer training and decided to get trained to become an NCO (2.2%). To conclude, regarding the level of education, most participants had completed an MBO degree (42.47%), followed by a HAVO degree (19.35%), a VMBO-TL degree (15.59%), an HBO or MAVO degree (both 7.52%), a VWO degree (4.3%) and a VMBO-GL or VMBO-kader degree (1.61%) (Figure 5).

2.2. Procedure

Data of the participants was collected using a questionnaire and data of the instructors was collected using a human resources report. This report was obtained through a personnel officer and used to determine the average *Instructor Experience* per platoon. Furthermore, the questionnaire required aspiring NCOs to complete a 62-question questionnaire. All questions were translated and asked in Dutch. To start, the participants had to scan the QR code provided by their commander. Before answering the questionnaire in the digital environment, participants were informed through the information page of the questionnaire about the details of the study. Subsequently, they were asked to agree to the informed consent form. Next, participants were asked to provide demographic information such as gender, age, platoon, military experience, experience pre-entry, and training week. After these questions, the survey consisted of four validated sub-questionnaires on the concepts of psychological safety (7 questions), social cohesion (5 questions), rapport (21 questions) and motivation (16 questions), which were presented in this order.

The questionnaire concluded with three open-ended questions: "What improvements within the group can increase your motivation even further?", "What improvements between you and the instructor can increase your motivation even further?" and "What do you think are the reasons for people to drop out?" These questions the participants could use to provide complementary information to the earlier closed-ended questions. The first two open-ended

questions were used for this study, the last open-ended question was excluded because it is an assessment of third-party argumentation. To finalise, participants were asked to submit their responses digitally, and their records were safely stored for analysis. The study was conducted via an online questionnaire rolled out at www.wo-spiegel.nl. This instrument is used at the KMS as a standard for questionnaires which, for consistency in the use of questionnaires, was also selected for this study.

2.3. Measures

The human resources report was the most detailed document the organisation could provide and therefore it was decided to use this to gather data for the instructor's experience. The report contained all career details of all instructors working within the KMS. It included, for example, which instructor was positioned at what function, the length of the position, and the length of the overall career. The length of the overall career as NCO defined the instructor experience.

For the questionnaire, the four sub-scales were selected as they fitted the concepts being tested and were also compatible with each other (Appendix A). In addition, the present study used 49 items, of which ten items had to be reversed. Participants could answer using a Likert scale (1-5) to answer the items. Moreover, as the Likert scale ranged between "strongly agree" (= 1) and "strongly disagree" (= 5), all scores on the items had to be reversed, as the original responses on the 5-point Likert scale provided more points for "strongly disagree", yielding visually reversed plots.

2.3.1. Instructor Experience

To determine instructor experience, a personnel report was requested from the personnel department. This report contained information on the period for which instructors served as NCOs. Since the human resource document reflected the allocation of instructors at the platoon level, the average platoon instructor experience could be conducted and used for the research question. Using this data, the average instructor experience within the platoon was calculated. As a result, for each instructor, the experience in months as an NCO was calculated. Furthermore, all experience within the platoon was added up and divided by the number of instructors to calculate the average experience within the platoon.

2.3.2. Social Cohesion

The Adapted Group Environment Questionnaire (Carless & De Paola, 2000) was used to measure social cohesion. Originally, this questionnaire was used to examine social cohesion in sports teams. However, this variant was adapted and made appropriate for work teams. The items were designed to measure perceived social cohesion in the team, which was used to investigate, among other things, whether activities were organised after working hours and to question how close the team was perceived to be.

The questionnaire included five items on a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree), which was later reversed. The five questions asked were: "Our group likes to spend time together outside working hours", "Our group members rarely party together", "Members of our group prefer to go out alone rather than get together as a team", "For me, this group is one of the most important social groups I belong to", and "Some of my best friends are in this group". These items evaluated the level of social interaction and relationships between team members outside of working hours. Two items had to be reversed to fit the dataset.

The results of the reliability analysis indicated that the questionnaire has poor internal consistency ($\alpha = .57$). Overall, these results suggested the Adapted Group Environment Questionnaire has questionable reliability for measuring social cohesion. In addition, the reliability would not increase further when removing any other item. This indicates that all items contributed equally to the reliability of the scale.

2.3.3. Psychological Safety

In this study, Edmondson's (1999) 7-item Psychological Safety Scale examined participants' psychological safety. The questions asked, concerned the group in which the participants were trained. Furthermore, the answers to the questions provide insight into how perceived psychological safety is perceived when taking risks within the group or when they should ask for help. This seven-item measure was created using strict scale construction procedures and put through several validation tests, all of which consistently demonstrated the measure's strong content, criterion, and construct validity (Newman et al., 2017). The seven items were rated on a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). Examples of questions asked were: "Members of this group are able to raise problems and difficult issues", "It is difficult to ask other members of this group for help" and "Working

with members of this group, my unique skills and talents are valued and utilised.” These items evaluated the level of perceived psychological safety between the participants and their group members, of which three items had to be reversed to fit the dataset.

Edmondson's psychological safety sub-scale showed poor reliability based on the reliability analysis ($\alpha = .56$). To increase the reliability, it was calculated if an item were dropped to examine how each item affected the reliability of the scale. When any of the items were removed, the alpha coefficient did not increase significantly, suggesting that all items contributed equally to the scale's reliability.

2.3.4. Rapport

The Rapport Scales for Interrogations and Investigative Interviews (RS3i) Source version (Duke et al., 2018) was used to measure rapport. This questionnaire has been used in previous studies to examine the degree of rapport in an investigative interview between the investigator and the interviewee. However, this study used this questionnaire to indicate the degree of rapport between the participant and the group instructor. To make the questionnaire more suitable for the current context, changes were made by replacing "interviewer" with "instructor". In addition, 21 items were utilised, where responses using the Likert scale with 5-point answers could be given. In the case of "totally agree" one could select 1 and in the case of "totally disagree" one could select 5.

The items in the questionnaire measured the instructor's communication skills and also the instructor's behaviour used to establish the relationship between him and the aspiring NCO. Examples of items used were: “The instructor really listened to what I had to say,” “I was motivated to perform well during military training,” and “The instructor and I got along well during military training.”

The Rs3i source version scale to measure rapport between aspiring NCOs and instructors showed good internal consistency ($\alpha = .90$). In addition, the reliability would not further increase when removing any other item. As a result, it can be concluded this sub-scale can be considered reliable.

2.3.5. Motivation

To measure participants' motivation, the Revised Achievement Motives Scale (AMS-R) was used (Lang & Fries, 2006). This instrument is a revised version of the Achievement Motives Scale (AMS) and measures achievement-related behaviours. As a shorter version of the AMS and given its reliability and validity, the AMS-R is more user-friendly for participants. Additionally, it measured two distinctions: fear of failure and hope of success (Lang & Fries, 2006). The AMS-R was administered using a 5-point Likert scale, with "strongly agree" receiving a score of 1 and "strongly disagree" receiving a score of 5. Participants could answer the ten items accordingly.

However, the AMS-R did not measure all aspects of motivation about the rapport between aspiring NCOs and instructors. Since the ten items of the AMS-R measured intrinsic motivation, six additional questions were added to measure specific motivation to complete the training and indicated the trainee's external motivation towards the training and instructor. This provided a more detailed insight, together with the ten AMS-R questions, into how motivation is currently perceived in military training at the KMS.

Examples of the AMS-R items offered were: "I like situations in which I can discover how capable I am", "I am attracted to tasks in which I can test my abilities", and "Even when no one is watching, I feel quite anxious in new situations". In addition, five items had to be reversed to fit the dataset. Furthermore, examples of the added items were the following: "The instructor contributes to my motivation to complete my training", "I know what I need to stay motivated", and "The training encourages me to get the best out of myself".

To conclude, a reliability analysis was conducted on the AMS-R and the six extra added questions to measure the aspiring NCOs' motivation. The results of the reliability analysis revealed a good internal consistency ($\alpha = .83$). In addition, the reliability would not further increase when removing one of the 16 items. As a result, it can be concluded this sub-scale can be considered reliable.

2.4 Data Analysis

2.4.1. Data Analysis Quantitative Research

The descriptive statistical analysis included the calculation of the means, the standard deviation, and the correlations of the variables among themselves. For the inferential statistical analysis, linear regression and Spearman's Rho were performed since the parametric assumptions were not met. These analyses were executed to establish the relationship between the different variables and thereby test the conceptual model. Appendix B demonstrates the tested parametric assumptions. For the equation of Instructor Experience being the independent variable and Psychological Safety, Social Cohesion, and Rapport as the dependent variables, the parametric assumptions of linearity and normality were not met. For normality, the histograms indicate that especially psychological safety and rapport were skewed to the left. Nevertheless, regarding the equation of Instructor Experience, Psychological Safety, Social Cohesion, and Rapport (independent variables) on Motivation (dependent variable), the parametric assumptions were met.

Furthermore, exploratory factor analysis was performed to examine whether the number of dimensions used had to be reduced. Varimax rotation was used to interpret the new factor loadings. Furthermore, ANOVAs were performed as it was believed the demographic data might have an impact on the variables and therefore exploratory tests were executed to test whether there were significant differences in the respective groups.

2.4.2. Data Analysis Qualitative Research

The two open-ended questions were used to collect detailed data about the motivation the participants experienced. This inductive approach allowed participants to clarify their views on their motivation, stating what they thought was important, and describing how they think their group and instructor can improve their motivation. Also, triangulation with the quantitative measures was measured.

The development of the exact codes started when generating an overview of all the answers to the two open-ended questions. These questions generated on average 150 answers per question. The coding was done using open coding, which identified data patterns and themes in the given answers. The units of analysis were the individual responses to the open questions. It was first synthesised based on general concepts. Therefore, the answers were clustered per

question. These answers were mapped if they did or did not align with the quantitative results. Subsequently, a more fine-grained analysis was executed to determine the underlying themes related to psychological safety, social cohesion, rapport, and other topics.

Example answers such as: "Occasionally also highlighting positive aspects and not only those that are not working well" and "Also sharing personal things and not always being strict but sometimes creating space for a joke" are related to the code of psychological safety. Furthermore, answers such as "Getting assignments together" and "Being treated more like a colleague than a student" are examples where social cohesion is integrated into the answers as a motivating aspect. In addition, "Sometimes better coordination between different group instructors" and " For instructors to always be on the same page: Providing less unclear instructions" are answers that can be linked to the specific influence instructors can have on motivation. Lastly, examples of answers that can be connected to the code of rapport are: "More coaching conversations 1 on 1. This helps you know faster whether you are doing something right or wrong and can improve it" and " Receiving a compliment a bit more often".

As a result, for the first open-ended question, five main codes were extracted from the clustered responses. For the second open-ended question, the same approach was used, and six main codes were identified. These eleven codes in total were almost all related to one or more of the concepts. It provided a more detailed insight, on top of the quantitative data, on how the group and the instructor could motivate the participants and provide insight on how psychological safety, social cohesion, rapport and instructor experience influence motivation. This was also clarified in the descriptions of the code.

3. Results

3.1. Descriptive Statistics

Table 1 demonstrates the mean, standard deviation, and average minimum and maximum values of each variable. The scores are all above the average, implying that on average the aspiring NCOs positively rate their perceived psychological safety, social cohesion, rapport, and motivation.

Table 1*Descriptive Statistics*

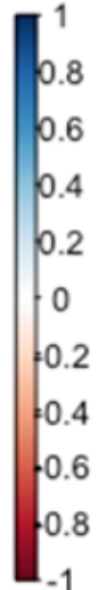
Variable	<i>M</i>	<i>SD</i>	Average Maximum	Average Minimum
PS	3.9	0.5	2.43	5
SC	3.4	0.6	1.4	5
Rapport	3.9	0.4	2.52	5
Motivation	3.7	0.4	1.75	4.9
Instructor Experience	42.3	6.8	26.75	55

As Table 2 and Figure 8 indicate, *Psychological Safety* is positively correlated with *Social Cohesion* ($r(175) = .43, p < .001$), *Rapport* ($r(175) = .42, p < .001$), and *Motivation* ($r(175) = .42, p < 0.001$). *Social Cohesion* is also positively correlated with *Rapport* ($r(175) = .37, p < .001$) and *Motivation* ($r(175) = .37, p < .001$). *Rapport* is positively correlated with *Motivation* ($r(175) = .53, p < .001$).

Furthermore, it can be concluded that, since the results indicate there is no correlation between *Instructor Experience* on *Psychological safety*, *Social cohesion*, and *Rapport*, these variables cannot be mediating variables.

Table 2*Correlation Matrix using Values and Colours*

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1 Age	-	-										
2 Gender	-	-	-.17									
3 Education Level	-	-	-.15	.05								
4 Nr of Instructors	2.15	-	-.03	.01	.08							
5 Week of Training	-	-	.23	-.13	-.10	.12						
6 Pre-entry	-	-	.15	-.05	.05	.14	.24					
7 SC	3.44	0.57	-.14	-.07	-.07	.00	.08	.12				
8 PS	3.93	0.45	-.17	-.01	.13	.03	-.17	.19	.43			
9 Rapport	3.88	0.41	-.02	-.06	.07	-.19	-.15	.04	.37	.42		
10 Motivation	3.72	0.42	-.14	-.14	.00	-.09	-.18	.00	.37	.42	.53	
11 Instructor Experience	42.32	6.78	-.08	-.01	.00	-.35	-.07	-.13	-.12	.02	-.04	-.05



3.2. Results Quantitative Analysis

A mediation analysis, using the Sobel test, was performed to assess the mediating role of Psychological Safety, Social Cohesion, and Rapport in the relationship between Instructor Experience and Motivation. There is no significant effect of the mediating functions of PS ($z = -0.2, p = .842$), SC ($z = 1.59, p = .112$), or Rapport ($z = 0.75, p = .455$). Since the mediation analysis was not significant, a linear regression analysis was conducted to investigate the relationship between four independent variables: *Instructor Experience*, *Psychological Safety*, *Social Cohesion*, and *Rapport* on the dependent variable *Motivation*.

3.2.1. The Relationship between Instructor Experience, Psychological Safety, Social Cohesion, and Rapport on Motivation

A linear regression analysis is conducted to examine the relationship between the independent variables *Instructor Experience*, *Psychological Safety* (PS), *Social Cohesion* (SC), and *Rapport* on the dependent variable *Motivation* (Table 3). The model is significant ($R^2 = .34, F(4, 181) = 23.69, p < .001$), and accounted for 32.91% of the variance in the average score of *Motivation*. Results showed that despite *Instructor Experience* ($b = -0.01, SE = 0.051, t(181) = -0.4, p = .688$) is not significant, *Psychological Safety* ($b = 0.19, SE = 0.066, t(181) = 2.86, p = .005$), *Social Cohesion* ($b = 0.10, SE = 0.05, t(181) = 1.95, p = .053$), and *Rapport* ($b = 0.41, SE = 0.07, t(181) = 5.75, p < .001$) are almost all significant predictors of *Motivation*. This implies that students' motivation in this study is not influenced by the instructor's experience, but rather by the perceived psychological safety, they experienced during their training, as well as the group's level of social cohesion and the level of rapport they experienced between them and the instructor.

Table 3

Linear Regression Model for PS, SC, and Rapport on Motivation

Predictor	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>p</i>
Intercept	1.11		.33	3.40	< .001
PS	0.19	<-.02	.07	2.86	.005
SC	0.10	.20	.05	1.95	.053
Rapport	0.41	.13	.07	5.75	< .001
Instructor Experience	<-.001	.39	<.01	-0.40	.688

Note. PS = average score Psychological Safety; SC = average score Social Cohesion; Rapport = average score Rapport.

3.2.2. ANOVAs on the Demographic Variables

Multiple ANOVAs are conducted to assess if there are significant differences in the score of *Motivation* on the aspiring NCOs of the 10 platoons which were questioned. Only significant results are presented. All output can be found in Appendix C. First, it is conducted to assess if there is any significant difference in average scores of *Motivation* between the 10 platoons of the KMS. The dependent variable was the average score on *Motivation*. The ANOVA revealed a significant main effect of *Platoon* ($F(9, 176) = 2.51, p = .010$), indicating that there were significant differences in motivation across the platoons.

Furthermore, an ANOVA is conducted to compare the differences in *Motivation* when controlling for male and female participants. The results showed a significant main effect of gender ($F(1, 184) = 3.95, p = .048$), indicating there is a gender difference in how motivation is perceived. Another significant result is found when controlling for “Weeks of Training”. The results show that the main effect of weeks of training is significant, ($F(7, 178) = 2.82, p = .008$). This indicates that there is a significant difference in motivation scores across different groups who are in different periods of their training. Lastly, when controlling for the number of instructors, the results show that the main effect of the number of instructors is significant,

($F(7, 178) = 2.82, p = .006$). This implies that being trained in a specific platoon, with the number of instructors assigned to it, affects the perceived psychological safety, social cohesion, rapport, and experienced motivation.

Age, pre-entry, military background and education level are also checked for differences per group but were not found to be significant. Exact values were calculated per platoon for those aspects in which significant differences are found. This does not include platoons with lower participation ($N < 8$) as these scores are not representative because of the sample size. Table 4 demonstrates the lowest-scoring platoon ($M = 3.47, SD = 0.45$) and the highest-scoring platoon ($M = 3.87, SD = 0.36$). It also shows the lowest-scoring group being the female group ($M = 3.57, SD = 0.37$) and the highest-scoring group being the male group ($M = 3.75, SD = 0.43$). Furthermore, the lowest-scoring platoon is the one situated in week 17-20 ($M = 3.47, SD = 0.13$) and the highest-scoring platoon is the one situated in week 13-16 ($M = 3.84, SD = 0.34$). The number of instructors who scored lowest is the platoon being trained by one instructor ($M = 3.51, SD = 0.23$) while the number of instructors who scored highest is the platoon trained by two instructors ($M = 3.78, SD = 0.40$).

Table 4

Statistics of ANOVAs Which Are Significant

Variable	<i>M</i>	<i>SD</i>	Min Score	Max Score	<i>p</i>
Motivation per Platoon	3.66	0.40	3.47	3.87	.010
Gender	3.68	0.38	3.57	3.75	.048
Weeks of Training	3.61	0.18	3.47	3.84	.008
Number of Instructors	3.62	0.12	3.51	3.78	.006

3.2.3. Testing for Moderation of Instructor Experience on PS, SC, and Rapport

Since there is no mediation effect found, there is a possibility *Instructor Experience* has a moderating effect on the relationship between the independent variables *Psychological Safety*, *Social Cohesion*, and *Rapport*. To explore, a linear regression is conducted to examine the

relationship between aspiring NCOs' *Motivation* on *Psychological Safety*, *Social Cohesion*, and *Rapport*, while testing for *Instructor Experience* as the moderating effect.

Table 5 shows that *Instructor Experience* is not a significant predictor of *Motivation* ($b = <-0.01$, $\beta = <-.10$, $SE = .03$, $t = .03$, $p = .979$). Furthermore, the model is statistically significant ($F(7, 178) = 13.44$, $p < .001$), and accounts for 34.57% of the variance in *Motivation* ($R^2 = .35$). However, none of the interaction terms, including PS:*Instructor Experience* ($b = <0.01$, $\beta = .53$, $SE = .01$, $t = .59$, $p = .557$), SC:*Instructor Experience* ($b = <0.01$, $\beta = .05$, $SE = .01$, $t = .08$, $p = .934$), and Rapport:*Instructor Experience* ($b = <-0.01$, $\beta = <-.46$, $SE = .01$, $t = -.53$, $p = .598$), are significant predictors of motivation scores. In conclusion, the results do not show that the effects of psychological safety, social cohesion and rapport depend on instructor experience.

Table 5

Testing for the Moderation Effect of Instructor Experience on PS, SC, and Rapport

Predictor	b	β	SE	t	p
Intercept	1.32		1.1	.68	.5
PS	-0.10	-.10	.49	-.20	.845
SC	0.07	.09	.35	.19	.847
Rapport	0.69	.66	.53	1.31	.194
Instructor Experience	<-0.01	-.10	.03	.03	.979
PS: <i>Instructor Experience</i>	<0.01	.53	.01	.59	.557
SC: <i>Instructor Experience</i>	<0.01	.05	<.01	.08	.934
Rapport: <i>Instructor Experience</i>	<-0.01	-.46	.01	-.53	.598

Note. PS = average score Psychological Safety; SC = average score Social Cohesion; Rapport = average score Rapport; Instructor Experience = average score Instructor Experience.

3.3. Factor Analysis

Since the literature also describes that psychological safety, social cohesion, and rapport overlap, a factor analysis is conducted. A factor analysis on the variables *Instructor Experience*, *Psychological Safety*, *Social Cohesion*, *Rapport*, and *Motivation* is conducted to investigate the underlying dimensions of the independent variables and to check if some scales overlap. First, the Kaiser-Meyer-Olkin (KMO) measure and Barlett's sphericity test are used to assess the number of domains present in the dataset. As a result, the KMO test yielded an overall MSA (Measure of Sampling Adequacy) of 0.84. This indicates that the data used in the present study are highly adequate for factor analysis. Furthermore, Barlett's sphericity test demonstrated the relationship between the variables is significant, ($\chi^2 (186) = 4514.20, p < .01$) indicating the variables are related. This suggests that there is a sufficient correlation among the variables to justify the use of factor analysis.

Consequently, the analysis resulted in three factors with eigenvalues greater than 1 (Figure 2). The three factors accounted for 35% of the total variance. In addition, the standardized loadings demonstrate that 18 items could be connected to the first factor *Motivation*. This factor has high reliability ($\alpha = .89$). It is comprised of 18 items reported on a 5-point Likert scale that explained 16% of the variance with factor loadings ranging from .78 to .33. Examples of items that were included are: "My instructor is honest with me", "I am motivated to perform well during my military training", and "I very much want to pass the instructor's assignment."

Furthermore, the second factor *Rapport* has high reliability ($\alpha = .89$) and it comprised 18 items reported on a 5-point Likert scale that explained 13% of the variance with factor loadings ranging from .75 to .17. Examples of items that were included are: "Working with my group members allows me to use my knowledge and talents", "My instructor really listens to what I have to say", and "My instructor and I get along very well."

Finally, the third factor comprised items that measured *Psychological Safety* in a positive as well as a negative manner. This code consists of items which not all directly connect to psychological safety, however, it can be explained that their factor loading is highest in this factor. It contained 11 items reported on a 5-point Likert scale that explained 6% of the variance with a factor loading ranging from .69 to .24 and has also a high reliability ($\alpha = .75$). Examples

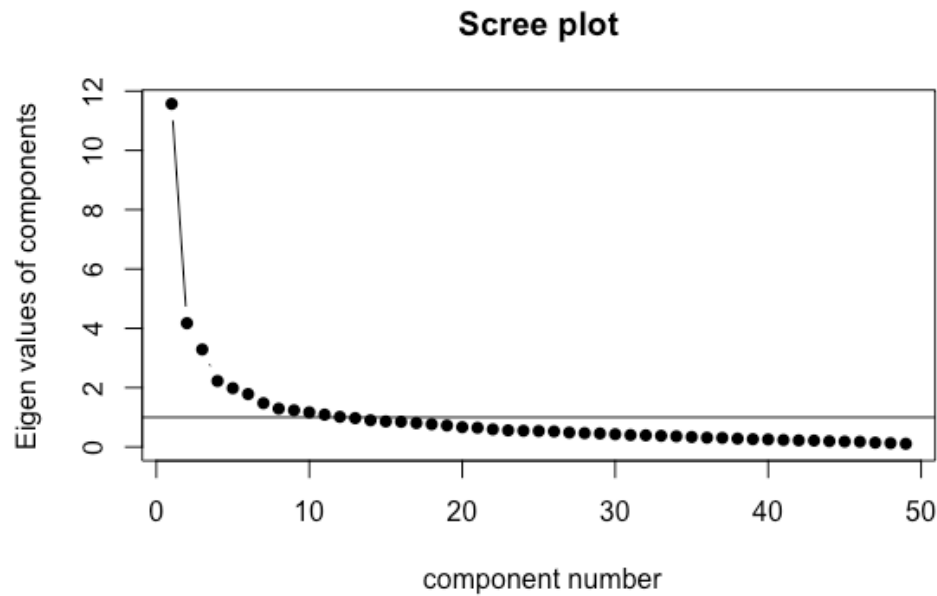
of items that were included are: “It is difficult to ask other members of this group for help”, “I don't feel comfortable doing something where I'm not sure I'm doing it right”, “I am scared when I have to do new things, even if no one sees it”, and “Some of my best friends are in this group.”

The factor loadings suggest that the first factor *Motivation* is related to items measuring motivation and achieving goals, the second factor *Rapport* is related to items measuring rapport and the quality of the relationship, and the third factor *Psychological Safety* is related to items measuring motivation when they must reach a goal, either working on it alone or in a group. Using factor 1 *Motivation* as the dependent variable in a linear regression, Table 6 shows that factor 2 *Rapport* is a significant predictor of *Motivation* ($b = 0.55$, $\beta = .59$, $SE = .06$, $t(184) = 9.74$, $p = <.01$.) while factor 3 *Psychological Safety* is not a significant predictor ($b = 0.06$, $\beta = .08$, $SE = .05$, $t(184) = 1.36$, $p = .18$).

Table 6

Linear Regression Using New Factors as Variables

Predictor	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>p</i>
Intercept	1.82		.24	7.66	< .01
Rapport	0.55	.08	.06	9.74	< .01
Psychological safety	0.06	.59	.05	1.36	.18

Figure 2*Scree plot Factor Analysis*

3.4. Results Qualitative Analysis

Two questions related to motivation are asked to gather more detailed information about the participant's motivation to succeed in their training. Respondents made several suggestions to further increase personal motivation, either what the group can contribute or what the instructor can do to increase it. The answers are coded and visualised in two tables (Table 6 and Table 7).

3.4.1. Open Question “What Improvements within the Group Can Contribute to Further Increase Your Motivation?”

Table 7

Coding Scheme First Open Question

Code	How many times mentioned
Respectful Positive Feedback and Communication	21
Achieving Goals Together	60
Instructor’s Influence	9
Connecting	9
Programming and Quality Control	31

Respectful Positive Feedback and Communication: This code represents respondents' opinions on how to improve psychological safety in the course. The code consists of four major concerns; mutual respect, manners, positive feedback, and open and fair communication. The general reasoning of the respondents is to have fair and open communication aimed to build confidence, where failures can be turned into experience and integrated into a positive learning environment. As a respondent commented: “We shouldn’t cast aspersions on each other, instead we should help each other”. The sometimes harsh and sharp criticism amongst aspiring NCOs is not perceived as contributing. The respondents advocate an environment with more positive feedback, for example: “where there is room for celebration of success”.

Achieving Goals Together: This code shows the respondents’ profound desire for improving their ability to strengthen their social coherence through better cooperation, by creating an environment where people respectfully can express their aggravation and by improving their communication. Respondents stated for example: “We should create the surroundings within our group where people are willing to work for each other”, and “We should be able to speak openly and truthfully, address each other weaknesses and support one another. The comments of the respondents on communication indicate the need for better interaction during training and the desire to encourage instead of criticising, a respondent stated: “Better

communication assures better cooperation, which contributes to success leading to more motivation. In addition, most of the respondents stipulated the importance of sharing more leisure time. Spending time less formally and conducting group activities after working hours is considered meaningful for social cohesion; this is indicated by responses such as: “We should plan more laid-back activities to really get acquainted” and “If you get a drink together after working hours, you will probably create friendships that will bolster cooperation during work time”.

Instructor’s Influence: This code represents respondents' views on how the instructor can contribute to improving the motivation of aspiring NCOs. The code reveals three areas where the instructor might make progress: more individual treatment, better communication by setting clear and undisputed goals and acting more as a role model. The desire for more individual treatment is aimed at expanding the individual feedback as well as offering the more experienced attendees more challenging tasks. This is indicated by the responses “I would like to have more individual evaluations” and “The transferrers should receive more challenging assignments”. The wish of the attendees for instructors to be better role models is supported by statements such as “Instructors should join the group during the tasks at the beginning of the training” and “We need an instructor who is truly a role model”.

Connecting: This code encompasses the respondents’ opinions on the way building rapport and establishing psychological safety will contribute to group performance and motivation. The code shows the various issues that hamper a meaningful connection between ascendant and instructors that reach from possible generation issues to the call for a focus on retention instead of discharging. This is indicated by statements like “They should motivate the people instead of telling how incompetent they are” and “If you teach for instance the rookies, you should consider that you are speaking to a different kind of audience.” The final point on rapport is the impression of the aspiring NCOs that it is hard to connect with the instructors either due to lack of time or recognition. Responders state: “I am under the impression that the instructors are in a hurry when conducting their lectures” and ‘Besides form feedback and evaluation, some acknowledgement from the instructors would be welcomed”.

Programming and Quality Control: Based on the responses, this code provides respondents' perceptions of the various ways in which programming and quality control could

contribute to intra-group improvements and motivation. In terms of programming, respondents advocate timings and content. Firstly, timings refer to the limited amount of free time during the course. As a result, for the trainees, it is both physically and mentally stressful as the program is very compact and there is no moment of rest built in. This can affect their perceived psychological safety. Secondly, the timetable refers to balance and rhythm between personal growth and group assignments. The training could be made more tailor-made, making it more appropriate for the person and possibly generating additional time. This also contributes to establishing rapport and social cohesion. Indicative contributions in support of these statements are: "More free time and a longer time slot would help process all the information, would improve the overall outcome of the course" and "More free time and more time to reflect".

To address programming and course content, respondents believe they would benefit from more lectures in "Command & Control" and practical training instead of hands-on training. This is reflected in statements such as, "More focus on Command & Control and practical training and fewer visits to the 'forest'." This also fits with the approach of making the training more appropriate and having instructors working in the trainees' future work field train them. As a result, there is already more rapport between the instructor and aspiring NCO, as the instructor acts as a role model and can train more specifically. Finally, according to the respondent's answers, the quality of the program could be improved by better exercise scenarios and the use of visual representations when giving feedback; respondents stated, "Better scenarios during exercises" and "Using visual material from our course."

3.4.2. Second Open Question “What Improvements Between You and the Instructor Could Further Increase Motivation?”

Table 8

Coding Scheme Second Open Question

Code	How many times mentioned
Respectful Treatment	7
Connection Between Instructor and Inter-Group	15
Involvement of instructor	11
One-on-one Conversations	22
Compliments and Bonding	19
Programming and Communication	13

Respectful Treatment: This code represents respondents' views on how to improve psychological safety for interaction between trainees and instructors, leading to higher motivation. Although the responses in this specific area were low, the overall desire addresses the misuse of power, the level of approachability and creating a more positive environment. The indications for these analyse are supported by responses such as: “No abuse of power”, “Be more approachable”, “Don’t distribute all the points for improvement at once”, and “Don’t address only the flaws and give a compliment so once in a while”. It indicates that

Connection Between Instructor and Inter-Group: This code represents respondents' views on how to improve social cohesion by interacting with their instructors, which might contribute to higher motivation. The responses referring to social cohesion are limited and can be summarised as the desire of the respondents to be treated as equals and grownups, striving to find topics that connect the groups. This is supported by statements like: “The instructors act as teachers but should act more as one of us”.

Involvement of Instructor: This code represents respondents' views on how to improve the conditions with their instructors, focussing on the experience of the instructors. The code emphasises the unity of guidance and exemplary behaviour. Attributed to instructors’ experience respondents underline the necessity for instructors to be consistent in their behavioural patterns. This is indicated by responses such as: “There needs to be a better common understanding

amongst the instructors” and “They (the instructors) should contradict each other less.” In addition, respondents urge the instructors to be exemplary and provide more best practices. Contributions that indicate these statements are: “More practical examples”, and “Instructors should ‘buckle up’ and join us into action, instead of walking on the side.”

One-on-one Conversations: This code indicates that the participants get motivated when increasing rapport between them and the instructors. Building rapport can be attributed to the desire of many of the respondents to have more frequent one-on-one feedback combined with the wish to get more direct positive feedback from their instructor. Statements to support this element of the code are for instance: “So once in a while a 1-on-1 conversation to bring forward my valued competencies and the one I should work on”, and “Also let me know when I do something right, instead of only telling me where I fail.”

Compliments and Bonding: This code demonstrates the impact of complimenting trainees and the motivating effect of creating a bond between the instructor and aspiring NCOs. Respondents are requesting a more meaningful relationship with their instructors based on equality and aimed at getting to know the person behind the instructor. Responses that indicate these requests are: “In between, we could have a more relaxed conversation with the instructor, 1-on-1 or as a group, so the instructors get to know each and every one a bit better”, and “More personal conversation instead of only casual talk.”

Communication and Programming: This code encompasses the indication of participants to alter the programming of the course in relation to the instructor, to increase motivation. Besides open and transparent communication, the code refers to more practical education, and increased room for individual, customary programs either in time or in content. The indications for these elements are supported by statements of the aspiring NCOs such as: “When I am put in my personal power, I could be of use and enhance my personal development,” and “If you have an experienced group in your course, be flexible and create a more custom-designed program, instead of doing what the roster prescribes.”

4. Discussion

This study aimed to test for any mediating role of psychological safety, social cohesion, and rapport between instructor experience and the motivation of aspiring NCOs to pass their initial military training program. As a result, it is observed that there is no mediating effect of

these concepts. Nevertheless, research showed that psychological safety and rapport both influence motivation and that social cohesion nearly significantly influences motivation. Moreover, the open-ended responses show that, despite the fact the instructor's experience does not influence motivation, the role of the instructor is important in creating psychological safety, social cohesion and building rapport between the instructor and the aspiring NCO.

4.1. Findings of the Study

In this study, there are three main findings on the motivation of aspiring NCOs. First, the codes yielded from the two open-answer questions indicate the instructor still plays an important role in increasing general motivation. The codes describe improving the training and thereby getting a more costumery program and tailored approach of the instructors. Furthermore, it is considered motivating when receiving more one-on-one guidance, improving communication, getting more positive feedback, having a supportive learning environment, and creating meaningful connections. Nevertheless, no significant influence of instructor experience on motivation is found in this study. Although previous studies have shown that the instructor plays a leading role in a student's learning climate (Deci & Ryan, 2008; Vansteenkiste et al., 2005), the findings show that military instructor experience is not influencing the motivation measured in this study. Interestingly, this finding contradicts army culture (Kowalinski, 2022). People in higher ranks tend to argue that their experience means that their opinion should hold more weight. This is also commonly believed by trainees. Moreover, within the military, there is a widely held assumption that a long career equals possessing expertise and experience to train people proficiently. This understanding results in the general belief that the more (operational) experience an instructor has, the higher the quality of the instructor's educational and leadership capabilities.

This particular outcome of the study raises the question of whether a lengthy career is required to be motivational as an instructor as it contradicts the deeply ingrained cultural beliefs of the army. Nevertheless, it might threaten the well-guarded positions of the senior NCO community. It might also be the groundwork for a shift in views on the required level of experience and obligated competencies that make a successful instructor. Still, it is useful to recognise that this outcome of the study focuses on motivation and does not portray specifically the quality of education. However, research by Edmondson (1999) demonstrates how learning

behaviour mediates between team psychological safety and team performance, which can be explained as motivation to perform and reach (team) goals while having a high-level learning environment. Furthermore, Van den Bossche et al. (2006) present that interpersonal context reinforces team learning. Instructors can influence interdependence, group potency, task cohesion, and psychological safety to reach a high interpersonal context. As a result, as the codes indicate, teachers influence the learning environment for team learning and personal learning. For instance, when providing honest (and positive-critical) feedback about performance when they invest in more feedback moments or enhanced positive encouragement, resulting in a higher level of psychological safety and perceived rapport between instructors and students.

It is useful to recognise the outcome of the study that focuses on motivation, it does not specifically portray the quality of education. However, it is known that there are links between student motivation and performance in related fields. Therefore, in the future a longitudinal study should be performed that will be able to capture both aspects, however, it is already promising that it can be identified what instructors can aim to develop to improve motivation.

Secondly, within this study, it is found that psychological safety, social cohesion, and rapport all separately predicted motivations. These findings support the Self-Determination theory (SDT) approach to understanding motivation because according to the SDT, people have three basic psychological needs: connectedness, competence, and autonomy (Deci & Ryan, 2008). In addition, Klassen et al. (2012) state that people who believe that their fundamental psychological needs are being met, are more likely to be intrinsically motivated, meaning they will look for new opportunities for learning and challenges as well as ways to demonstrate mastery of their surroundings even in the absence of compensation. This is where instructors can make a difference for their trainees. To facilitate learning, perceiving psychological safety is essential.

This finding is in line with previous studies as demonstrated, for example, by Edmondson (1999), who states that in a psychologically safe work environment, people are not hindered by interpersonal anxiety, and where individuals feel comfortable sharing their mistakes and concerns without retribution, fear, or shame (Edmondson, 1999). As aspiring NCOs are challenged during their training to make quick decisions and are taught problem-solving behaviour, psychological safety in their team is expected to be an essential component within

training to influence motivation to complete training. Thereby, having a close-knit team makes people more likely to feel safer, which has a positive impact on decision-making and problem-solving (Vaida & Ardelean, 2019). It is not solely the instructor involved, also the group in which an individual is situated influences this. Moreover, almost all codes suggest that investing in interpersonal relationships and communication increases motivation. Customised instructions and approaches, along with personal conversations and more one-on-one attention to assessing demonstrated behaviour and increasing the quality of leadership performed, can help fulfil basic psychological needs. Moreover, as rapport helps to build bonds between people (Abbe & Brandon, 2013), and strong social ties promote the continued participation of members in a group (Schiefer & Van der Noll, 2017), it can be concluded, along with the correlations presented in the study, that the three variables also influence and reinforce each other. Instructors should be aware of how to be sensitive to these elements and reinforce them where necessary. Nevertheless, no instructor experience is required for this as evidenced by the study. What would be helpful is increasing the instructors' level of knowledge on how to strengthen these concepts, requiring the organisation to provide this.

Lastly, the collected demographics show that the number of instructors per group influences rapport and motivation. It demonstrates that within a group consisting of about 10 to 15 aspiring NCOs, being trained by one or two instructors significantly affects motivation. For instructors, the training curriculum is tight and demanding. Moreover, training under time constraints and transforming aspiring NCOs into leaders within a high-performance organisation can give instructors a certain amount of stress. As an instructor faces this alone, the pressure can affect your leadership and instructorship style. Being able to share this responsibility with fellow instructors and approaching it as “joint work” can provide relief from stress and cause a different educational approach to be chosen (Little, 1990). Consequently, this will directly affect trainees' perception of psychological safety and rapport.

Furthermore, when more instructors train a platoon, they can correct each other, provide each other with feedback, and have a more balanced approach to teaching. This can influence communication, which is also a motivating aspect. Furthermore, according to the Teaching and Learning International Survey (TALIS) 2013, instructors who participated in a collaborative approach used more innovative pedagogies and displayed higher job satisfaction and self-

efficacy (Vangrieken et al., 2015). Moreover, when two (or more) instructors train aspiring NCOs, there is also more time or opportunities for trainees to have one-on-one conversations with their instructors. As this study indicates that this approach would motivate aspiring NCOs, the number of instructors also influences this aspect.

Conceptual Overlaps with Rapport, Social Cohesion, and Psychological Safety

There are conceptual overlaps with rapport, psychological safety and social cohesion. Therefore, a factor analysis is conducted on the items asked in the questionnaire. When also taking the lower factor loadings into account, the main finding is that five out of seven items belonging to psychological safety can be labelled *rapport*, while four out of five items belonging to social cohesion can be labelled *psychological safety*. This can explain the poor reliability of the scales but also confirms prior research which confirms the social relations of psychological safety, social cohesion, and rapport being interrelating concepts (Schiefer & Van der Noll, 2017). In this secondary analysis, rapport was a predictor for motivation, while psychological safety is not.

Interestingly, due to the factor analysis, the original sub-scale AMS-R is divided into two different factors, including all the negatively phrased items being one factor and positively formulated items being another factor. The positively phrased items of the AMS-R are also connected to the extra added motivation items, as well as six items of rapport, one from the social cohesion sub-scale, and one from the original psychological safety sub-scale. This factor contains items that question motivation, dealing with challenges, and achieving goals. This first factor can be labelled as *motivation* and can be considered the dependent variable.

The second domain contains 18 items of rapport and four items from the original psychological safety sub-scale. As a result, this domain is labelled *rapport* and is focused on the interaction between the trainee and the instructor. This confirms the theory that states psychological safety is part of rapport and vice versa. It could also suggest that theories of rapport that combine relational and communication aspects of rapport have the correct approach of defining and meaning rapport.

The third domain consists of the negatively phrased items of the original motivation items. These can be connected to the new domain of *psychological safety* together with four

items of social cohesion, one item from rapport, and one of the original psychological safety sub-scales. This third factor includes 11 items which are negatively phrased and mostly focus on the negative side of experiencing safety when reaching for a goal. It describes the perceived feeling when being part of a group or performing a task.

In conclusion, the three new factors are comprised of items of all sub-scales. Hence, there is a lot of overlap in the different sub-scales, indicating that the three concepts of psychological safety, social cohesion, and rapport are intertwined with each other. The correlation matrix also confirms this, which also suggests that the concepts reinforce each other. In addition, also from the theory it has been described that psychological safety is a component of rapport, or vice versa. Also in this additional testing, rapport appears to influence motivation, reinforcing the conclusion that instructors should be aware of the bonding effect. In addition, they should realise that by doing so, they have a major role in motivating aspiring NCOs to successfully complete their military training. Thus, retaining personnel not only begins with the managers but also with the instructors.

4.2. Limitations

Although this study provides valuable insights into the factors affecting the motivation of aspiring NCOs during their military training programme, several limitations are recognised. Firstly, it is difficult to compare data from different training weeks as the different platoons were trained in deviating time brackets of their training. Thus, not only do the training weeks differ from each other, but so do the platoons that are engaged in these training weeks. Since the different training weeks are measured in distinguishing platoons (and not in a single platoon), the data obtained is not representative of the analyse of the development of motivation per training week. Therefore, the training weeks cannot be compared to one another since they do not involve the same platoon (including the same instructors and trainees). To gain more insight into the development of psychological safety, social cohesion and rapport influencing motivation, the recommendation is to conduct a follow-up study and develop a longitudinal study in these and measurement groups for the duration of training at multiple points in time on these variables.

Furthermore, the lack of data at a higher level of detail than the platoon, due to privacy laws, is a second limitation. This was due both to the design of the human resource reporting, as well as the permissions released by the KMS authority. Consequently, group-level data could not

be used in the study. Instead of being able to collect more accurate data on specific instructors, the study was forced to rely on the average instructor experience of the platoon. This could have provided more detailed and in-depth information on the number of years of teaching experience of the instructors and hence have provided more specific analyses. Consequently, it was limited to capturing the full impact of instructor experience on motivation.

A third limitation of the survey is the inequality in platoon participation. It is plausible that not all platoon commanders considered the survey important and therefore participation varied by platoon. The limited variation in participation levels may have affected the generalisability of the study results to the broader population of aspiring NCOs in military training programmes. In addition, it may have biased the results as platoons that did not participate may have had different levels of motivation or experiences of psychological safety, social cohesion and rapport than participants from platoons that did participate. Conducting an additional analysis in which motivation could be compared by response rate may be useful for further research.

4.3. Implications for Further Research

Although this study provides valuable insights into the factors influencing the motivation of aspiring NCOs during their military training, there is still much information related to the included social concepts that could be explored in future research. Investigating the specific strategies that can foster psychological safety, social cohesion and rapport among aspiring NCOs is an area for future research. The examination of different training methods or interventions that seek to build a more stimulating environment, including communication and feedback, which may fall under this category. Moreover, it is crucial to conduct both theoretical and practical research on this topic to understand how to change the attitudes and behaviour of instructors and their management.

Another additional topic for future research is to examine the influence of other factors on the motivation of aspiring NCOs. For example, future studies could examine the role of individual differences, such as personality traits or previous military experience, in predicting motivation. In addition, further research could examine the effect of different types of training programmes or training environments on motivation. As an example, examine the options for a tailor-made program for everyone with a tailored approach from instructors.

Examining the long-term effects of military training programmes for aspiring NCOs can also be a crucial area for future research. Although this study focused on the elements that influence motivation during the training process, it would be useful to explore how these elements may influence the future military careers of aspiring NCOs. For example, how one was trained may influence the form of commitment developed, which may make employees want to stay in service for a shorter or longer period (Jaros, 2007). In addition, it may affect the ambitions a person develops (Steffens et al., 2018). For instance, is one inspired to develop professionally in the organisation and achieve higher ranks? Understanding these aspects would require army-wide research as it would cross unit and training boundaries. Nevertheless, it would provide useful data which could be directly implemented in training courses.

Finally, for future research, it would be worth exploring the extent to which the results of this study are generalisable to other military training contexts and programmes. Although this study focused on the military training curriculum at the NCO level, it is interesting to know whether the results apply to other programmes and populations. When examining the effects of these variables, their impact on different nations, cultures or military branches can be considered.

Overall, the Royal Netherlands Army wants to fill its positions and vacancies with qualified candidates, so it is important that not only instructors and the KMS consider these outcomes, but also that the management level is considering the findings of this study and consider its practical implementation. Nevertheless, some crucial areas require further research in this field, and more research can help understand the influencing elements on the motivation and performance of aspiring NCOs in military training programmes. Furthermore, it is advisable to include the important findings in Ministry of Defence policy documents at higher levels. This will also allow educational institutions other than the KMS to benefit from the information from this study and embed it in curricula and other related documents. In addition, extra care will have to be taken to ensure that instructors are provided with this knowledge both theoretically and practically. It is recommended that these results be addressed in instructor training and career training.

4.4. Conclusion

In conclusion, this research partially achieved the results outlined in the hypotheses. Nevertheless, it has contributed to knowledge about what influences the motivation of an

aspiring NCO. First, one of the most important findings of this study is although there are no significant results regarding the level of experience of the instructor in military training on the level of motivation of the trainees, instructors remain a crucial component. Secondly, the open-ended questions identify the importance of social relationships, reciprocity, and support from their immediate environment (both group and instructor) to achieve higher motivation. Making instructors aware, letting them actively invest in creating a psychologically safe educational environment where they can build a personal relationship with their students, and being aware of the social cohesion of the group. It will motivate aspiring NCOs to finish their nine-month-long training to become future leaders. Lastly, this study also has important implications for other military training programs, as it highlights the potential benefits of fostering social cohesion, psychological safety, and rapport among students and instructors. Using the lessons from this research and implementing the learning gains in onboarding and human skills sessions will ensure that the information on the importance of investing in social processes reaches the implementers (instructors) directly. Ultimately, this could lead to higher numbers in terms of completing the training, thus giving the Royal Netherlands Army a boost in personnel numbers and quality of trained personnel.

Reference List

- Abbe, A., & Brandon, S. E. (2013). The Role of Rapport in Investigative Interviewing: A Review. *Journal of Investigative Psychology and Offender Profiling*, *10*(3), 237–249.
<https://doi.org/10.1002/jip.1386>
- Ahronson, A., & Cameron, J.E. (2007). The Nature and Consequences of Group Cohesion in a Military Sample. *Military Psychology*, *19*(1), 9-25.
<https://doi.org/10.1080/08995600701323277>
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioural change. *Psychological review*, *84*(2), 191-215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Burke, L. A., & Sadler-Smith, E. (2006). Instructor Intuition in the Educational Setting. *Academy of Management Learning and Education*, *5*(2), 169–181.
<https://doi.org/10.5465/amle.2006.21253781>
- Callahan, J. C. (1986). Academic paternalism. *International Journal of Applied Philosophy*, *3*(1), 21-31. <https://doi.org/10.5840/ijap19863114>
- Carless, S. A., & De Paola, C. (2000). The Measurement of Cohesion in Work Teams. *Small Group Research*, *31*(1), 71–88. <https://doi.org/10.1177/104649640003100104>
- Collins, R., Lincoln, R., & Frank, M. G. (2002). The Effect of Rapport in Forensic Interviewing. *Psychiatry, Psychology and Law*, *9*(1), 69–78. <https://doi.org/10.1375/pplt.2002.9.1.69>
- Dalsjö, R., Jonsson, M., & Norberg, J. (2022). A brutal examination: Russian military capability in light of the Ukraine War. *Survival*, *64*(3), 7-28.
<https://doi.org/10.1080/00396338.2022.2078044>

- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian psychology/Psychologie canadienne*, 49(3), 182-185. <https://doi.org/10.1037/a0012801>
- Decuyper, S., Dochy, F., & Van den Bossche, P. (2010). Grasping the dynamic complexity of team learning: An integrative model for effective team learning in organisations. *Educational Research Review*, 5(2), 111-133. <https://doi.org/10.1016/j.edurev.2010.02.002>
- Duke, M. C., Wood, J. M., Bollin, B., Scullin, M., & LaBianca, J. (2018). Development of the Rapport Scales for Investigative Interviews and Interrogations (RS3i), Interviewee Version. *Psychology, Public Policy, and Law*, 24(1), 64. <https://doi.org/10.1037/law0000147>
- Edmondson, A. C. (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly*, 44(4), 350–383. <https://doi.org/10.2307/2666999>
- Edmondson, A. C., & Lei, Z. (2014). Psychological safety: The history, renaissance, and future of an interpersonal construct. *Annual review of organizational psychology and organizational behavior*, 1(1), 23-43. <https://doi.org/10.1146/annurev-orgpsych-031413-091305>
- Elgoibar, P., Euwema, M., & Munduate, L. (2016). Building Trust and Constructive Conflict Management in Organizations. In *Industrial relations & conflict management* (pp. 1–13). Springer International Publishing. https://doi.org/10.1007/978-3-319-31475-4_1

- Elstgeest, G. (2016). *Exploring the process of changing psychological safety: The effect of a team-building intervention* [Master thesis, University of Twente].
<https://purl.utwente.nl/essays/70469>
- Gabbert, F., Hope, L., Luther, K., Wright, G., Ng, M., & Oxburgh, G. (2021). Exploring the use of rapport in professional information-gathering contexts by systematically mapping the evidence base. *Applied Cognitive Psychology*, 35(2), 329–341.
<https://doi.org/10.1002/acp.3762>
- García, A.B., Pender E., & Elgoibar, P. (2016). The State of Art: Trust and Conflict Management in Organizational Industrial Relations. In L. Munduate, M. Euwema & P. Elgoibar (Eds.), *Building Trust and Constructive Conflict Management in Organizations* (pp. 29-51) Springer International Publishing. https://doi.org/10.1007/978-3-319-31475-4_3
- Gilliam, J. B., & Van Wie, R. C. (2022). Interim Security Insights and Implications from the First Two Months of the Russia-Ukraine War. Brookings Institution.
https://www.brookings.edu/wp-content/uploads/2022/05/FP_20220512_ukraine_war_gilliam_van_wie.pdf
- Haans, J. (2010). The Backbone of the Army: Comparison between a Dutch and American Noncommissioned Officer. Army Sergeants Major Academy Fort Bliss Tx.
<https://apps.dtic.mil/sti/pdfs/AD1130943.pdf>
- Heneman, H. G., & Schwab, D. P. (1972). Evaluation of research on expectancy theory predictions of employee performance. *Psychological Bulletin*, 78(1), 1–9.
<https://doi.org/10.1037/h0033093>

- Hennessey, J. (2019). A Relational Learning Approach to New Faculty Orientation in Professional Military Education. *Journal of Military Learning*, 96-105.
<https://www.armyupress.army.mil/Portals/7/PDF-UA-docs/Hennessey-Relational-Learning-UA.pdf>
- Isaac, R. G., Zerbe, W. J., & Pitt, D. C. (2001). Leadership and motivation: The effective application of expectancy theory. *Journal of managerial issues*, 13(2), 212-226.
<https://www.jstor.org/stable/40604345>
- Jaros, S. (2007). Meyer and Allen Model of Organizational Commitment: Measurement Issues. *The Icfa Journal of Organizational Behavior*, 6(4), 7–25. <http://stevejaros.com/wp-content/uploads/2009/08/Jaros-ICFAI-2007-Meyer-and-Allen1.pdf>
- Jones, K. M. L. (2017). Learning Analytics and Its Paternalistic Influences. In: Zaphiris, P., Ioannou, A. (eds) *Learning and Collaboration Technologies. Technology in Education. LCT 2017. Lecture Notes in Computer Science* (pp. 281-292). Springer Cham.
https://doi.org/10.1007/978-3-319-58515-4_22
- Kearns, A., & Forrest, R. (2000). Social cohesion and multilevel urban governance. *Urban studies*, 37(5-6), 995-1017. <https://doi.org/00/05-60995-23>
- Kirke, C. (2010). Military cohesion, culture and social psychology. *Defence & Security Analysis*, 26(2), 143-159. <https://doi.org/10.1080/14751798.2010.488856>
- Klassen, R. D., Perry, N. E., & Frenzel, A. C. (2012). Teachers' relatedness with students: An underemphasized component of teachers' basic psychological needs. *Journal of Educational Psychology*, 104(1), 150–165. <https://doi.org/10.1037/a0026253>

Kohan, N. A., Safari, A., & Teimouri, H. (2018). Friendship, transformational leadership and organizational climate. *Human Systems Management, 37*(3), 319–331.

<https://doi.org/10.3233/hsm-17129>

Kowalinski, S. (2022). *Solidarity in Service: a Study on Military Motivation* (Master Thesis, University of Chicago).

Lang, J. W. B., & Fries, S. (2006). A Revised 10-Item Version of the Achievement Motives Scale. *European Journal of Psychological Assessment, 22*(3), 216–224.

<https://doi.org/10.1027/1015-5759.22.3.216>

Little, J. W. (1990). The Persistence of Privacy: Autonomy and Initiative in Teachers' Professional Relations. *Teachers College Record, 91*(4), 509–536.

<https://doi.org/10.1177/016146819009100403>

Ministry of Defence (2020). *Defensievisie 2035. Vechten voor een veilige toekomst*. Retrieved on May 6, 2023. <https://www.defensie.nl/onderwerpen/defensievisie-2035/downloads/publicaties/2020/10/15/defensievisie-2035>

Ministry of Defence (2021). *Personeelsrapportage 2020*. Retrieved on November 1, 2022.

<https://open.overheid.nl/repository/ronl-e2fb7862-67d9-4cb8-88ad-9b834a545906/1/pdf/personeelsrapportage-2020-defensie.pdf>

Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. *Human Resource Management Review, 27*(3), 521–535.

<https://doi.org/10.1016/j.hrmr.2017.01.001>

- Ogle, A. D., Barron, L. G., & Fedotova, A. (2015). Job Analysis of United States Air Force Military Training Instructor Duty: Identification of Screening Criteria for Instructor Candidate Suitability. *Military Psychology*. <https://doi.org/10.1037/mil0000103>
- Olafsson, N. (2017). *The Making of Torturers: The Case of Abu Ghraib—An Exploration of Individual Psychological Factors, Group Factors, and Mimetic Structures of Violence* (pp. 47). [Doctoral dissertation, Saint Paul University].
- Schiefer, D., & Van der Noll, J. (2017). The essentials of social cohesion: A literature review. *Social Indicators Research*, *132*(2), 579-603. <https://doi.org/10.1007/s11205-016-1314-5>
- Siebold, G. L. (2007). The essence of military group cohesion. *Armed forces & society*, *33*(2), 286-295. <https://doi.org/10.1177/0095327X06294173>
- Smith, R. D. (2005). *The Utility of Force: The Art of War in the Modern World* (pp. 241). Penquin, London 2005.
- Steffens, N. K., Fonseca, M., Ryan, M. K., Rink, F., Stoker, J. I., & Pieterse, A. N. (2018). How feedback about leadership potential impacts ambition, organizational commitment, and performance. *Leadership Quarterly*, *29*(6), 637–647. <https://doi.org/10.1016/j.leaqua.2018.06.001>
- Tickle-Degnen, L., & Rosenthal, R. (1990). The Nature of Rapport and Its Nonverbal Correlates. *Psychological Inquiry*, *1*(4), 285–293. https://doi.org/10.1207/s15327965pli0104_1
- Vaida, S., & Ardelean, I. (2019). Psychological Safety and Trust. A Conceptual Analysis. *Studia Universitatis Babeş-Bolyai*. <https://doi.org/10.24193/subbpsychped.2019.1.05>

- Van Eerde, W., & Thierry, H. (1996). Vroom's expectancy models and work-related criteria: A meta-analysis. *Journal of applied psychology, 81*(5), 575-586.
<https://doi.org/10.1037/0021-9010.81.5.575>
- Van den Bossche, P., Gijsselaers, W. H., Segers, M., & Kirschner, P. A. (2006). Social and cognitive factors driving teamwork in collaborative learning environments: Team learning beliefs and behaviors. *Small group research, 37*(5), 490-521.
<https://doi.org/10.1177/1046496406292938>
- Vangrieken, K., Dochy, F., Raes, E., & Kyndt, E. (2015). Teacher collaboration: A systematic review. *Educational Research Review, 15*, 17–40.
<https://doi.org/10.1016/j.edurev.2015.04.002>
- Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., & Matos, L. (2005). Examining the Motivational Impact of Intrinsic Versus Extrinsic Goal Framing and Autonomy-Supportive Versus Internally Controlling Communication Style on Early Adolescents' Academic Achievement. *Child Development, 76*(2), 483–501.
<https://doi.org/10.1111/j.1467-8624.2005.00858.x>
- Van Wiggen, O. (2016). *Niemand is belangrijker dan het team: een militaire visie op leiderschap* (pp. 73). White Elephant Publishing.
- Weiherr, L. (2020). *The impact of interview style on the development, maintenance, and transfer of rapport*. Lancaster University (PhD-thesis).
<https://eprints.lancs.ac.uk/id/eprint/149132/1/2020weiherrphd.pdf>

- Wheeler, K. G. (1983). Comparisons of self-efficacy and expectancy models of occupational preferences for college males and females. *Journal of Occupational Psychology*, 56(1), 73-78. <https://doi.org/10.1111/j.2044-8325.1983.tb00112.x>
- Wigfield, A., & Wentzel, K. R. (2007). Introduction to motivation at school: Interventions that work. *Educational Psychologist*, 42(4), 191-196. 10.1080/00461520701621038
- Wise, S. (2014). Can a team have too much cohesion? The dark side to network density. *European management journal*, 32(5), 703-711. <https://doi.org/10.1016/j.emj.2013.12.005>
- Wood, R., & Bandura, A. (1989). Impact of conceptions of ability on self-regulatory mechanisms and complex decision making. *Journal of personality and social psychology*, 56(3), 407-415. <https://doi.org/10.1037/0022-3514.56.3.407>

Appendix A Questionnaire

Questionnaire KMS

Informed Consent

Demographics

- Age
- Gender
- Education
- Platoon
- Group
- Number of group instructors
- Training progress in weeks
- Background

Psychological Safety (Edmondson, 1999)

1. If you make a mistake on this group, it is often held against you. (R)
2. Members of this group are able to bring up problems and tough issues.
3. People on this group sometimes reject others for being different. (R)
4. It is safe to take a risk on this group.
5. It is difficult to ask other members of this group for help. (R)
6. No one on this group would deliberately act in a way that undermines my efforts.
7. Working with members of this group, my unique skills and talents are valued and utilized.

Social Cohesion (Adapted Group Environment Questionnaire, Carless & De Paola, 2000)

8. Our group would like to spend time together outside of work hours
9. Our group members rarely party together (R)
10. Members of our group would rather go out on their own than get together as a team (R)
11. For me this group is one of the most important social groups to which I belong
12. Some of my best friends are in this group

Rapport: Rapport Scales for Investigative Interviews and Interrogations 2 (RS3i) Interviewee Version (Duke et al., 2018)

13. I think the instructor is generally honest with me.
14. The instructor did his/her job with skill during the military training.
15. The instructor respects my knowledge.
16. The instructor and I have our culture in common.
17. The instructor performed expertly during the military training.

18. I think that the instructor can generally be trusted to keep his/her word.
19. The instructor and I probably share the same ethnicity.
20. The instructor really listened to what I had to say.
21. I was motivated to perform well during the military training.
22. I feel I can trust the instructor to keep his/her word to me.
23. The instructor made an effort to do a good job.
24. The instructor acted like a professional
25. The instructor paid careful attention to my opinion.
26. The instructor and I got along well during the military training.
27. The instructor and I worked well together as a team.
28. The instructor probably shares my culture.
29. I wanted to do a good job during the military training.
30. The instructor was attentive to me.
31. Communication went smoothly between the instructor and me.
32. The instructor was interested in my point of view.
33. I felt committed to accomplishing the goals of the instructor.

Motivation (Lang & Fries, 2006) AMS-R = revised 10-item version of AMS.

AMS-R and extra questions:

34. I like situations in which I can find out how capable I am.
35. When I am confronted with a problem, which I can possibly solve, I am enticed to start working on it immediately.
36. I enjoy situations in which I can make use of my abilities.
37. I am appealed by situations allowing me to test my abilities.
38. I am attracted by tasks in which I can test my abilities.
39. I am afraid of failing in somewhat difficult situations, when a lot depends on me. (R)
40. I feel uneasy to do something if I am not sure of succeeding. (R)
41. Even if nobody would notice my failure, I'm afraid of tasks, which I'm not able to solve. (R)
42. Even if nobody is watching, I feel quite anxious in new situations. (R)
43. If I do not understand a problem immediately, I start feeling anxious. (R)
44. The instructor contributes to my motivation to complete my education.
45. I am motivated to complete the education.
46. I know what I need to stay motivated.
47. I want to do my best for a good final assessment.
48. The education stimulates me to bring out the best in myself.
49. The education is a positive experience.
50. What improvements within the group can lead to further increase in motivation?
51. What improvements between you/your group and the instructor can lead to further increase in motivation?

Open Questions

What Improvements within the Group can Contribute to Further Increase your Motivation?

What Improvements Between You and the Instructor Could Further Increase Motivation?

Wat zijn volgens jou de redenen voor mensen om te stoppen met de opleiding?

Appendix B Parametric Assumptions

For a linear model to be a good model, four conditions need to be fulfilled. First, linearity: the relationship between the variables can be described by a linear equation (also called additivity). Second, independence: the residuals are independent of each other. Third, equal variance: the residuals have equal variance (also called homoskedasticity). Fourth, normality: the distribution of the residuals is normal when these conditions (often called assumptions) are not met, the inference with the computed standard error is invalid. That is, if the assumptions are not met, the standard error should not be trusted, or should be computed using alternative methods.

Figure 3

Check linearity between Instructor Experience and Psychological Safety

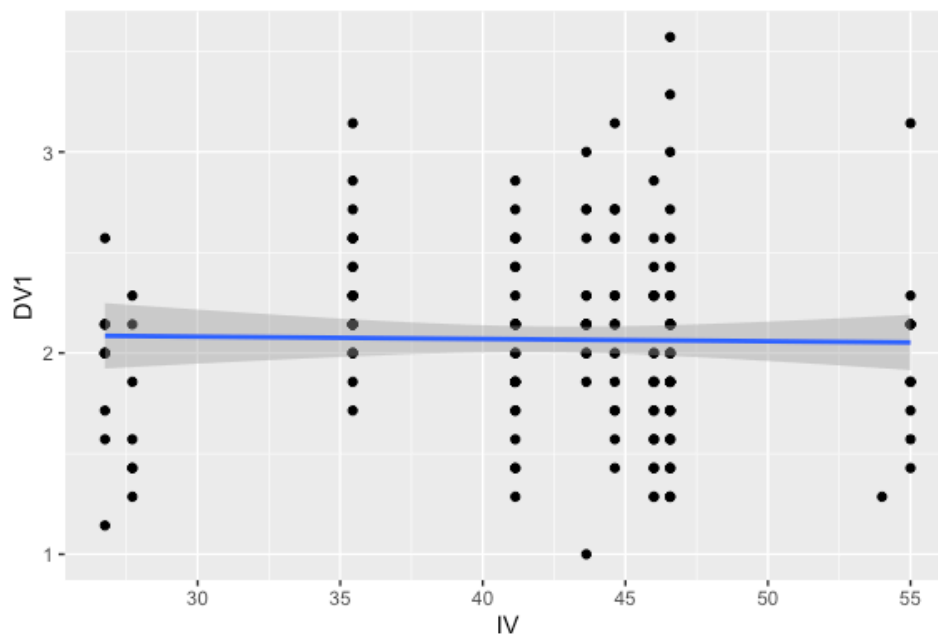


Figure 4

Check independence by creating a scatterplot of the residuals between Instructor Experience and Psychological Safety

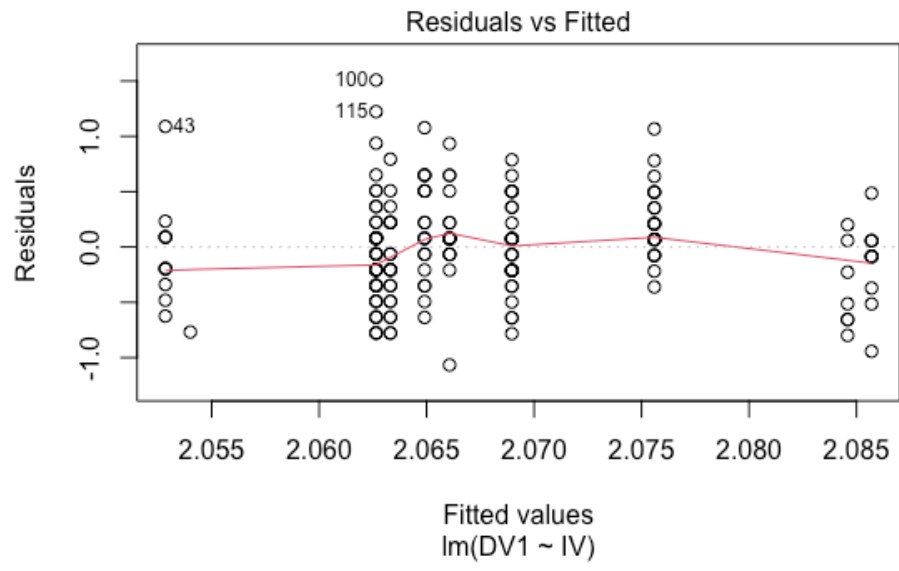


Figure 5

Check equal variance by creating a plot of the residuals against the fitted values between Instructor Experience and Psychological Safety

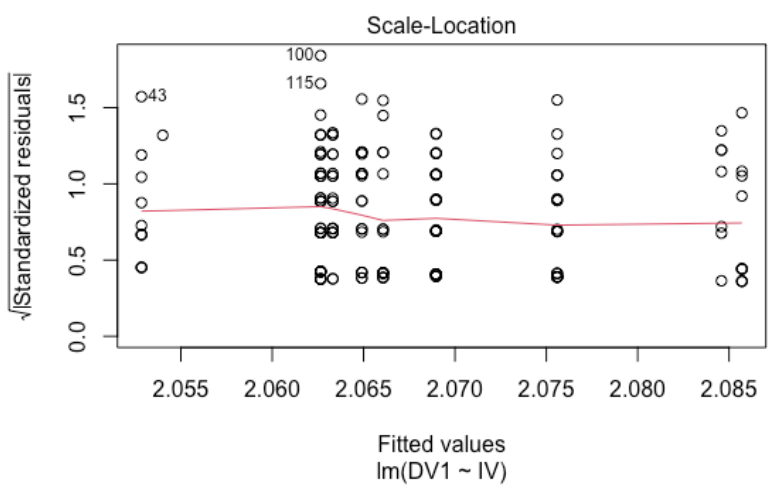
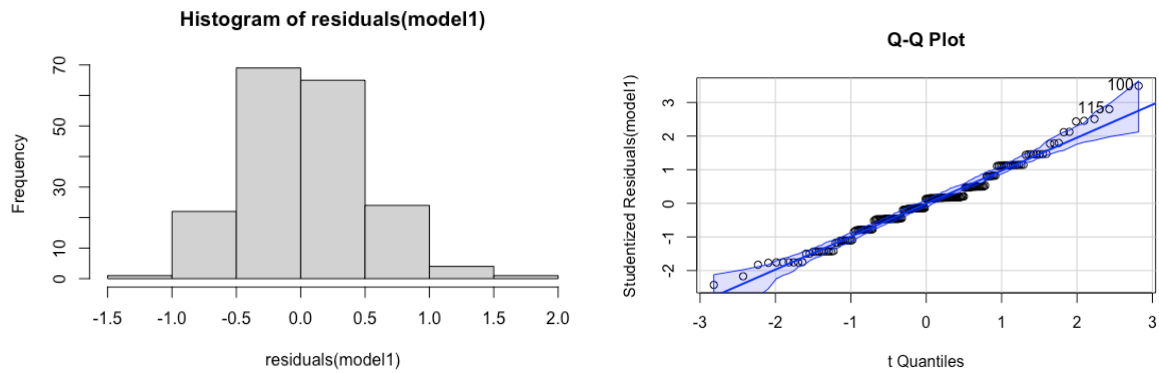


Figure 6

Check normality by creating a histogram and Q-Q plot of the residuals between Instructor Experience and Psychological Safety

**Figure 7**

Check linearity between Instructor Experience and Social Cohesion

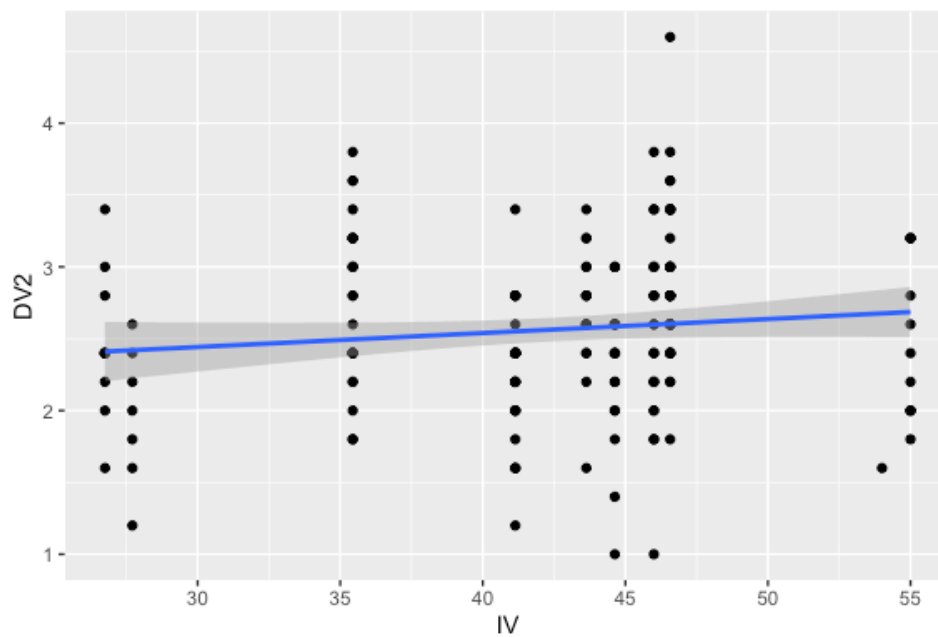
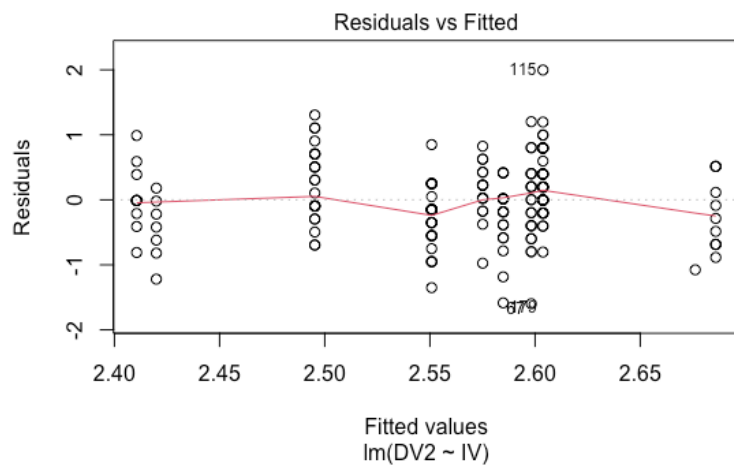


Figure 8

Check independence by creating a scatterplot of the residuals between Instructor Experience and Social Cohesion

**Figure 9**

Check equal variance by creating a plot of the residuals against the fitted values between Instructor Experience and Social Cohesion

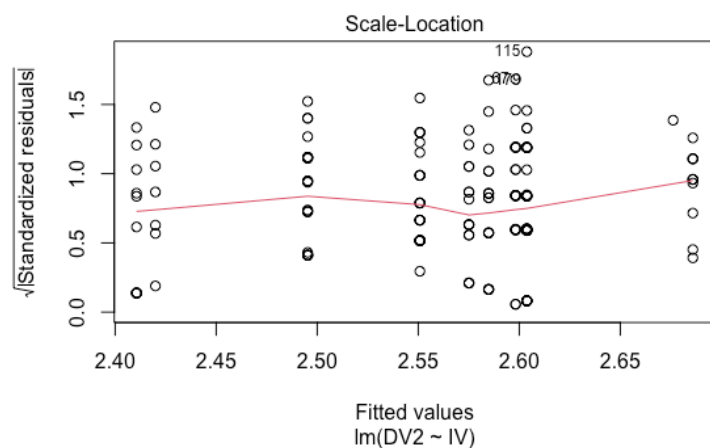


Figure 10

Check normality by creating a histogram and Q-Q plot of the residuals between Instructor Experience and Psychological Safety

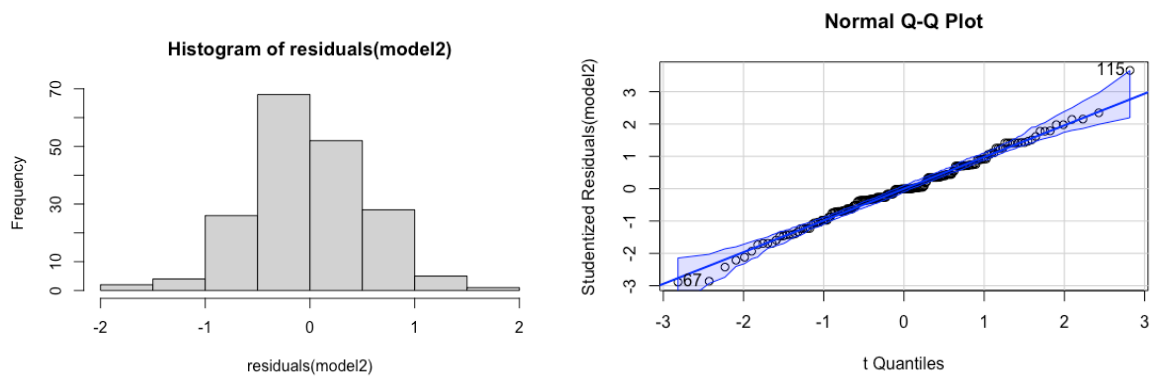


Figure 11

Check linearity between Instructor Experience and Rapport

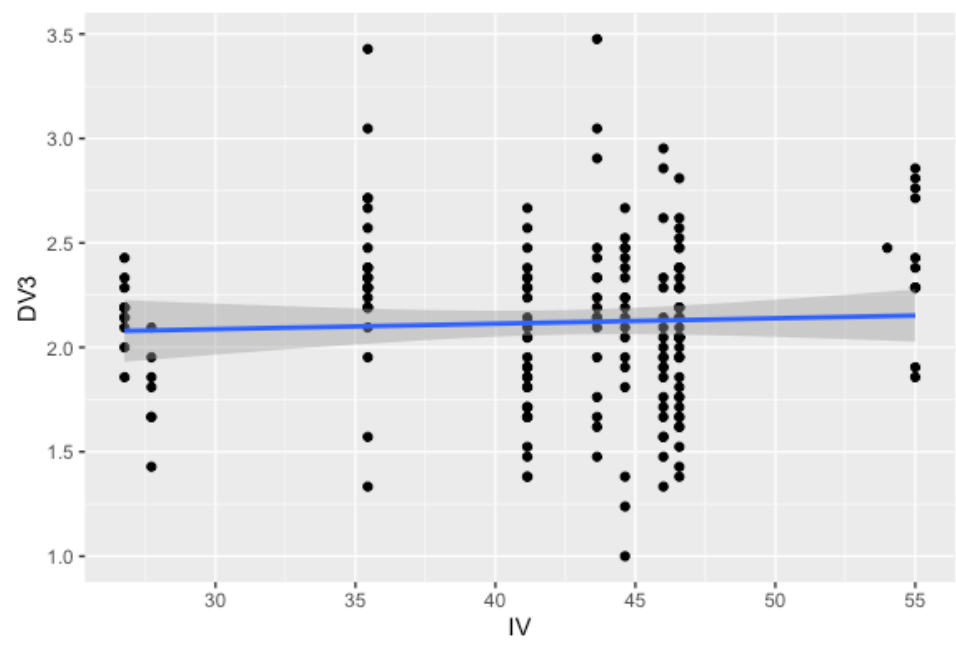
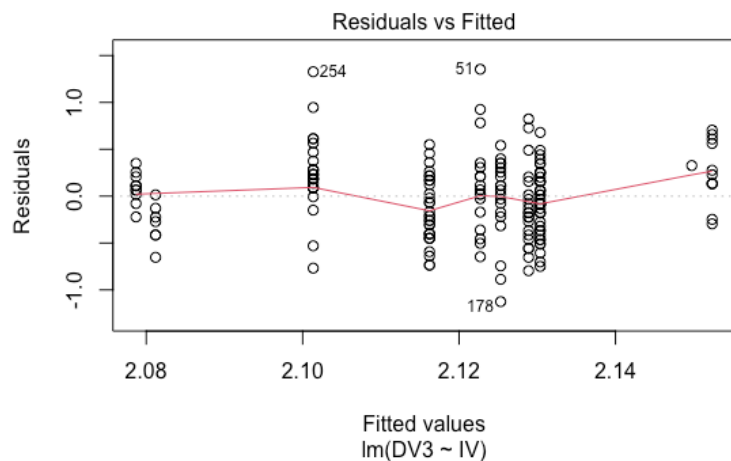


Figure 12

Check independence by creating a scatterplot of the residuals between Instructor Experience and Rapport

**Figure 13**

Check equal variance by creating a plot of the residuals against the fitted values between Instructor Experience and Rapport

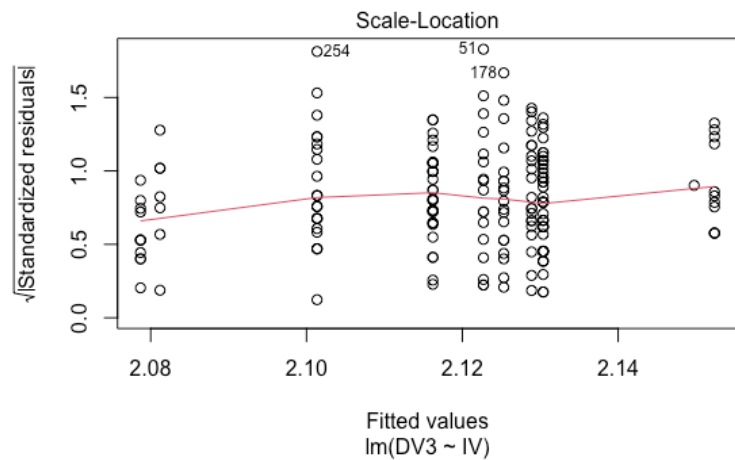


Figure 14

Check normality by creating a histogram and Q-Q plot of the residuals between Instructor Experience and Rapport

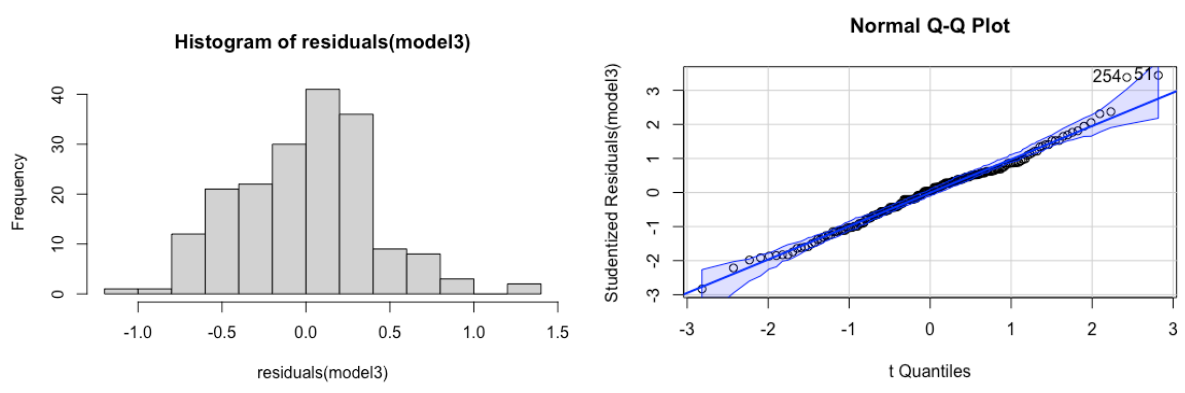


Figure 15

Check linearity between Psychological Safety and Motivation

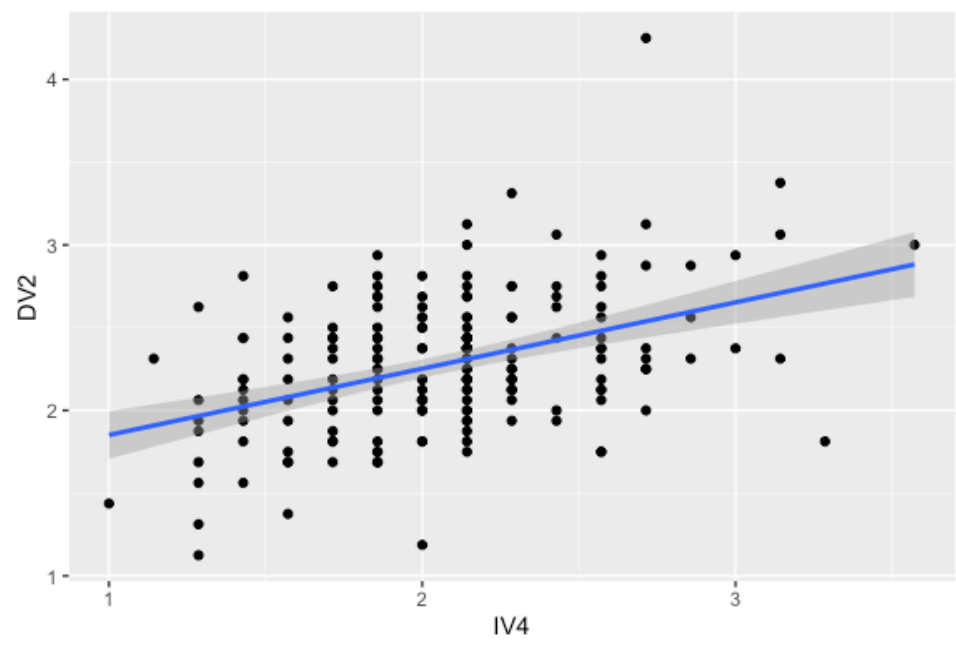


Figure 16

Check linearity between Social Cohesion and Motivation

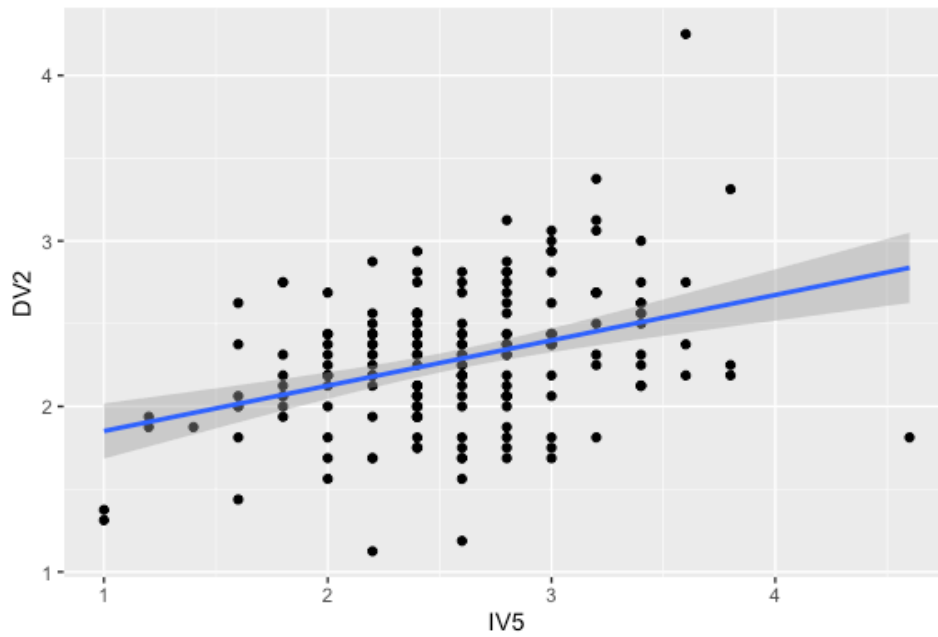


Figure 17

Check linearity between Rapport and Motivation

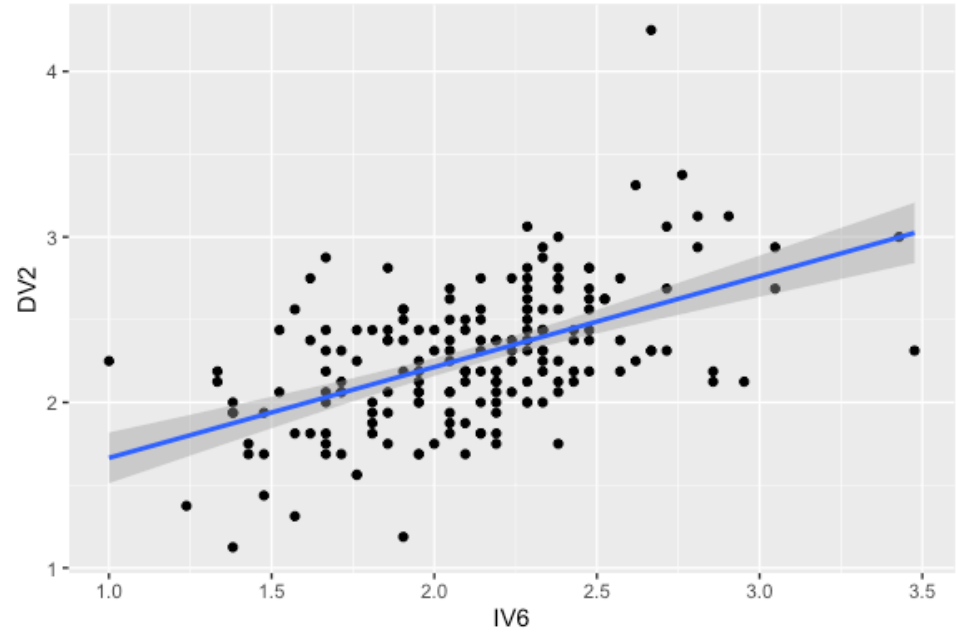


Figure 18

Check independence by creating a scatterplot of the residuals between Psychological Safety, Social Cohesion and Rapport on Motivation

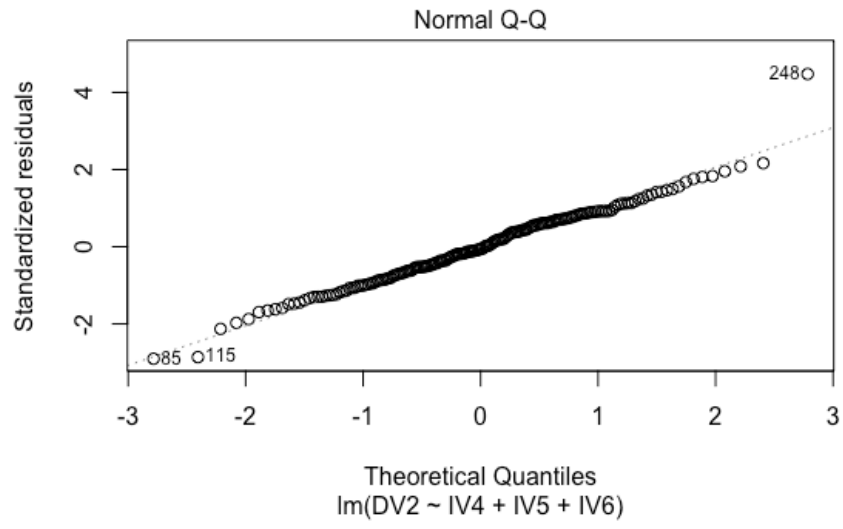


Figure 19

Check equal variance by creating a scatterplot of the residuals against the fitted values of Psychological Safety, Social Cohesion and Rapport on Motivation

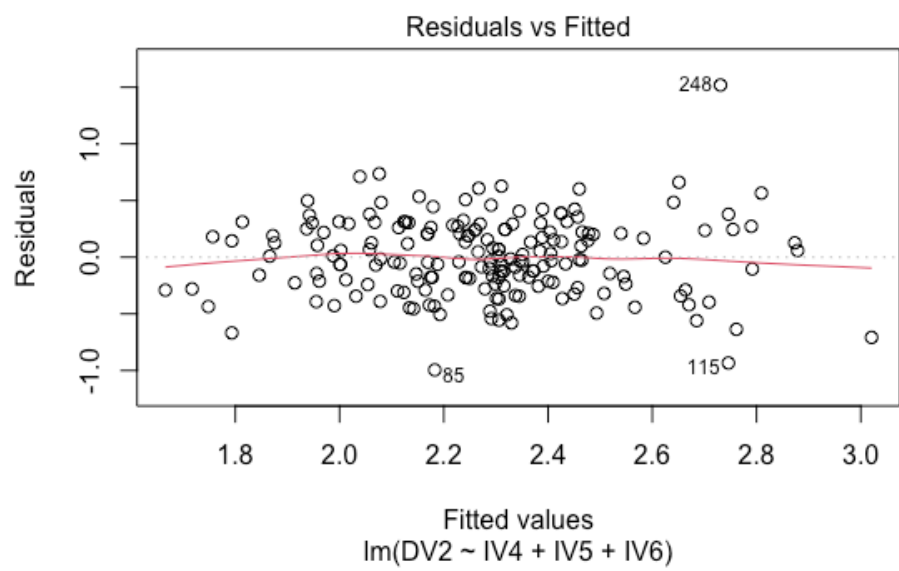
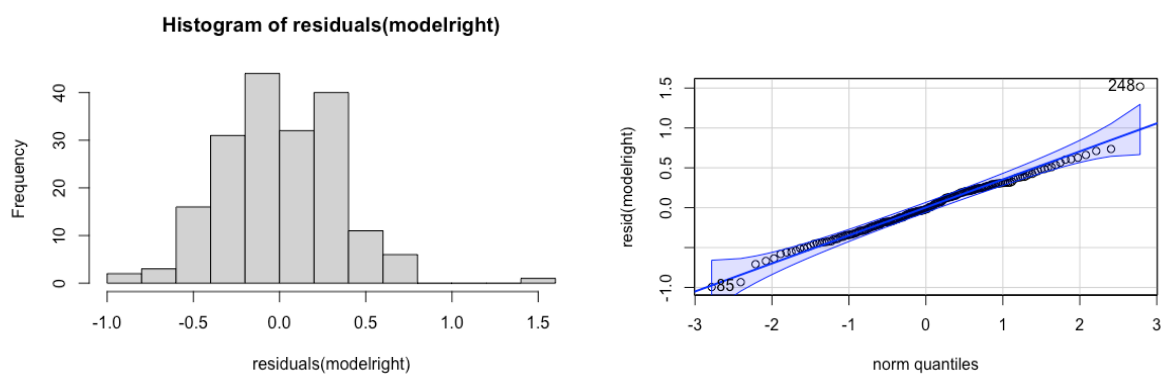


Figure 20

Check normality by creating a histogram and Q-Q plot of the residuals between Psychological Safety, Social Cohesion and Rapport on Motivation



Appendix C ANOVAs

Differences Between Platoons

A one-way analysis of variance (ANOVA) was conducted to assess if there were any significant differences in average scores of *Motivation* between the 10 platoons of the KMS (Table 9). The dependent variable was the average score on *Motivation*. Figure 28 visualizes the differences between the 10 platoons. The ANOVA revealed a significant main effect of *Pel* (platoon) ($F(9, 176) = 2.51, p = .01$), indicating that there were significant differences on motivation across the platoons.

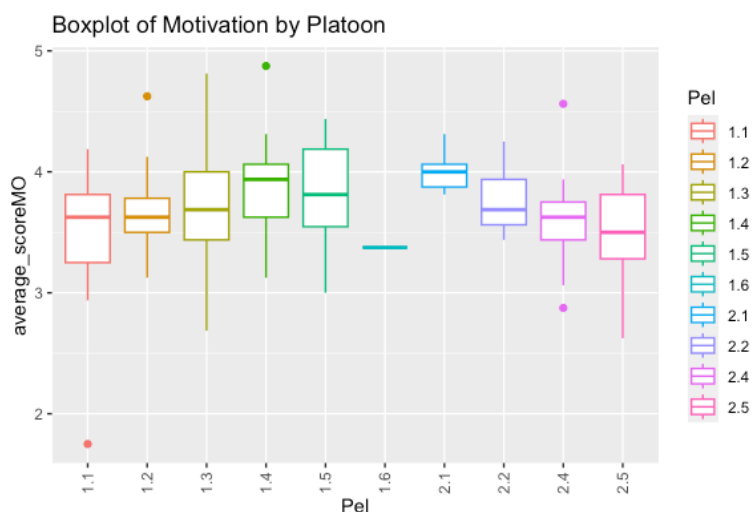
Table 9

ANOVA Motivation when Controlling for Platoon

Predictor	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Platoon	9	3.73	.41	2.51	.01
Residuals	176	29.10	.17		

Figure 21

Boxplot Differences in Platoon on Motivation



Differences in Pre-entry the Military Training

A one-way analysis of variance (ANOVA) was conducted to examine the effect of pre-entry status on *Motivation* (Table 10). Figure 29 visualizes the outcomes. The results showed that the effect of pre-entry status was not statistically significant ($F(1, 184) = 0.00, p = .999$). Therefore, it can be concluded that there are no significant differences in *Motivation* between individuals who had a pre-entry before starting their military training and those who did not.

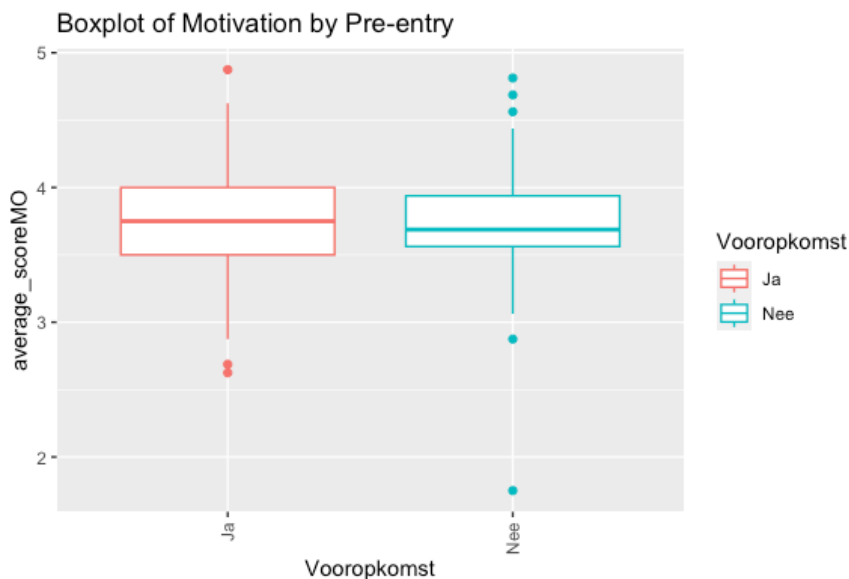
Table 10

ANOVA Motivation when Controlling for Pre-entry of Military Training

Predictor	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Pre-entry	1	.00	.00	0	.999
Residuals	184	32.82	.18		

Figure 22

Boxplot Differences in Pre-entry on Motivation



Differences in Background of Military Knowledge Before Starting Military Training

A one-way analysis of variance (ANOVA) was conducted to investigate whether there were significant differences on *Motivation* when controlling for different backgrounds of military knowledge before starting their military training (Table 11). Figure 30 visualizes the outcomes. The results indicated that there was no significant main effect of background of military knowledge on the average score on *Motivation* ($F(4, 181) = 2.25, p = .07$).

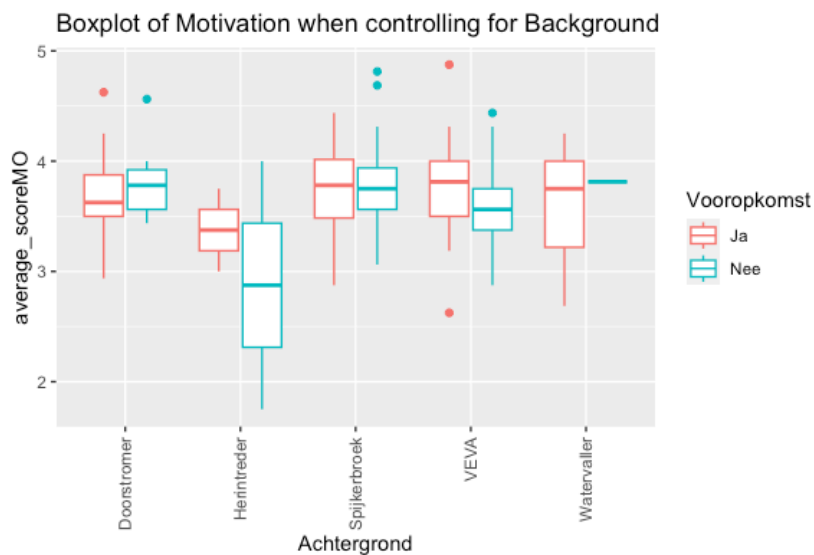
Table 11

ANOVA Motivation when Controlling for Background of Military Knowledge

Predictor	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Background	4	1.56	.39	2.25	.07
Residuals	181	31.26	.17		

Figure 23

Boxplot Differences in Background on Motivation



Differences in Gender on Motivation

An ANOVA was conducted to compare the differences on *Motivation* when controlling for male and female participants (Table 12). Figure 31 visualizes the outcomes. The results showed a significant main effect of gender ($F(1, 184) = 3.95, p = .048$).

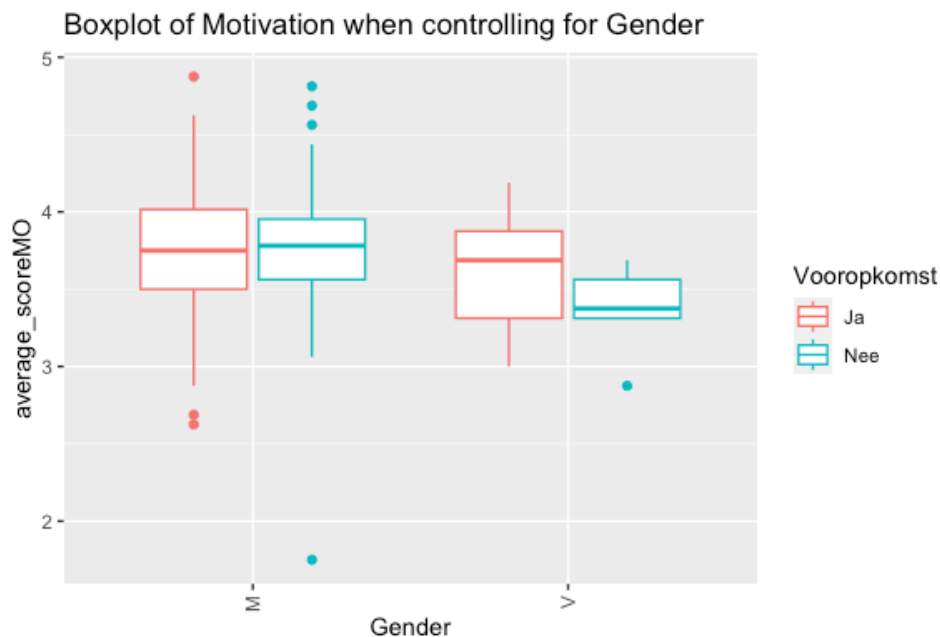
Table 12

ANOVA Motivation when Controlling for Gender

Predictor	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Gender	1	.7	.69	3.95	<.05
Residuals	184	32.13	.17		

Figure 24

Boxplot Differences in Gender on Motivation



Differences in Education Level on Motivation

An ANOVA was conducted to investigate the effect of education level on *Motivation* (Table 13). Figure 32 visualizes the outcomes. The results showed that education level did not have a significant main effect on motivation scores ($F(7, 178) = 0.9, p = .51$).

Table 13

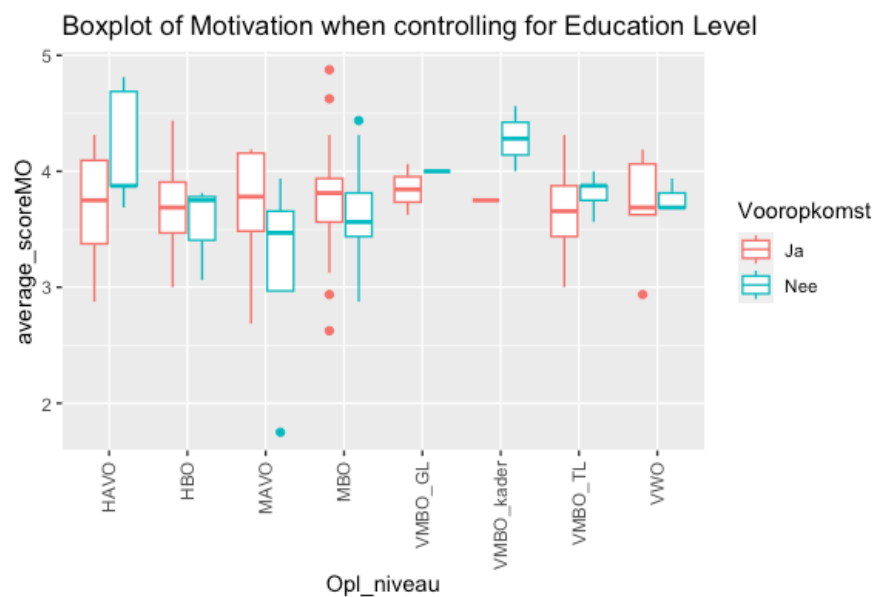
ANOVA Motivation when Controlling for Education Level

Predictor	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Education level	7	1.12	.16	.9	.51

Residuals 178 31.7 .18

Figure 25

Boxplot Differences in Education Level on Motivation



Differences in Age on Motivation

An ANOVA was conducted to test the effect of age on motivation (Table 14). Figure 33 visualizes the outcomes. The results showed that the main effect of age was not statistically significant, ($F(5, 180) = 1.61, p = .159$). This indicates that there was no significant difference in motivation scores across different age groups. Therefore, age does not appear to be a significant predictor of motivation.

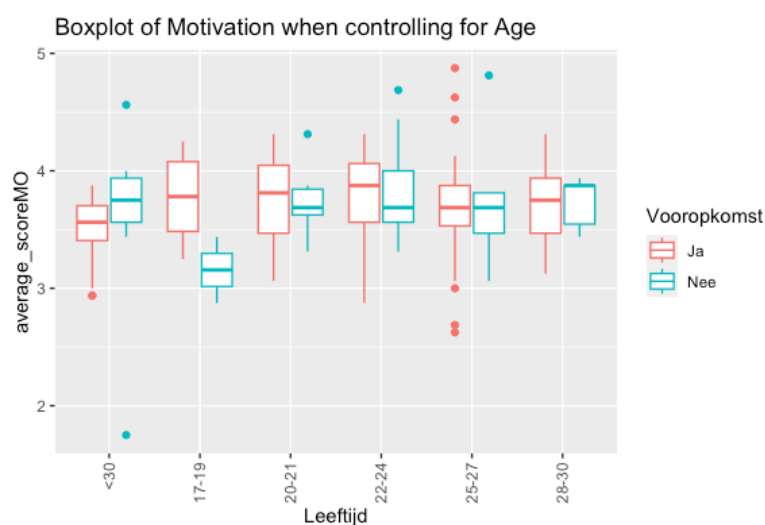
Table 14

ANOVA Motivation when Controlling for Age

Predictor	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Age	5	1.41	.28	1.61	.16
Residuals	180	31.41	.17		

Figure 26

Boxplot Differences in Age on Motivation



Differences in Weeks of Training on Motivation

An analysis of variance (ANOVA) was conducted to examine the effect of weeks of training on motivation (Table 15). Figure 34 visualizes the outcomes. The results showed that the main effect of weeks of training is significant, ($F(7, 178) = 2.82, p = .008$). This indicates that there is a significant difference in motivation scores across different groups who are in a different period of their training.

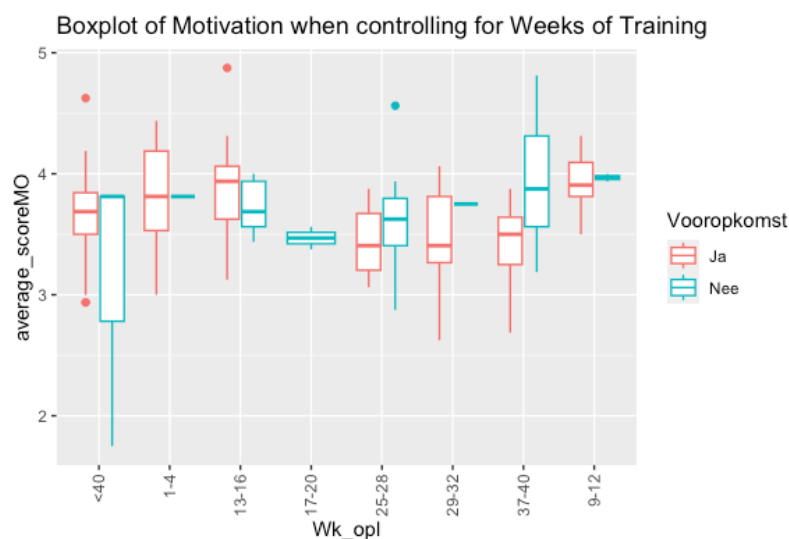
Table 15

ANOVA Motivation when Controlling for Weeks of Training

Predictor	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Weeks of Training	7	3.28	.47	2.82	.008
Residuals	178	29.54	.17		

Figure 27

Boxplot Differences in Weeks of Training on Motivation



Differences in Number of Instructors

An ANOVA was conducted to examine the effect of weeks of training on motivation (Table 16). Figure 35 visualizes the outcomes. The results showed that the main effect of the number of instructors is significant, ($F(7, 178) = 2.82, p = .006$). This indicates that there is a significant difference in motivation scores across different groups who are in a different period of their training.

Table 16

ANOVA Motivation when Controlling for Number of Instructors

Predictor	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Number of Instructors	2	1.81	.91	5.35	.006
Residuals	1837	30.01	.17		

Figure 28

Boxplot Differences in Number of Instructors on Motivation

