



BI Norwegian Business School - campus Oslo

GRA 19502

Master Thesis

Component of continuous assessment: Thesis Master of Science

Personality and performance ratings in a military training context: A study of personality predictions of interview ratings of leader potential, and military performance in a longitudinal perspective

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Start: 02.03.2017 09.00

Finish: 01.09.2017 12.00

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Programme:

Master of Science in Leadership and Organizational Psychology

Date of submission:

30.06.2017

This thesis is a part of the MSc programme at BI Norwegian Business School. The school takes no responsibility for the methods used, results found and conclusions drawn.

Acknowledgements

This thesis marks the end of our two-year long journey at BI Norwegian Business School. In that regard, we want to thank our supervisor Øyvind Lund Martinsen for his invaluable guidance during the process of writing this Master's thesis. We would also like to thank Thomas Hol Fosse at the Norwegian Defense University College (NDUC) for helping us get access to data, and for providing us with valuable inputs regarding the topic of military education. A good discussion with Joachim Berntsen Skouverøe at NDUC about military selection processes has also been valuable for this thesis.

Abstract

The use of personality assessments is increasing in popularity. However, personality assessments are relatively seldom used as a selection method in the Norwegian Armed Forces. The purpose of this study was to investigate the relation between personality, interview evaluations of leader potential, and military performance. The empirical research was conducted using data collected in conjunction with the research project *Lederkandidatstudien* (the leader candidate study). A total number of 1026 non-commissioned officer (NCO) candidates completed a NEO-PI-3 personality inventory, 1024 a leader potential evaluation during selection interviews, and the military performance of 475 NCO candidates was evaluated during the spring of 2016. The results of this study showed that neuroticism was the only personality trait significantly correlating with military performance in the Army (.218). In the same military branch, the selection interview was found to have a significant positive correlation with military performance (.144). Some amount of personality saturation was found in the selection interview of non-commissioned officer training school (NCOS), as extraversion (.197), conscientiousness (.109), and openness (.107) was found to correlate with interview ratings of leader potential. However, the results showed that neither interviews nor personality predicts the military performance of NCO candidates in the Navy or Air Force. As our results indicate that personality traits to some degree play a role in the selection of NCO candidates, we encourage researchers to further investigate the topic of personality traits the context of military selection and training.

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1.0 Introduction

According to The Norwegian Department of Defense, the most valuable resource of the Norwegian military is its personnel (Forsvarsdepartementet 2013, p. 7). However, the ability to attract, select, develop and retain the right personnel is also said to be one of the most important strategic challenges of the Norwegian Armed Forces (NAF) (Forsvarsdepartementet 2012, p. 16). Several methods can be applied in order to increase the chances of selecting the right personnel. Among these methods, the use of personality assessments is increasing in popularity (Rothstein & Goffin 2006, p. 156), as personality traits have been found to predict criteria such as leadership (Judge, Bono, Ilies & Gerhardt 2002) and job performance (Barrick, Mount & Judge 2001), in addition to more undesirable career- and job outcomes (Wille, De Fruit & De Clercq 2013). However, to the knowledge of the authors of this thesis, personality assessments are relatively seldom used as a selection tool in the NAF. This thesis will therefore investigate the ability of personality traits to predict ratings of leader potential in a military selection context, and military performance in a longitudinal perspective.

1.1 Context

The Non-Commissioned Officer Training School (NCOS) is the first step in NAF's three-leveled education system (Forsvarsdepartementet 2013, p. 49). As NCOS is the first step of NAF's effort to develop of what may be their future generals, it is considered a cornerstone in their education system (Forsvarets høyskole 2013, p. 2). The six NCO training schools of the armed forces (Forsvarsdepartementet 2013, p. 51) have the goal of developing leaders with the knowledge, skills and attitudes needed to solve challenging missions in times of peace, crisis and war (Forsvarets høyskole 2013, p. 2). Selecting the right personnel for admittance to NCOS is therefore of great importance, and should arguably be based on the best scientific evidence available.

According to Schmidt & Hunter (1998, p. 262), the most important aspect of a personnel selection method is its predictive validity - the degree to which it can

predict future outcomes, such as performance. Among the methods used to select candidates to NCOS are tests of cognitive and physical abilities, and selection interviews (Forsvarets høyskole 2014, p. 21). To the knowledge of the authors of this thesis, personality assessments are currently not used as a selection method by NCOS, even though personality traits have been found to predict both leadership (Judge et al. 2002) and job performance (Barrick et al. 2001). However, as the importance of various personality traits seem to be situationally contingent (Judge & Zapata 2015), research findings from other contexts may not necessarily be transferrable to NCOS. This thesis will therefore investigate the degree to which personality can predict the performance of cadets admitted to NCOS, in order to clarify the usefulness of personality assessments as a selection method.

As selection interviews are probably among the most commonly used selection methods world-wide (Moscoco 2000, p. 237), it may not come as a surprise that it is also used by NCOS. However, even though interviews are found to be both reliable (Conway, Jako & Goodman 1995), and valid predictors of job performance (Schmidt & Hunter 1998), far less is known about what constructs interviews actually capture (Roth, Iddekinge, Huffcutt & Eidson 2005, p. 262). However, some studies indicate that interviews may capture personality traits (Roth et al. 2005; Salgado & Moscoco 2002). This thesis will therefore investigate the degree to which the selection interview of NCOS captures personality traits - its amount of personality saturation (Roth et al. 2005). In order to discuss and compare our findings for personality traits in relation to the current selection methods of NCOS, this thesis will also investigate the predictive power of the NCOS selection interview in relation to military performance.

To summarize, the aim of this thesis is to investigate the role of personality traits in a military selection and training context; their role in explaining variance in interview evaluations of leader potential, and their ability to predict military performance in a longitudinal perspective, compared to selection interviews. Hopefully, this thesis can contribute to NAF's effort to select the personnel most likely to perform well as

military leaders, and increase their knowledge of what characterizes these individuals, with regards to personality traits.

1.2 Theoretical delineation

This thesis will use the *Military Service Statement* (MSS) of the Norwegian Armed Forces as a measure of performance (Appendix 1). The MSS is a standardized form used to evaluate the qualifications, performance and potential of NAF's personnel (Thomassen 2014, p. 11). It is filled out by the individuals' closest supervisor, who evaluates the cadet's performance on ten domains: *general leadership, responsibility, cooperation/communication, technical skills, judgement, writing skills, oral skills, creativity, coping, and perspective* (Thomassen 2014, p. 20). The evaluations of these ten domains, in addition to an "overall impression" score, are given on a five-point scale. The overall impression score summarizes the cadet's overall performance, and is supposed to reflect the average score of the ten domains (Thomassen 2014, p. 21). This thesis utilizes the overall impression score as a performance measure, when investigating the predictive validity of personality traits and the selection interview. As the overall score not only represents the individual's leadership performance, but also other performance related criteria, several theoretical constructs could potentially be considered and discussed. However, this thesis will view the MSS as a hybrid measure of leader effectiveness and job performance, which is in line with previous research (Fosse 2014, p. 11) utilizing the MSS as a dependent variable. Hence, when we use the term *military performance*, we refer to the overall MSS score of individuals in our sample.

Lastly, as the context of this study relates to training, one could argue that research findings relating personality traits to training performance (e.g. Barrick et al. 2001) would be important to consider. However, as the MSS is not a measure of training performance, but of military performance, we will not emphasize the aforementioned findings in this thesis. This does not mean that the context of this study will not be considered. NCOS is, and will be viewed as a training context, and the potential implications of this fact will be discussed in this thesis, regardless of the fact that the MSS is not an evaluation of training performance or learning.

1.3 Research question and thesis structure

The following research questions will be the focus of this thesis:

RQ1. Are personality traits predictive of military performance in a longitudinal perspective?

RQ2. Are selection interviews predictive of military performance in a longitudinal perspective?

RQ2.1. Is there personality saturation in a leader selection interview?

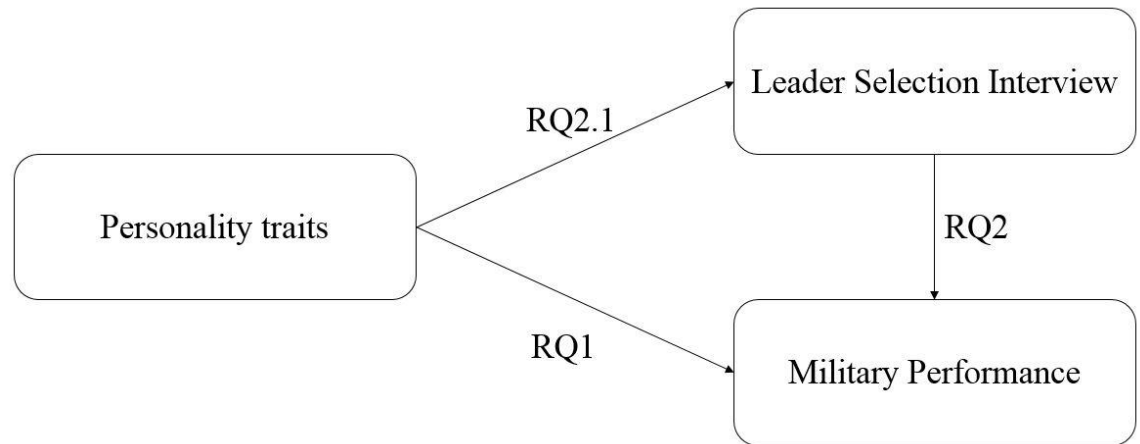


Figure 1: Research questions and thesis structure.

Research question 1 will be the focus of the first section of our thesis. We will begin by providing a background and overview of the field of personality trait research. We then continue by reviewing relevant literature, in order to generate hypotheses for the relation between personality traits and military performance. The next section will focus on research question 2 and 2.1 - selection interviews' ability to predict military performance, and the role of personality traits in selection interviews. We will review relevant literature to generate hypotheses, before we present our research method and findings.

2.0 Personality

Personality traits can be defined as “enduring dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions” (Costa & Widiger 2002, p. 5). Trait theory assumes that personality is relatively stable, meaning that human behavior is to some extent determined by the characteristics of

the individual, not just the situation at hand (Cooper 2010, p. 44). One of the studies supporting this view followed a group of people over a six-year period. The study showed that personality traits have high test-retest reliability (Costa and McCrae 1988), which suggests that individuals' personality is to some degree given. Hence, in the context of employee selection, selecting the individual with a personality that is suited for a given position may be beneficial, in order to align the individual's behavioral tendencies with the demands of the job (Judge & Zapata 2015, p. 1152).

The most widely used classification system for personality traits is the five-factor model (FFM), often referred to as *The Big Five* personality factors (DeYoung, Quilty & Peterson 2007, p. 880). In the 1960's, researchers Smith (1967) and Wiggins, Blackburn & Hackman (1969) demonstrated the usefulness of these five personality factors, with studies showing their ability to predict educational achievement for students. Since then, interest in the FFM has gradually increased, and so have researchers' view on the robustness of the model (Digman 1990, p. 421). As Goldberg (1981, p. 159) stated: "it should be possible to argue the case that any model for structuring individual differences will have to encompass – at some level – something like these "big five" dimensions".

Even though there is a fair amount of consensus with regards to the number of dimensions needed to capture most of the variance in personality, there is less agreement with regards to the meaning of these five factors (Digman 1990, p. 420). Several words have been used to describe their content. As an example, one of the factors has been labeled *surgency, assertiveness, power* and *social activity*, in addition to *extraversion* (Digman 1990, p. 423). Nevertheless, this thesis will base its discussions on the terms used in the NEO-PI-R (Costa & McCrae 1992), which is one of the most widely used personality assessments world-wide (Martinsen, Nordvik & Østbø 2011, p. 58). In this framework, personality is separated into five broad traits, each of them consisting of six facets, or lower order traits, as illustrated in figure 2.

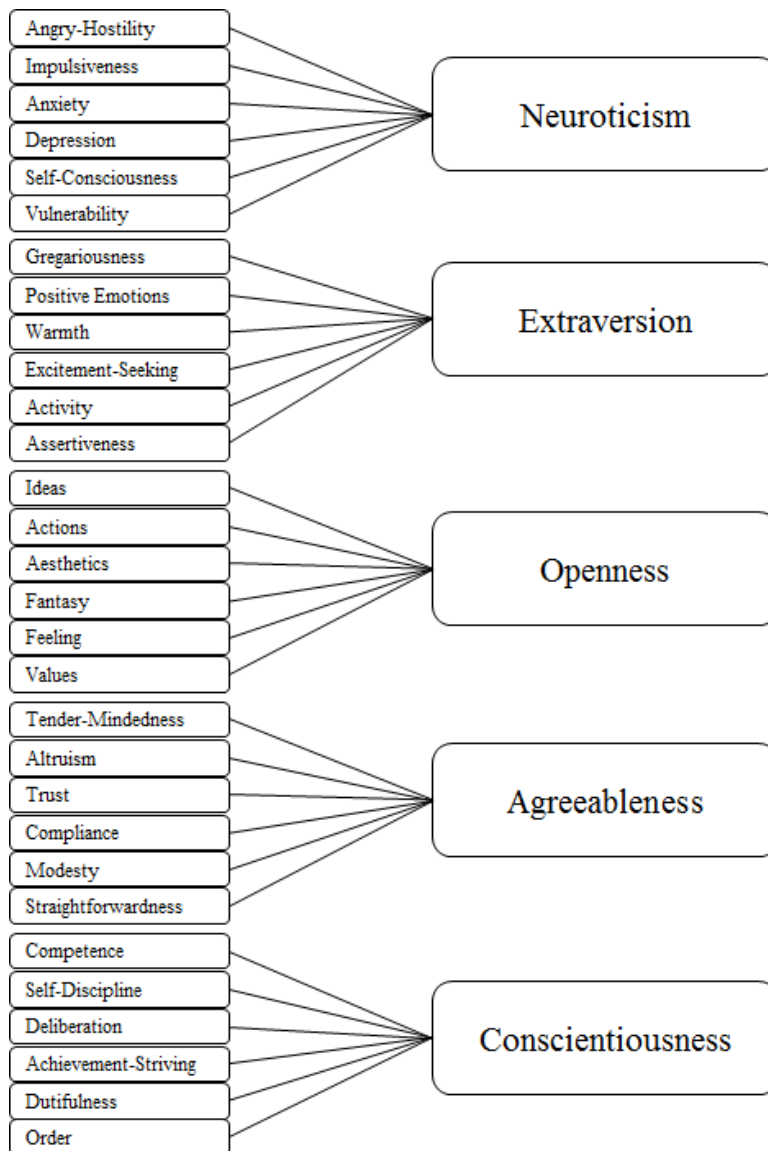


Figure 2: The FFM, based on Costa & McCrae (1992).

Individuals scoring high on the five factors can be described using different adjectives, as exemplified below (Cooper 2010, p. 51). Due to page constraints, we refer readers to the work of Costa & McCrae (1992) and Judge, Rodell, Klinger & Simon (2013, p. 877) for more thorough descriptions of personality factors and facets.

- **Neuroticism:** Anxious, angry, hostile, depressed, self-conscious, impulsive, vulnerable
- **Extraversion:** Warm, gregarious, assertive, active, excitement seeker, positive emotions

- **Openness:** Imaginative, moved by art, emotionally sensitive, novelty seeker, tolerant
- **Agreeableness:** Trusting, straightforward, altruistic, cooperative, modest, tender minded
- **Conscientiousness:** Competent, orderly, dutiful, motivated to achieve, self-disciplined, thinks before acting

2.1 The importance of lower versus higher order personality traits

In addition to the discussions regarding how to label the five factors, the hierarchical structure of the FFM traits is still an unresolved issue (Judge et al. 2013, p. 875). This issue consists of two main questions, where the first one concerns the number and nature of lower order traits, or so-called facets. The second, which will be a concern of this thesis, is the question of how important the facets are, compared to the broad FFM traits (Judge et al. 2013, p. 875). To exemplify, whether e.g. *competence*, which is a facet of the trait conscientiousness, is better suited to predict a given criteria than conscientiousness itself. Researchers Barrick, Mount & Judge, who in 2001 conducted a well-known study on the relation between personality and job performance, concluded that both lower and higher order traits play their part, but under different circumstances. More specifically, that lower order traits are better suited to predict narrow performance criteria, and that higher order traits are better suited to predict broad performance criteria (Barrick et al. 2001, p. 213). In a study by Judge et al. (2013), a comparison of broad and narrow traits' ability to predict job performance, was conducted in the form of a meta-analysis. Their findings showed that in most cases, moving from broad to narrow traits produced significant gains in the ability of personality to predict job performance (Judge et al. 2013, p. 891). In other words, facets of the FFM seem to be of greater importance than what was suggested by Barrick et al. (2001). Nevertheless, Judge et al. (2013, p. 893) also states that much is still unknown regarding under which circumstances the importance of facets comes into play. For example, whether or not specific facets are especially important for performance in certain types of jobs (Judge et al. 2013, p. 893). In other words, there are several questions to be answered regarding the importance of facets and broad traits in different contexts. Some researchers, e.g. Yukl and Van Fleet (1992, in Judge et al. 2002, p. 765) have gone so far as to say that "any trait's effect on leadership behavior will depend on the situation".

In 2015, researchers Judge and Zapata conducted a study that investigated the degree to which the situation at hand affected the predictive validity of personality traits. Their findings indicated that all the big five personality traits were more predictive of performance in situations that could be characterized as weak. Examples of such situations are when the individual has autonomy to make his or her own decisions, and situations where work can be characterized as unstructured (Judge & Zapata 2015, 1149). Furthermore, many of the traits showed increased predictive validity in situations that activated specific traits. For example, jobs requiring social skills seemed to increase the predictive validity of the trait extraversion (Judge & Zapata 2015, p. 1149). The findings of Judge & Zapata (2015), and Judge et al. (2013), raises two important questions for this thesis: (1) If the importance of a given personality trait is dependent on the situation, what kind of hypotheses can be outlined for the relation between personality and military performance? (2) Is the job of a non-commissioned officer one where specific facets are of greater importance than the broad FFM personality traits? These two questions will be addressed in the next sections of the thesis.

2.2 Personality and military performance

As mentioned in the introduction, this thesis will use NAF's military service statement as a measure of military performance. Furthermore, it was mentioned that the MSS could be viewed as a hybrid measure of leader effectiveness and job performance (Fosse 2014, p. 11). We will therefore, in this section of the thesis, review research on the relation between personality, leader effectiveness and job performance. The review will focus on the five broad personality traits, but also on the facets of the FFM, in accordance with the previous section's discussion about the importance of broad and narrow traits.

2.3 Leader effectiveness

Arguably, leadership is among the most researched topics in history, and according to Stogdill (1974, p. 256), there are almost as many definitions of leadership as persons who have tried to define it. However, leadership can be split into two broad categories (Lord, De Vader & Alliger 1986). One of them is *leader effectiveness*,

which can be defined as “a leader’s performance in influencing and guiding the activities of his or her unit toward achievement of its goals” (Stogdill 1950, p. 4). The second broad category is *leader emergence*, which is a field of study focusing on identifying factors associated with being perceived as “leader-like” (Judge et al. 2002, p. 767). As research question 1 of this thesis asks whether personality traits are predictive of military performance in a longitudinal perspective, leader effectiveness is the most appropriate category to base our further discussions on. Among the most commonly used methods of measuring leader effectiveness is through ratings made by the leader’s peer, supervisors and/or subordinates (Judge et al. 2002, p. 767). In other words, this thesis’ way of measuring leader effectiveness is in line with methods utilized by previous research.

2.3.1 Personality and leader effectiveness

Determinants of effective leadership is a topic that has received much attention from leadership researchers (Yukl 2006, p. 2). Among the earliest approaches to this research was the trait approach, which not only includes personality traits, but also other individual attributes and their ability to predict leader effectiveness (Yukl 2006, p. 180). The assumption in trait theory is that leadership is dependent on the personal qualities of the leader (Judge 2002, p. 765), and research shows that personality traits are important predictors of leadership (Derue, Nahrgang, Wellman & Humphrey 2011, p. 7; Judge et al. 2002, p. 765).

Based on the number of citations, a study by Judge et al. (2002) is among the most influential meta-analyses on personality traits and leadership. This arguably makes it a good starting point for a review of the relation between personality and leader effectiveness. In this study, the FFM was used as an organizing framework when reviewing and analyzing the relation between personality and leadership (Judge et al. 2002, p. 765). The study presents findings for both leader effectiveness and leader emergence, as well as overall findings, which entail a combination of the two criteria. Personality and leadership was found to have an overall correlation of .48 (Judge et al. 2002, p. 765), which shows that personality is important for leadership. When narrowing the leadership criteria down to include only leadership effectiveness, Extraversion and Openness was the factors showing the highest correlations (.24),

followed by Neuroticism (-.22), Agreeableness (.21), and Conscientiousness (.16) (Judge et al. 2002, p. 772). In the same study, results were also split into different study settings, one of them being *government/military*. However, these results involved the use of an overall leadership criterion, meaning that the dependent variable was comprised of both leader effectiveness and emergence. Nevertheless, since context seem to be important to the predictive validity of personality traits (Judge & Zapata 2015), we will emphasize the findings from the government/military setting the most. An overview of the findings from the government/military context is visualized below, compared to the overall findings of the study.

Table 1: Correlations between personality traits and leadership (Judge et al. 2002).

<u>Personality trait</u>	<u>All settings/Overall</u>	<u>Government/military</u>
Neuroticism	-.24*	-.23*
Extraversion	.31*	.16*
Openness	.24*	.06
Agreeableness	-.08*	-.04
Conscientiousness	.28*	.17*

Note: * = $p < .05$.

As shown in table 1, the findings of Judge and colleagues (2002), indicate that personality traits are important for both military- and overall leadership. However, the factors do not seem to be of equal importance in both contexts. Considering the findings of Judge & Zapata (2015), this can be a result of the fact that business- and military leadership takes place in two different contexts. However, that does not explain why the five factors seem to be stronger predictors of leadership when all study settings are included. It seems reasonable to assume that the category “government/military” includes studies with comparably more homogenous contexts than the category “all settings”, and that this would lead to more coinciding results, and therefore stronger correlations. Another possible explanation could be that this is an indication of the five factors being too broad to predict military leadership, thus potentially masking personality-leadership relations (Judge et al. 2002, p. 769). Nevertheless, the findings of Judge et al. (2002) indicates that neuroticism, conscientiousness and extraversion are the strongest predictors of military leadership,

and that openness and agreeableness seem to be of less importance (Judge et al. 2002, p. 773). As the performance measure of this thesis not only measures leadership effectiveness, but also job performance, we will in the next section review literature focusing on the relation between personality and job performance.

2.4 Job performance

Job performance can be defined as “scalable actions, behavior and outcomes that employees engage in or bring about that are linked with and contribute to organizational goals” (Viswesvaran & Ones 2000, p. 216). Two central facets, or sub-dimensions, of job performance are task performance and contextual performance (Judge et al. 2013, p. 876). Task performance refers to performing role-prescribed activities, while contextual performance refers to all other helping and productive behaviors (Borman & Motowidlo 1993, cited in Viswesvaran & Ones 2000, p. 217). Job performance is a broad, but important construct to much of work psychology (Viswesvaran & Ones 2000, p. 216). It is among the most popular applications of the FFM (Judge et al. 2002, p. 767), and more than ten meta-analyses have been conducted on the relation between these two variables (Judge et al 2013, p. 875). Among these, Barrick and Mount’s (1991) meta-analysis has received over 8000 citations in Google Scholar, which is a testimony of the study’s impact, and researchers interest in the topic of personality and job performance. However, we will base our continued discussion on a study by Barrick, Mount & Judge (2001), as it provides us with a more updated summary of previous meta-analytic studies’ findings on the relation between the FFM and job performance. Another benefit of this study, is that it presents findings for job performance in different types of jobs, one of them being management (Barrick et al. 2001), which arguably is the most relevant findings to base our further discussions on.

2.4.1 Personality and job performance

As stated by Barrick et al. (2001, p. 11), “it is hard to conceive of a job where it is beneficial to be careless, irresponsible, lazy, impulsive and low in achievement striving” (low conscientiousness). They therefore hypothesized that conscientiousness and job performance would be positively correlated (Barrick et al. 2001, p. 11). A

similar argument was made regarding the characteristics of neurotic individuals, and the researchers expected emotional stability (low neuroticism) to be beneficial (2001, p. 11). In other words, both conscientiousness and neuroticism were hypothesized to predict job performance in any type of job. Regarding the three remaining dimensions of the FFM, Barrick et al. argued that their ability to predict performance would be context or job dependent. In the case of extraversion, the researchers expected management to be a job where this trait is of importance, as interactions with others is a central part of managerial work (Barrick et al. 2001, p. 12). Regarding the two last dimensions, the researchers expected agreeableness to be a predictor of performance in jobs involving considerable amounts of teamwork, and openness to be a good predictor of training performance (Barrick et al. 2001, p. 12).

Overall, the findings of Barrick et al. (2001) arguably show similarities with Judge and colleagues' (2002) findings regarding personality and leadership. More specifically, the findings of Barrick et al. (2001) indicate that extraversion, conscientiousness and neuroticism are predictors of job performance (2001, p. 9). Extraversion was found to have a positive correlation with both managerial performance (.21) and police officer performance (.12) (2001, p. 19), which arguably are relevant settings to the further discussions of this thesis. Regarding emotional stability, this factor was found to be a predictor of performance across jobs (.13) (2001, p. 19). In line with the expectations of the researchers, conscientiousness was consistently found to be the strongest predictor of job performance across jobs (.27) (2001, p. 21). Lastly, just as openness and agreeableness were the factors correlating weakest with military leadership in the study by Judge et al. (2002), these factors showed comparable results in relation to job performance (Barrick et al. 2001, p. 20). Hence, based on the studies reviewed so far, one can assume that these two factors are unlikely to show a meaningful relation with military performance. However, the situational dependency of personality traits (Judge & Zapata 2015) should arguably be considered. We will therefore, in the next section of this thesis, conduct a review limited to military populations and settings, to see if support for the tendencies found so far will be found in military contexts as well.

2.5 Personality, leadership effectiveness and performance in military settings

In a study by McCormack & Mellor (2002), the relation between the FFM and leadership effectiveness was investigated in a sample of Australian officers. Using a measure of the FFM as a predictor, and the annual appraisal report of the Australian Army as a measure of leader effectiveness (McCormack & Mellor 2002, p. 183), findings indicated that effective leaders in the Australian Army were characterized by high conscientiousness and openness, and by low extraversion (McCormack & Mellor 2002, p. 192). In other words, the findings for conscientiousness coincide with the studies reviewed so far. Even though the same cannot be said for extraversion and openness, it is to be noted that the sample of McCormack and Mellor (2002) was small, and that all officers in the sample was quite extraverted (McCormack & Mellor 2002, p. 193). The same applied for neuroticism - the sample of officers typically scored low or average on this dimension (McCormack & Mellor 2002, p. 194). Hence, the results may have been different with a larger and more diverse sample, with regards to personality trait scores. Another limitation that should be noted is that the study's sample only included senior officers (McCormack & Mellor 2002, p. 190). Hence, it may be that a "tendency towards informing oneself of issues and events beyond the scope of one's employment demands" (McCormack & Mellor 2002, p. 193) increases the effectiveness of senior officers, but necessarily younger officers and cadets. Nevertheless, McCormack & Mellor found openness to be the strongest predictor of leader effectiveness among their sample of officers (McCormack & Mellor 2002, p. 193), which is surprising, considering the previously reviewed studies.

A study by Bartone, Eid, Johnsen, Laberg & Snook (2009), which investigated the relation between the FFM and leadership performance in a sample of West Point cadets, may therefore be worth considering. In this study, leader performance was operationalized using supervisor ratings of cadets' military performance and leadership (Bartone et al. 2009, p. 12). Results showed that leader performance in a field training environment was predicted by extraversion, while conscientiousness was the best predictor in the academic period of the training (Bartone et al. 2009, p. 2). As the training of the NCO cadets in the sample of the current thesis also vary

between theoretically focused periods, and periods of field exercises (Forsvarets høyskole 2013, p. 7), it seems reasonable to assume that both extraversion and conscientiousness will be positively correlated with the military performance of NCO cadets.

2.5.1 Existing studies of personality and military performance in the NAF

A few studies have investigated the relation between personality and military performance among personnel in the Norwegian Armed Forces (NAF). In one of them, which used the MSS as a measure of performance, conscientiousness was found to correlate positively with the performance of military academy cadets (.20), while the four remaining personality factors either showed very weak or non-significant relations with performance (Fosse et al. 2014, p. 12). However, as the authors mention, the sample was relatively small, which may limit the generalizability of the results (Fosse et al. 2014, p. 14). Nevertheless, the findings lend support to literature suggesting that conscientiousness is a predictor of performance across settings (Barrick et al. 2001, p. 9). In addition to samples of military academy cadets, other groups of military personnel in the NAF have been studied with regards to personality and performance (Fosse 2014, p. 9). As these studies have found either weak or nonsignificant correlations, it could seem as if the military population in the NAF to some degree differs from civilian populations (Fosse 2014, p. 9). However, to the knowledge of the authors of this thesis, no studies have investigated a large sample of NCO cadets, and it is therefore possible that findings from our context may differ from the ones of previous studies. Another possibility is that the weak or nonsignificant findings of previous studies (Fosse 2014, p. 9) can be explained from the perspective of situation strength (Judge & Zapata 2015). If so, the context of NCOS should arguably be considered from this perspective as well. On one hand, one could argue that the context of NCOS should be characterized as weak, as working as a leader arguably entails variety, decision-making, unstructured work and responsibility for others (Judge & Zapata 2015, p. 1149). From this perspective, one could expect to find amplified personality-performance validities (Judge & Zapata 2015, p. 1149). On the other hand, NCO candidates are in fact in a training context, supervised by experienced leaders (Forsvarets høyskole 2013, p. 2), which may increase the situation strength (Judge &

Zapata 2015, p. 1151). As the NCO candidates are not yet working as leaders, but undergoing a structured training program to become military leaders, it seems reasonable to consider the situation strength of the context of NCOS to be relatively high. Hence, NCO candidates' expression of their own personality could be constrained (Cooper & Withey 2009, p. 62), and in such situations, personality traits are likely to be less predictive of performance (Judge & Zapata 2015, p. 1149). Nevertheless, if we consider the sum of the findings of all the studies reviewed so far, it still seems reasonable to expect that certain personality traits will predict the military performance of NCO cadets. Based on our literature review, we present the following hypotheses:

H1. Personality predicts military performance.

H1a. Neuroticism is negatively related to military performance.

H1b. Extraversion is positively related to military performance.

H1c. Conscientiousness is positively related to military performance.

2.6 Interaction between personality traits

It could be risky to base personnel hiring decisions on only one single personality aspect, according to Hogan, Hogan & Roberts (1996, p. 470). They argue that it is better to use a combination of scales to predict performance criteria, because the influence of one personality trait on a person's behavior also depends on other traits (Hogan et al. 1996, p. 470). However, little attention has been given to this view on interactions between personality traits, and its implications for the prediction of job performance (Witt 2002, p. 835). However, findings indicate that conscientiousness could, to some degree, affect the relationship between extraversion and performance. (Witt, 2002). Similarly, extraversion may affect the relationship between conscientiousness and performance, in the way that the link will be stronger for extraverts (Witt, 2002, p. 847). In addition, studies on personality traits and the *interpersonal circumplex* indicate a possible interaction between extraversion and agreeableness (e.g. McCrae & Costa, 1989; Hofstee, De Raad, & Goldberg, 1992). Witt (2002, p. 848) suggests that future research could benefit from looking at interactions between personality traits, especially in situations where one is faced

with unexpected research results.

As the amount of research on interactions between personality traits is sparse, it is difficult to outline hypotheses for the potential for it to be the case in a military setting. However, we are open to conducting exploratory research in this thesis. As researchers have called for investigations on the topic of interactions, and findings of previous studies suggest that interactions between personality factors may influence the prediction of performance, we raise the following question:

Do interactions between personality traits affect the relationship between personality traits and military performance?

2.7 Personality facets and military performance

The previous sections of this thesis have mainly focused on the five broad traits of the FFM. However, we have also touched upon the topic of the importance of broad vs. narrow traits, and raised the following question: Is the job of a non-commissioned officer one where specific facets are of greater importance than the broad FFM personality traits? Researchers have called for studies that investigate the relation between FFM facets and performance criteria (e.g. McCormack & Mellor 2002, p. 196). We will therefore in this section seek to address this issue in the form of a literature review, with the aim of identifying facets that may have stronger relations with military performance than the broad FFM traits. We will first review the leadership literature, before we proceed with a review of the job performance literature. A challenge in this regard is the fact that several different inventories are used to measure personality, some of them with traits and facets that have different names than the ones used in the NEO framework. We will therefore use Judge and colleagues' (2013, p. 904) classification of personality facets into the NEO framework (Costa & McCrae 1992), as a way of categorizing facets from other inventories.

In Judge and colleagues (2002) meta-analysis, "results provided mixed support for differential validity of lower order traits" (Judge et al. 2002, p. 770). Six facets of the

FFM were investigated, namely: locus of control and self-esteem (neuroticism), sociability and dominance (extraversion), achievement and dependability (conscientiousness). The findings for the facets of extraversion and conscientiousness did in fact relate stronger to leadership than their respective broad trait. However, the same results were not found for the two neuroticism-facets (Judge et al. 2002, p. 771). Nevertheless, the findings of Judge et al. (2002) provide us with four facets that seem worth investigating further.

Based on a review of literature on the relation between personality and military leadership, Vickers (1995, p. 19) outlines a tentative personality profile including facets from the neuroticism, conscientiousness, agreeableness, and extraversion domain. Due to the limited amount of data available on the openness to experience domain, this factor was not included (Vickers 1995, p. 18). If we summarize and combine the findings of Judge et al. (2002, p. 771) and Vickers (1995, p. 19), the following FFM facets may potentially show personality-leadership relations that are masked by the broad traits:

Table 2: NEO facets’ potential relation to leadership, based on Judge et al. 2002 & Vickers 1995.

Personality trait	Potential relation to leadership	
	Negative	Positive
Neuroticism	Depression (Vickers, 1995) Vulnerability (Vickers, 1995)	
Extraversion	Gregariousness (Vickers, 1995)	Assertiveness (Judge et al. 2002; Vickers, 1995) Gregariousness (Judge et al., 2002)
Agreeableness		Trust (Vickers, 1995)
Conscientiousness		Achivement striving (Judge et al., 2002) Dutifulness (Judge et. Al., 2002) Self-dicipline (Vickers, 1995) Competence (Vickers, 1995)

Note: Openness to experience was excluded due to limited data.

Vickers (1995, p. 19) also included other personality traits, in addition to those included in table 2. However, as they are not included in Judge and colleagues’ classification framework (2013, p. 904), we excluded them from our overview. This issue is an example of one of the challenges faced by personality researchers over the

years, namely the lack of consensus regarding how to label and describe personality traits (Barrick et al. 2001, p. 9). Another issue is that Vickers (1995, p. 19) considered the facet gregariousness to be inconvenient for leadership, while Judge et al. (2002, p. 771) found it to be the opposite. We therefore redirect our focus to the relation between personality and job performance, to see if findings from this field can provide some clarity.

The purpose of a study by Judge and colleagues (2013) was to investigate the degree to which the broad and narrow traits of the FFM contributed to the prediction of job performance (Judge et al. 2013, p. 876). The study presented findings with overall job performance, task performance and contextual performance as dependent variables. To conserve space, we present an overview of the findings in table 3, below.

Table 3: Broad and narrow traits correlations with job performance (Judge et al. 2013).

<u>Personality trait</u>	<u>Overall job performance</u>	<u>Task performance</u>	<u>Contextual performance</u>
Conscientiousness	.26**	.25**	.32**
Achievement striving	.23*	.20*	.29*
Dutifulness	.21*		
Self-discipline	.19*		
Agreeableness	.17**	.10**	.18**
Tender mindedness	.18*	-.02*	
Compliance	.13*		.19*
Trust		.12*	
Neuroticism	-.10**	-.08**	-.16**
Impulsiveness	-.13*		
Depression		-.16*	
Angry hostility			-.24*
Openness	.11**	.12**	.03*
Fantasy	-.14*		-.07*
Values	.15*	.16*	.09*
Extraversion	.20**	.12**	.22**
Excitement seeking	-.05*		-.07*
Positive emotions	.20*		.28*
Activity		.14*	

Note: ** = $p < .01$, * $p < .05$

The overview (table 3) of broad and narrow personality traits' relation to job performance requires some explanation. As the NEO framework of Costa & McCrae (1992) includes 30 facets, we decided to include only those having the highest correlations with job performance, either in a positive or negative direction. This decision was made based on the purpose of this section of our thesis, which is to assess the potential for facets of the FFM to predict military performance to a *greater extent* than the five broad traits. Conscientiousness and its facets showed the highest correlation with overall job performance, task performance and contextual performance, which is in line with the findings of Barrick et al. (2001). However, it is to be noted that the broad trait exceeded the strongest facet correlations on all three performance criteria (Judge et al. 2013). Hence, it could be argued that neither of the conscientiousness facets can be expected to be stronger predictors of military performance than the broad trait. In the case of agreeableness, the facets tender mindedness, compliance and trust barely exceeded the broad traits' correlation with each their performance criteria (Judge et al. 2013). For neuroticism, the facets impulsiveness, depression and angry hostility also exceeded the broad traits' correlation on each their performance criteria (Judge et al. 2013). Similar tendencies can be seen for openness, while positive emotions were the facet of extraversion that stood out the most, with its correlation with contextual performance (Judge et al. 2013).

If we are to merge the findings of Judge et al. (2002), Vickers (1995) and Judge et al. (2013) into an aggregated overview of facets potential relation with military performance, we are faced with the following question: How much emphasis should be given to the findings from research on personality and leadership, compared to the findings from research on personality and job performance? No clear answer exists, as it is a question of the degree to which the overall score of the military service statement reflects one of the two constructs more than the other. However, as the NCO cadets in our sample are in fact taking part in a leadership training program, it seems reasonable to assume that the MSS assesses the cadets' effectiveness as leaders to a larger degree than their performance. Consequently, more emphasis should be put on the findings from research on personality and its relation to leadership.

However, even then, it is difficult to conclude regarding which facets that can be expected to show stronger relations to military performance than their respective broad trait. For example, Vickers (1995, p. 19) considered the facet gregariousness to be inconvenient for leadership, while Judge et al. (2002, p. 771) found it to show stronger relations to leadership than the broad trait extraversion. Another example that highlights these issues, is that even though one in light of Vickers (1995) and Judge et al. (2002) would expect achievement-striving to be a more potent predictor of leadership than conscientiousness, Judge et al. (2013) found the opposite to be true in relation to job performance. Instead of presenting hypotheses for the FFM facets' relations to military performance on questionable grounds, we simply raise the following question:

Are facets of the FFM stronger predictors of military performance than the five broad factors?

Based on our literature review, we expect to find relations between personality traits and military performance. However, in order to assess the utility of personality assessments, it would be beneficial to compare our results with one of the current selection methods employed by NCOS. Furthermore, what if personality traits already play a role in the current selection process of NCOS, in the form of being measured indirectly during their selection interview? To address these issues, the next section of this thesis will focus on the selection interview. The section will be divided into two parts. First, we will review relevant literature, to assess the potential for selection interviews to predict performance. Next, we will consider the topic of personality saturation in selection interviews. This way, we will be able to investigate the utility of personality assessments in the context of NCOS, from two perspectives; (1) Isolated, and (2) in comparison to the NCOS selection interview.

3.0 Selection interviews

Among the methods that can be applied in order to select the right candidate for a job, the selection interview is one of the most frequently used (McDaniel, Whetzel, Schmidt & Maurer 1994, p. 599), and has been so for many decades. In 1957, studies

indicated that 99 percent of companies used selection interviews in their hiring processes (Spriegel & James 1958, cited in Ulrich & Trumbo 1965, p. 100). The goal of selection interviews is to predict future job performance based on candidate's oral responses to oral inquiries (McDaniel et al. 1994, 599). The content of interviews is typically; occupational experience, academic achievement, interpersonal skills and personal qualities (Mondy & Mondy 2014, p. 171). Interviews can be differentiated based on their degree of standardization (McDaniel et al. 1994, p. 601). Those that gather information in a less systematic manner are named *unstructured* interviews. On the other side of the standardization continuum, is the *structured* interview (McDaniel et al. 1994, p. 602). This type of interview includes the use of a printed form containing specific items to be covered, and has a uniform method of recording and rating the oral responses of the interviewee (McDaniel et al. 1994, p. 602).

3.1 The validity and reliability of selection interviews

As several types of interviews exist, the validity and reliability of interviews will vary. In a meta-analysis by McDaniel et al. (1994, p. 604), selection interviews were found to be reliable. However, when separating the structured interviews from the unstructured, they found an average reliability of .84 for structured and .68 for unstructured interviews. These reliability estimates have previously been used by Gimsø (2014, p. 42) when considering the selection interview's reliability in a Norwegian military context. Schmidt and Hunter (1998) is one of several meta-analyses that have investigated the validity of employment interviews for overall job performance. Their results showed that structured interviews have a predictive validity of .51, while the unstructured interviews were found to have a predictive validity of .38 (Schmidt & Hunter, 1998, p. 265). However, recent results have found both structured and unstructured interviews to have a predictive validity of .58, similar to tests of general mental ability (Schmidt, Oh & Shaffer 2016, p. 17). Hence, both structured and unstructured interviews generally seem to be valid methods for predicting performance.

3.2 Potential challenges with selection interviews

Even though Schmidt et al. (2016) now have found equal operational validity of the structured and unstructured interview, “few conclusions have been more widely supported than the idea that structuring the interview enhances reliability and validity” (Campion, Palmer & Campion 1997, p. 665). However, there are several issues researchers should be aware of with regards to interviews. When evaluating an interview, the interviewers should rate each single answer on a scale, to be as structured as possible (Campion et al. 1997, p. 674). Another possibility, which may give slightly more flexibility during the interview, is to have several ratings at the end. However, this would reduce the ratings relatedness to each question (Campion et al., 1997, p. 674). Campion et al. (1997, p. 675) also stresses the importance of using detailed anchored rating scales, which helps the raters have realistic expectations when assessing answers provided from the candidates.

In employment interviews, multiple interviewers might be beneficial, as they could reduce individual biases in the evaluation process (Campion et al. 1997, p. 680). Additionally, it could make it easier for several interviewers to remember key details from the answers given by the candidate (Stasser & Titus, 1987, p. 88). Campion et al. (1997, p. 681) also states that the reliability of interview ratings would be higher when there are several raters. Using the same interviewers could also be advantageous, as it can reduce the candidate rating variance stemming from interviewers, from the actual score variance (Campion et al., 1997, p 682). Interviewers should also be aware that candidates may use various kinds of influence tactics (Yukl, Falbe, & Youn 1993, p. 7) during selection interviews. A study by McFarland et al. (2002, p. 392) showed that candidates used soft tactics to a significant extent and that the use of these tactics were positively correlated with interview ratings. Hence, it may be beneficial for the interviewer to consider influence tactics that may potentially be used by candidates during interviews.

As interviews have been found to be reliable (e.g. McDaniel et al. 1994) and valid predictors of job performance (Schmidt et al. 2016), it seems reasonable to assume that the selection interview of NCOS could predict military performance. However,

its reliability and validity will depend on the degree to which the aforementioned issues and challenges are taken into consideration. Based on our literature review, we present the following hypothesis:

H2. Selection interviews are predictive of military performance.

3.4 Personality saturation in selection interviews

Even though selection interviews have been found to be both reliable (McDaniel et al. 1994; Conway et al. 1995), and valid predictors of job performance (Schmidt & Hunter 1998; Schmidt et al. 2016), far less is known about which constructs interviews actually capture (Roth et al. 2005, p. 262). There is substantial interest in this topic among both managers and researchers, and one of the questions raised is how much personality saturation there is in interview ratings (Roth et al. 2005, p. 261). Personality saturation in interviews refers to the degree to which measures of personality is related to interview ratings (Roth et al. 2005, p. 261). According to a study by Roth and colleagues (2005, p. 271), the current literature has found personality saturation in structured interviews to be low. However, they also note that the amount of studies on this topic is sparse, and that existing studies have focused on just a few types of jobs. Hence, it is possible that interviews for other types of jobs are more saturated with personality than existing research has found (Roth et al. 2005, p. 270).

Through increased knowledge of personality saturation in selection interviews, one may learn more about which constructs are actually being measured when predicting performance (Hough, 2001, cited in Roth et al., 2015, p. 261). In turn, knowing what the selection interview measures could give interviewers valuable insight when assessing candidates for various positions. For example, personality has been found to predict turnover (Barrick & Mount 1996, p. 261) and counterproductive work behaviors (Hough, Eaton, Dunnette, Kamp & McCloy 1990). Hence, if personality saturation in an interview is high, the interview could potentially predict other criteria, in addition to leadership (Judge et al. 2002) and job performance (Judge et al. 2013). Increased knowledge of which constructs the selection interview of NCOS

captures could therefore be useful, considering NAF's challenges with attracting, selecting and retaining its personnel (Forsvarsdepartementet 2012, p. 16).

In the meta-analysis conducted by Roth et al. (2005), which investigated relations between personality and interview ratings, only weak relations between the variables were found. The strongest observed correlations were for conscientiousness (.12), followed by extraversion (.08). The three remaining FFM traits, agreeableness, openness, and neuroticism, correlated even weaker with interview ratings. To some degree, this is in accordance with the findings of another meta-analysis on the topic of personality saturation, by Salgado & Moscovici (2002). In this study, interviews were grouped into two categories; conventional interviews, which often include questions aimed at checking credentials, description of experience, and self-evaluative information, and behavioral interviews, which typically address questions regarding job knowledge, job experience, and behavior descriptions (Salgado & Moscovici, 2002). Results from their meta-analysis of the behavioral interview showed that extraversion (.10) and conscientiousness (.08) had the strongest correlations. The correlations for agreeableness (.06), openness (.04), and neuroticism (.04) were also low in this meta-analysis. However, when looking at the conventional interview in relation to the personality factors, stronger relations were found. More specifically, they found that the conventional interview assessed the FFM personality dimensions to a larger degree than the behavioral interview (Salgado & Moscovici 2002, p. 299). Among the five personality factors, emotional stability had the strongest correlation (.38), followed by extraversion (.34) and openness (.30) (Salgado & Moscovici, 2002, p. 310). Conscientiousness and agreeableness had a respective correlation of .28 and .26 (Salgado & Moscovici, 2002, p. 310). Thus, it seems as if the amount of personality saturation in selection interviews is to some degree dependent on the type of interview used.

3.5 Personality saturation in leader selection interviews

Based on our review of Roth and colleagues (2005) article, one should expect interviews to have little personality saturation. However, as Roth et al. argues, the amount of literature on the topic is sparse. Furthermore, as their study primarily focused on jobs related to customer service (2005, p. 270), it is possible that findings

would be different for interviews to other types of jobs. Contrary to the findings of Roth et al. (2005), Salgado & Moscoso (2002) did find noteworthy relations between personality and interviews, especially the ones that were characterized as conventional interviews. If we combine these findings with the ones from our review of the literature on personality and leadership, an investigation of the degree of personality saturation in the selection interview would be in its place. As it is possible that interviews for other types of jobs may be more saturated with personality than current research has found (Roth et al. 2005, p. 270), an investigation of NCOS' selection interview would add to what we know about personality saturation in interviews, by providing findings from a new setting. Furthermore, as personality seems to be of importance to leadership, one could assume that measures of personality would be related to interview scores rating the leader potential of interviewees. More specifically, as the literature reviewed in this thesis indicate that neuroticism, extraversion and conscientiousness would be the best predictors of leadership, it seems reasonable to assume that these factors also would be related to interview ratings of leader potential. Based on our literature review, we present the following hypotheses:

H3. Personality is related to interview ratings of leader potential.

H3a. Neuroticism is negatively related to interview ratings of leader potential.

H3b. Conscientiousness and extraversion are positively related to interview ratings of leader potential.

4.0 Method

In this section, the methods used in this thesis will be explained. First, our sample and procedure will be outlined, before we present the measures used, and our approach to the statistical analysis. Dropouts and missing data will also be accounted for.

4.1 Sample and Procedure

The sample consisted of 1293 applicants to the non-commissioned officer training school of the Norwegian Armed Forces, and was collected by Lederkandidatstudien (the leader candidate study) 2015-2018. Only data from 2015 and 2016 is included in

the present study, as these were the only data available to us. All participants had been informed about the study, and had given their written consent to participate. Both males (N=966) and females (N=229) were included in the sample. There were no gender data on the remaining applicants (N=98). The age ranged between 17 and 30, with a mean of 19,75 years of age.

The data were collected at two different points in time, and the number of participants varied across different measures. Personality measures from the NEO-PI-3 inventory (N=1003-1026) and interview ratings of leader potential (N=1024), were collected during the admission process in the summer of 2015. This period will be referred to as T1. The candidates were told that the personality measures would only be used for research, as the Norwegian Armed Forces do not use personality measures in their selection process. Ratings from the military service statement were collected in May 2016, nearly a year after the NCOS selection process. This period will be referred to as T2. By conducting our measurements at two different points in time, it was possible to measure the ability of personality traits and interview ratings to predict military performance. See table 4 for an overview of the available data from the personality measurement, the selection interview and the military service statement.

The selection process of NCOS is conducted yearly, and is a joint process between the respective NCO schools of the NAF. Candidates participating in the selection process had previously been screened and selected based on different criteria, such as an examination of men and women liable for military service and grades from high school (Forsvarets høyskole 2014). Every candidate had to undergo psychological, physical, and medical examinations, and was excluded from the final part of the selection process if they did not satisfy the minimum requirements (Forsvarets høyskole 2014). In the final part of the process, candidates offered NCO admission were those judged to have better qualifications based on the physical tests, interview ratings, and the field exercise.

Table 4: Available data from the personality measures, the selection interview, and the military service statement.

	<u>T1</u>	<u>T2</u>
<u>Personality Measurement</u>	N = 1003-1026 (77,6-79,4 %)	
<u>Selection Interview</u>	N = 1024 (82,8 %)	
<u>Military Service Statement</u>		N = 475 (36,7 %)

Note: Numbers in brackets is percentage of total N = 1293. T1 = Admission process summer 2015. T2 = May 2016.

4.2 Measures

As mentioned, data in the present study have been collected at two different points in time - T1 and T2. Hence, our prediction of military performance is made in a longitudinal perspective (Bryman & Bell 2011, p. 715). The data collected allows us to investigate whether measures of personality (NEO-PI-3), either at a factor or facet level, can predict military performance, measured using the military service statement.

4.2.1 NEO-PI-3

Candidates in the NCO admission process completed a Norwegian version of the NEO-PI-3, which is a revised version of the well-used NEO-PI-R for measurement of the FFM of personality (Costa and McCrae 1992). The inventory has showed evidence of high validity (Costa and McCrae 1992); the same goes for the Norwegian version of it (Martinsen et al. 2011). The items in this study were scored on a five-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Before completing the personality inventory, the candidates were told that their answers would only be used for research purposes and not as selection criteria.

4.2.2 Selection Interview

As mentioned, candidates went through a selection interview in the NCO admission process. The first part of the interview consisted of general/practical questions about things like driver's license and willingness to deploy in international operations. The

second part of the interview, which is the origin of the data used in the present study, was an assessment of the candidate's leader potential. The goal of this part of the selection interview is to get a predictor of candidates' leader potential in the NAF, after graduating NCOS. The candidates were assessed by interviewers on a scale from 1 to 9, where the score 1-3 is considered below average, 4-6 average, and 7-9 above average. According to Gimsø (2014), these interviews last for approximately 60 minutes and are held by trained and experienced officers. Two interviewers are usually present during these interviews. In the assessment of leader potential, the main criteria were *values and attitudes*, *self-awareness* and *self-efficacy*.

The interviews followed a standard template, but the interviewers had the opportunity to put more emphasis on topics they considered appropriate for each candidate, according to Gimsø (2014). He therefore characterized the interviews as semi-structured (Gimsø 2014). As we were unable to estimate the reliability and the validity of the present selection interviews, we chose to use the same assumptions as Gimsø (2014, p. 42). He assumed that the reliability of the interviews was closer to the meta-analytic findings of McDaniel et al. (1994) for structured interviews, which were .84, than for unstructured interviews, which were .68.

4.2.3 Evaluation of NCO Candidate's Leader Potential

The military performance of NCO cadets was evaluated at the end of the first year of their two-year long education. The military service statement is written by their superior officer and is intended to judge NCO cadets' qualifications, skills, and leader potential. The military performance was assessed with a standard officer evaluation scale of the NAF, consisting of 10 items. These were: *general leadership*, *responsibility*, *cooperation/communication*, *technical skills*, *judgment*, *writing skills*, *orals skills*, *creativity*, *coping*, and *perspective* (Thomassen 2014, p. 20). Cadets were rated on a 5-point Likert-type scale (below average, slightly below average, average, slightly above average and above average). In the present study, data from 475 non-commissioned officers were collected, almost a year after their NCO admission.

4.3 Control Variables

Even though the admission process is a joint process for the Norwegian Navy, Air Force and Army, it is important to note that the respective NCO schools may have filled out the service statement differently. Thomassen (2014, p. 35) found that there were significant differences between the main impression scores of the military service statement between the different military branches. This is problematic when assessing correlations between both personality (NEO-PI-3) and military performance (military service statement) and between the interview (leader potential) and military performance (military service statement) in the present study. On this basis, we made and included control variables for the different NCO schools in the study, to rule out alternative explanations for our findings. School affiliation was encoded by using three dummy variables. Dummy variable 1, Navy Forces = 1, others = 0. Dummy variable 2, Air Force = 1, others = 0. Dummy variable 3, Army = 1, others = 0. We didn't include or make dummy variables for the National Guard (N=38) and The Norwegian Defense University College of Engineering - Telematics (N=30) due to the small number of candidates. Gender and age were used as control variables, to check whether they accounted for any of the observed variation.

4.4 Statistical analysis

The statistical program IBM SPSS version 24 was used to conduct statistical calculations. Cronbach's alpha (α) was used to estimate the internal reliability before we conducted descriptive statistics. Then, an investigation of the factor similarity between the personality measures collected in the present study and data from the American norms for NEO-PI-R were conducted, by using a SPSS-script provided by our supervisor Martinsen in May 2017. Here, Tucker's (1951) congruence coefficient was used as a measure. Confirmatory factor analysis (CFA) was also considered as a way of conducting factor analysis in this thesis, as it is commonly used in social research. However, a study by McCrae, Zonderman, Costa, Bond & Paunonen (1996) indicated that CFA's of NEO-PI-R do not fit the hypothesized model. Thus, they argue that CFA itself has serious problems when it is used to investigate personality structure (McCrae et al., 1996, p. 563). McCrae and colleagues' (1996) study also supports our use of Procrustes rotation in the present study, which was conducted

using Tucker's congruence coefficient.

A correlation analysis was used to investigate the statistical correlation between the different variables (see table 7). One would be dependent on sufficient variance in the data to find significant correlations (Wenstøp, 2009). Consequently, one may experience low or insignificant correlations between variables if there is an occurrence of range restriction.

The statistical technique used in this thesis to assess the relationship between a dependent variable and several independent variables, was multiple regression analysis (Tabachnick & Fidell 2013, p. 153). The two-way interaction analysis was conducted in accordance with the procedure described by Aiken & West (1991). Centered variables were created to counteract the challenge of multicollinearity (Aiken & West 1991, p. 32).

An analysis of latent variables, using Lisrel software (Jöreskog & Sörbom 1993), was also considered. However, as we only had overall scores, and not item scores, from the selection interview and the military service statement, we refrained from doing so.

4.5 Evaluation of dropouts and missing data

We decided to use the “exclude cases pairwise” option in SPSS, to avoid a large loss of data. With this option, observations were excluded if missing data were detected for the specific analysis, but were included in other analyses where one had the necessary information (Pallant 2013, p. 131).

Personality measures and selection interview ratings were available for close to 80% of the total number of candidates. A possible explanation for the missing data could be that they withdrew from the selection process before completing the personality inventory and the selection interview. In total, 678 (52,4%) of the candidates are listed as “canceled” in the data file. As the data collected at T2 only included candidates admitted to the NCOS, the available data were reduced to 475 (36,7%) of the original 1293 applicants.

5.0 Results

In this chapter, we will first present the results from the factor analysis conducted on the data from the personality inventory, to assess how close the factor level in this dataset were to what is considered as norm. Next, the descriptive statistics and correlation analyses will be presented, to give an overview of the variables, in addition to the relations and direction between the different variables. Correlations between the FFM facets and military performance will also be presented. Then we will go through the results from the regression analysis, which were conducted to investigate the relation between the independent and dependent variables. Additional analyses were also carried out. Finally, interaction analyses were conducted to further investigate the relations, or lack of them, between personality traits and military performance.

5.1 Factor analysis

In the present study, the NEO factors scored in the range of .96 - .98 (N = .96, E = .98, O = .97, A = .98, and C = .98) on the congruence coefficient. Lorenzo-Seva & Ten Berge (2006, p. 10) suggests that a congruence coefficient value between the .85 and .94 indicate fair similarity between the two factors compared, and values of .95 or higher could be considered as equal. Consequently, our results indicate that the personality measures in this study could be considered equal to the American norms for the NEO-PI-R. In addition, we also compared the means and standard deviations of the NEO-PI-3 scores in the present sample with a civilian sample from Martinsen et al. (2011, p. 67). This was done to see if the two samples differed notably from one another. In table 5 one can see that the mean scores for neuroticism, extraversion, openness, and conscientiousness are slightly higher in the present study compared to the civilian group. Agreeableness was the only factor having a lower mean score than the sample of Martinsen et al. (2011).

Table 5: Means and standard deviations of the NEO-PI-3 scores in the present sample and from a civilian sample from Martinsen et al. (2011, p. 67).

<u>Factor</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Mean</u>	<u>Std. Dev.</u>
Neuroticism	62,41	17,55	58.95	19,97
Extraversion	132,99	15,83	130.64	16,87
Openness	119,18	15,68	116,96	17,32
Agreeableness	123,63	15,82	126,96	15,05
Conscientiousnes:	137,50	15,64	135,13	16,62

Note: Mean and standard deviation from the present sample is presented on the left-hand side. Data from Martinsen et al. (2011) is presented on the right-hand side.

5.2 Descriptive statistics

In table 7, descriptive statistics are presented, including means (M), standard deviations (SD), reliability estimates (α), and intercorrelations.

Surprisingly, there were no significant correlations between the FFM traits and military performance. Dividing the military performance ratings into the various NCO schools did not result in any significant correlations either. The lack of significant correlations between agreeableness, openness and military performance was to be expected, based on our literature review. However, the fact that extraversion ($r = -.087$, $p > .05$), neuroticism ($r = .072$, $p > .05$) and conscientiousness ($r = -.077$, $p > .05$) did not correlate significantly with military performance was unexpected.

An analysis of the correlations between the FFM facets and military performance was also conducted, as we wanted to investigate whether the FFM facets are stronger predictors of military performance than the five broad factors. Here, we did in fact find significant correlations between certain facets and military performance at the different NCO schools. The results showed that self-consciousness ($r = .155$, $p < .05$) had a significant positive correlation with military performance in the Army, while warmth ($r = -.153$, $p < .05$) and excitement-seeking ($r = -.180$, $p < .05$) had a significant negative correlation. Regarding correlations between the FFM facets and the military performance variable in the Navy, we found both trust ($r = .278$, $p < .05$) and values ($r = .287$, $p < .05$) to be positively correlated with our dependent variable.

We did not find any significant correlations between the FFM facets and military performance in the Air Force. The correlations can also be seen in table 6 below.

Table 6: Correlations between NEO facets and military performance

<u>Personality trait</u>	<u>Army</u>	<u>Navy</u>	<u>Air</u>
Conscientiousness			
Agreeableness			
Trust		.278*	
Neuroticism			
Self-consciousness	.155*		
Openness			
Values		.287*	
Extraversion			
Warmth	-.153*		
Excitement-seeking	-.180*		

*Note: Only significant correlations are listed in the table. N = 81-183. * = $p < .05$.*

Dependent variable: Military service statement divided on the Army, Navy, and Air Force.

The leader selection interview did not show a significant correlation with military performance for all NCO schools combined. Splitting the military performance ratings into the different NCO schools did not give any significant results either. When we checked for variation in the interview score, we found that the average score was 5.75 for the entire sample, with a standard deviation of 1.655. The average score rose to 6.39, with a standard deviation of 1.342, when we only included candidates who were admitted to NCOS.

Our results showed significant correlations between four of the FFM traits and the leader selection interview. Agreeableness was as the only exception. Neuroticism ($r = -.114$, $p < .01$) was the only FFM trait that had a negative correlation, while extraversion ($r = .272$, $p < .01$), openness ($r = .190$, $p < .01$), and conscientiousness ($r = .160$, $p < .01$) had positive correlations. As one can see, the FFM trait extraversion had the strongest correlation with the leader selection interview, followed by openness and conscientiousness.

The control variable gender showed significant positive correlations with every FFM trait, except conscientiousness. A significant positive correlation was also found

between gender and the leader prediction interview ($r = .099$, $p < .01$). Lastly, gender correlated significantly negatively with military performance for the NCO schools combined ($r = -.109$, $p < .05$) and for the Army ($r = -.170$, $p < .05$). The second control variable, age, were found to correlate significantly negatively with extraversion ($r = -.098$, $p < .01$). No significant correlations were found between age and the remaining FFM factors or the leader selection interview. Age were found to correlate significantly positively with military performance in the Army ($r = .229$, $p < .01$), but not for the other NCO schools.

Table 7: Descriptive statistics and intercorrelations among the variables

Variables	M	SD	1	2	3	4	5	6	7	8	9
Control variables											
1 Gender	1,19	0,39									
2 Age	19,75	1,735	0,007								
Independent variables											
3 Neuroticism	65,41	18,608	0,165**	-0,41	(,85)						
4 Extraversion	129,98	17,157	0,206**	-0,098**	-0,316**	(,80)					
5 Openness	117,61	17,215	0,111**	0,016	-,081*	0,380**	(,69)				
6 Agreeableness	122,84	15,567	0,148**	0,016	-0,289**	0,188**	0,092**	(,74)			
7 Conscientiousness	135,47	16,365	0,055	-0,001	-0,480**	0,281**	0,056	0,331**	(,83)		
Dependent variables											
8 Interview - Leader prediction	5,748	1,655	,099**	-0,011	-,114**	,272**	,190**	0,028	0,160**		
9 Military Service Statement	3,341	0,838	-0,109*	0,075	0,072	-0,087	-0,075	0,002	-0,077	0,058	
10 Military Service Statement (Navy)	3,180	0,621	-0,083	0,065	0,076	-0,113	0,017	-0,103	-0,172	0,003	,993**
11 Military Service Statement (Air)	3,464	0,868	-0,105	0,072	0,059	-0,104	0,006	-0,080	-0,168	-0,036	,988**
12 Military Service Statement (Army)	3,408	0,738	-,170*	,229**	0,140	-0,145	-0,137	0,014	-0,068	0,123	,925**

Note: $N = 81-1195$. * $p < .05$. ** $p < .01$. (two tailed test). Cronbach's Alpha in brackets. Gender was coded 1 = male and 2 = female.

As we did not find any correlations between the personality factors and the military performance variable, further descriptive analyses were conducted. As one can see from table 8 and 9, the distribution of the military performance grades is quite left skewed at all the different NCO schools. Most NCO cadets got a score of 3. Approximately 80 percent of all cadets received the score 3 or 4, which results in low variance in the data and poses a statistical problem. As one can recall from section 4.2.2., cadets were rated on a 5-point Likert-type scale; below average (1), slightly below average (2), average (3), slightly above average (4) and above average (5).

Table 8: Distribution of military performance ratings, based on the MSS overall impression rating of NCO cadets.

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Army	1	21	82	65	14
Navy	2	3	53	23	0
Air Force	2	15	53	56	14

Note: The distribution of ratings are divided on the various NCO schools.

Table 9: Percentage distribution of military performance ratings, based on the MSS overall impression rating of NCO cadets.

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Army	0,5	11,5	44,8	35,5	7,7
Navy	2,5	3,7	65,4	28,4	0,0
Air Force	1,4	10,7	37,9	40,0	10,0

Note: The distribution of ratings are divided on the various NCO schools.

The descriptive statistics have given valuable description of the population in the present study. However, multiple regression analyses were conducted to test our hypotheses, as the descriptive statistics only provide us with limited insight into the relations between our variables.

5.3 Regression analysis

The total number of military service statements (MSS) was split into groups, one for each of the various NCO schools, to rule out alternative explanations. The analyses

were conducted in two steps, to include and see the effect of the control variables age and gender.

First, we analyzed the assumptions in hypotheses 1 - 1c, where we expected that personality predicts military performance. The control variables explain 8.2 % of the variance in the military service statement for the Army, with both age ($\beta = .230, p < .01$) and gender ($\beta = -.172, p < .05$) as statistically significant contributors. When adding personality into the analysis, the variables explain 13.7 % of the variance in the military service statement for the Army. The change in R^2 is .055. Age has the strongest contribution to the military service statement for the Army, followed by neuroticism ($\beta = .218, p < .05$). Scoring high on neuroticism therefore seems to be beneficial for military performance, assessed with the military service statement. This is the opposite of what was hypothesized. None of the other personality factors were statistically significant. In other words, scoring high or low on extraversion, agreeableness, openness, and conscientiousness does not seem to influence the rating of military performance in the Army. Thus, we did not find support for hypothesis 1a, 1b, and 1c. If we consider hypothesis 1 in isolation, some support was provided by these results, as neuroticism was found to be a significant predictor of military performance in the Army. The results are shown in the tables below. Table 10 shows the R-values, F-values, beta values, and significance level. Table 11 shows the degrees of freedom.

Table 10: Model summary and coefficients

Predictors	Military Performance - Army	
	Step 1	Step 2
<u>Control variables</u>		
Age	.230**	.240**
Gender	-.172*	-.214*
<u>Personality</u>		
Neuroticism		.218*
Extraversion		.010
Openness		-.114
Agreeableness		.108
Conscientiousness		.016
R ²	.082	.137
R ² change	.082	.055
F	6.418**	3.140**
F change	6.418**	1.761

Note: $N = 183$. ** = $p < .01$, * = $p < .05$

Dependent variable: Military Performance - Army

Table 11: Degrees of freedom

	Sum of squares	Df	Mean square
<u>Step 1</u>			
Regression	6.505	2	3.252
Residual	72.969	144	.507
Total	79.473	146	
<u>Step 2</u>			
Regression	10.850	7	1.550
Residual	68.623	139	.494
Total	79.473	146	

Predictors, step 1: Age, Gender

Predictors, step 2: Neuroticism, Extraversion, Agreeableness, Openness, Conscientiousness

Dependent variable: Military Performance - Army

Next, we looked at the relations between the NEO factors and military performance in the Navy. The control variables explain 10.4 % of the variance in the military service statement for the Navy, with age ($\beta = -.293$, $p < .05$) as the only statistically significant contributor. When adding personality into the analysis, the variables explain 13.0 % of the variance in the military service statement for the Navy. The change in R² is .027. However, none of the personality factors were statistically significant. In other words, scoring high or low on the FFM will not influence the

rating of the military service statement in the Navy. Thus, these results do not lend support to hypothesis 1-1c. The results are shown in the tables below. Table 12 shows the R-values, F-values, beta values, and significance level. Table 13 the degrees of freedom.

Table 12: Model summary and coefficients

Predictors	Military Performance - Navy	
	Step 1	Step 2
<u>Control variables</u>		
Age	-.293*	-.289*
Gender	.134	.107
<u>Personality</u>		
Neuroticism		.009
Extraversion		.048
Openness		-.031
Agreeableness		.096
Conscientiousness		.092
R ²	.104	.130
R ² change	.104	.027
F	2.829	.943
F change	2.829	.273

Note: $N = 81$. ** = $p < .01$, * = $p < .05$.

Dependent variable: Military Performance - Navy

Table 13: Degrees of freedom

	Sum of squares	Df	Mean square
<u>Step 1</u>			
Regression	2.037	2	1.019
Residual	17.645	49	.360
Total	19.682	51	
<u>Step 2</u>			
Regression	2.567	7	.367
Residual	17.115	44	.389
Total	19.682	51	

Predictors, step 1: Age, Gender

Predictors, step 2: Neuroticism, Extraversion, Agreeableness, Openness, Conscientiousness

Dependent variable: Military Performance - Navy

Next, we looked at the relations between the NEO factors and military performance in the Air Force. The control variables explain only 1,6% of the variance in the military service statement for the Air Force. This may be explained by the fact that none of the control variables are significant contributors. When adding personality into the analysis, the variables explain 4,6 % of the variance in the military service statement for the Air Force. The change in R^2 is .029. However, none of the personality factors were statistically significant. In other words, scoring high or low on the FFM will not influence the rating of the military service statement in the Air Force. Thus, we didn't find support for hypothesis 1-1c. The results are shown in the tables below. Table 14 shows the R-values, F-values, beta values, and significance level. Table 15 shows the degrees of freedom.

Table 14: Model summary and coefficients

Predictors	Military Performance - Air Force	
	Step 1	Step 2
<u>Control variables</u>		
Age	.073	.066
Gender	-.106	-.086
<u>Personality</u>		
Neuroticism		-.016
Extraversion		-.056
Openness		.045
Agreeableness		-.016
Conscientiousness		-.152
R^2	.016	.046
R^2 change	.016	.029
F	.751	.583
F change	.751	.524

Note: $N = 140$. *** = $p < .01$, * = $p < .05$

Dependent variable: Military Performance - Air Force

Table 15: Degrees of freedom

	<u>Sum of squares</u>	<u>Df</u>	<u>Mean square</u>
<u>Step 1</u>			
Regression	.031	2	.016
Residual	1.864	90	.021
Total	1.895	92	
<u>Step 2</u>			
Regression	.087	7	.012
Residual	1.808	85	.021
Total	1.895	92	

Predictors, step 1: Age, Gender

Predictors, step 2: Neuroticism, Extraversion, Agreeableness, Openness, Conscientiousness

Dependent variable: Military Performance - Air Force

A multiple regression analysis was conducted to analyze hypothesis 2. Here, it was expected that the selection interviews are predictive of military performance. Again, analyses were conducted for each of the three NCO schools, starting with the Army. The control variables explain 8.2 % of the variance in the military service statement for the Army, with both age ($\beta = .230, p < .01$) and gender ($\beta = -.172, p < .05$) as statistically significant contributors. When adding the leader selection interview into the analysis, the variables explain 10.2 % of the variance in the military service statement for the Army. The change in R^2 is .020. As we can see, the leader selection interview ($\beta = .144, p < .05$) has a significant contribution to the military service statement for the Army. Getting a higher rating from the interview will increase the possibility to get a higher military performance score. These results give support to hypothesis 2. Table 16 shows the R-values, F-values, beta values, and significance level. Table 17 shows the degrees of freedom.

Table 16: Model summary and coefficients

Predictors	Military Performance - Army	
	Step 1	Step 2
<u>Control variables</u>		
Age	.230**	.231**
Gender	-.172*	-.186*
<u>Selection Interview</u>		
Leader selection		.144*
R ²	.082	.102
R ² change	.082	.020
F	7.666***	6.499***
F change	7.666***	3.905*

Note: $N = 183$. *** = $p < .001$, ** = $p < .01$, * = $p < .05$

Dependent variable: Military Performance - Army

Table 17: Degrees of freedom

	Sum of squares	Df	Mean square
<u>Step 1</u>			
Regression	7.752	2	3.876
Residual	86.963	172	.506
Total	94.715	174	
<u>Step 2</u>			
Regression	9.693	3	3.231
Residual	85.021	171	.497
Total	94.715	174	

Predictors, step 1: Age, Gender

Predictors, step 2: Interview - Leader selection

Dependent variable: Military Performance - Army

By doing the same analysis, just changing the dependent variable to the military performance in the Navy, one can see that the control variables explain 10.4 % of the variance. Here, the only statistically significant contributor is age ($\beta = -.293$, $p < .05$). When adding the leader selection interview to the analysis, the variables explain 12.8 % of the variance in the military service statement for the Navy. The change in R² is .025. However, as we can see, the leader selection interview ($\beta = .227$, $p > .05$) is not a significant contributor to the military service statement for the Navy. Based on the results, we did not find additional support for hypothesis 2. Table 18 shows the R-

values, F-values, beta values, and significance level. Table 19 shows the degrees of freedom.

Table 18: Model summary and coefficients

Predictors	Military Performance - Navy	
	Step 1	Step 2
<u>Control variables</u>		
Age	-.293*	-.292*
Gender	.134	.119
<u>Selection Interview</u>		
Leader selection		.227
R ²	.104	.128
R ² change	.104	.025
F	3.117	2.594
F change	3.117	1.492

Note: $N = 81$. ** = $p < .01$, * = $p < .05$

Dependent variable: Military Performance - Navy

Table 19: Degrees of freedom

	Sum of squares	Df	Mean square
<u>Step 1</u>			
Regression	2.237	2	1.118
Residual	19.375	54	.359
Total	21.612	56	
<u>Step 2</u>			
Regression	2.767	3	2.594
Residual	18.844	53	.356
Total	21.612	56	

Predictors, step 1: Age, Gender

Predictors, step 2: Interview - Leader selection

Dependent variable: Military Performance - Navy

Lastly, military performance in the Air Force was used as the dependent variable when further exploring hypothesis 2. The control variables only explained 1.6 % of the variance in the military service statement for the Air Force, which is unsurprising, as none of the variables were statistically significant contributors. The same goes for the leader selection interview ($\beta = -.025$, $p > .05$), which was not significant either.

When the leader selection interview was added into the analysis, the change in R^2 was only .01. In total, the variables explain 1.7 % of the variance in the military service statement for the Air Force. Thus, the results give no support to hypothesis 2. Table 20 shows the R-values, F-values, beta values, and significance level. Table 21 shows the degrees of freedom.

Table 20: Model summary and coefficients

Predictors	Military Performance - Air Force	
	Step 1	Step 2
<u>Control variables</u>		
Age	.073	.073
Gender	-.106	-.103
<u>Selection Interview</u>		
Leader selection		-.025
R^2	.016	.017
R^2 change	.016	.001
F	.901	.617
F change	.901	.066

Note: $N = 140$. ** = $p < .01$, * = $p < .05$

Dependent variable: Military Performance - Air Force

Table 21: Degrees of freedom

	Sum of squares	Df	Mean square
<u>Step 1</u>			
Regression	.037	2	.019
Residual	2.228	108	.021
Total	2.264	110	
<u>Step 2</u>			
Regression	.039	3	.013
Residual	2.227	107	.021
Total	2.265	110	

Predictors, step 1: Age, Gender

Predictors, step 2: Interview - Leader selection

Dependent variable: Military Performance - Air Force

When testing hypothesis 3, which concerns the degree to which personality is related to interview ratings of leader potential, a multiple regression analysis was conducted. As we can see from the results in table 22, only 1 % of the variance in the leader

selection interview could be explained by the control variables. The reason why the control variables accounts for such a small percentage may be because gender ($\beta = .099, p < .01$) is the only contributor that is statistically significant. When including personality to the analysis the variables explain 9.7 % of the variance in the selection interview, with a change in R^2 of .087. Extraversion ($\beta = .197, p < .001$) has the strongest contribution to the explanation of variance, followed by conscientiousness ($\beta = .109, p < .01$) and openness ($\beta = .107, p < .01$). Hence, scoring high on these three personality factors will increase the chance of getting a good rating in the leader selection interview. Thus, hypothesis 3b is supported. In our analysis, neuroticism ($\beta = -.018, p > .05$) and agreeableness ($\beta = -.068, p > .05$) were not statistically significant. Therefore, scoring high or low on the two factors will not influence the interview ratings. It is worth noting that even though we found a significant negative correlation between neuroticism and the leader selection interview in section 5.2, this was not the case in the regression analysis. Consequently, hypothesis 3a did not receive any support. In total, our results lend support to hypothesis 3. Table 22 shows the R-values, F-values, beta values, and significance level. Table 23 shows the degrees of freedom.

Table 22: Model summary and coefficients

Predictors	Leader Selection Interview	
	Step 1	Step 2
<u>Control variables</u>		
Age	-.011	.007
Gender	.099**	.054
<u>Personality</u>		
Neuroticism		-.018
Extraversion		.197***
Openness		.107**
Agreeableness		-.068
Conscientiousness		.109**
R^2	.010	.097
R^2 change	.010	.087
F	4.513*	13.670***
F change	4.513*	17.171***

Note: $N = 1042$. *** = $p < .001$, ** = $p < .01$, * = $p < .05$

Dependent variable: Leader Selection Interview

Table 23: Degrees of freedom

	<u>Sum of squares</u>	<u>Df</u>	<u>Mean square</u>
<u>Step 1</u>			
Regression	24.527	2	12.264
Residual	2442.723	899	2.717
Total	2467.250	901	
<u>Step 2</u>			
Regression	238.557	7	34.080
Residual	2228.694	894	2.493
Total	2467.250	901	

Predictors, step 1: Age, Gender

Predictors, step 2: Neuroticism, Extraversion, Agreeableness, Openness, Conscientiousness

Dependent variable: Leader selection interview

5.4 Additional analyses

As we in section 2.8 wanted to investigate whether interactions between personality traits affect the relation between a single personality trait and military performance, an interaction analysis was conducted. Given the scope of this thesis, the interaction analysis was conducted only at the factor level of the FFM. Here, we did not find any significant interactions between the personality factors when conducting a regression analysis with military performance divided on the different NCO schools. Hence, our results indicate that interactions between personality factors do not influence the relation between personality and military performance.

In section 2.9, we raised the question of whether facets of the FFM are stronger predictors of military performance than the five broad factors. To investigate this further, a multiple regression analysis was conducted using the same procedure as for the factor level in section 5.3. Results showed no significant relations between any of the thirty personality facets and military performance at the three NCO schools. Consequently, FFM facets do not seem to be stronger predictors of military performance than the five broad traits.

6.0 Discussion

The aim of this thesis was to investigate the role of personality traits in the selection of NCO candidates – their ability to predict military performance, and their role in explaining variance in leader potential, assessed in selection interviews. In this chapter, we will discuss our findings in relation to relevant theory and previous research findings. The chapter will be structured around our threefold research question, depicted in figure 1. However, after discussing our findings related to research question 1 and 2, we will discuss the MSS as a measure of military performance. The reason for doing so is that our measure of performance may have contributed to the lack of findings for research questions 1 and 2. Lastly, we will discuss our findings related to research question 2.1.

6.1 Are personality traits predictive of military performance in a longitudinal perspective?

With regards to hypothesis 1, we found a significant positive correlation between neuroticism and military performance in the Army, as showed in table 10. In other words, we found the opposite of what we hypothesized with regards to neuroticism. This finding is surprising, as Judge et al. (2002) and Barrick et al. (2001) both hypothesized and found emotional stability to be beneficial for leadership (Judge et al. 2002) and job performance (Barrick et al. 2001). As noted in our literature review, neuroticism was by Judge et al. (2002, p. 773) found to be the strongest predictor of leadership in a government/military setting. Furthermore, in a review by Bass (1990, p. 69), the author concluded that almost all studies on the relation between self-confidence, indicating low neuroticism, and leadership, “were uniform in the positive direction of their findings”. In other words, it is difficult to explain our findings for neuroticism based on previous research findings.

The lack of significant findings for extraversion and conscientiousness is surprising as well, as Judge et al. (2002, p. 773) found extraversion to be the strongest and most consistent correlate of leadership. Furthermore, as extraversion has showed a relatively impressive correlation of .40 in a student leadership setting (Judge et al. 2002, p. 773), it is surprising that NCO cadets’ degree of sociability and dominance

do not seem to influence their military performance. After all, they are students in a leadership training context. Just as it is “hard to conceive of a job where it is beneficial to be careless, irresponsible, lazy, impulsive and low in achievement striving” (Barrick et al. 2001, p. 11), it is hard to conceive that such behaviors would be beneficial for the performance of NCO cadets. In other words, our lack of findings for conscientiousness seems peculiar.

As the findings in studies of exclusively military populations and contexts to some degree coincide with the ones of Judge et al. (2002; 2013), the lack of support for our hypotheses are difficult to explain from a theoretical perspective. However, as significant relations between personality and performance could have been masked by the broad factor level of the FFM (Vickers 1995; McCormack & Mellor 2002), we investigated the facet level of the FFM. We raised the following question: *Are facets of the FFM stronger predictors of military performance than the five broad factors?*

Even though our descriptive statistics indicated that some relations between certain FFM facets existed, we found no significant results when conducting a regression analysis. As the different branches of the military (Army, Air Force, Navy) have some degree of freedom with regards to how they conduct their training of NCO cadets (Forsvarets høyskole 2013), one could arguably expect to find facets to be of varying importance across branches in the NAF. However, not finding any significant correlations between the facets suggested by Vickers (1995) and Judge (2002), and military performance, seems peculiar. Considering the job performance literature, our findings also seem surprising, as Judge et al. (2013, p. 891) found that in most cases, moving from broad traits to lower order traits produced significant gains in the ability of personality to predict job performance. On the other hand, it could be that our findings are an example of the argument put forth by Barrick et al. (2001, p. 213), which suggests that lower order traits are better suited to predict narrow performance criteria, and that higher order traits are better suited to predict broad performance criteria. As the overall impression score of the MSS unquestionably falls under the category of broad criteria, this could be a way to understand the lack of significant findings for FFM facets. However, from this perspective, it is even more surprising

that we did not find meaningful or significant correlations between military performance and neuroticism, extraversion and conscientiousness.

Another possible explanation for the unexpected findings could be the situation strength of the context of NCOS, as discussed in section 2.7.1. From this perspective, the lack of significant results in this thesis could simply be a result of a high amount of situational constraints on the behavior the NCO candidates (Cooper & Withey 2009, p. 62), leading to personality traits being less likely to predict military performance (Judge & Zapata 2015, p. 1149). However, the fact that previous studies have found extraversion (Bartone et al. 2009) and conscientiousness (Bartone et al. 2009; Fosse et al. 2014) to predict military performance in relatively similar contexts weakens this explanation.

When faced with unexpected research results, one way of proceeding can be to consider possible interaction effects (Witt 2002, p. 848). However, as discussed in section 5.4, our interaction analyses did not lead to any significant results. The findings of this thesis therefore seem to coincide with the findings of some of the previous studies in Norwegian military settings (Fosse et al. 2014, p. 9), with regards to the weak or nonsignificant relations between personality and performance. However, when comparing our personality data (means and standard deviations) with the ones of a civilian sample (Martinsen et al. 2011, p. 67), our findings do not seem to be a result of our sample deviating from civilian populations' personality trait scores. We will therefore, in a later part of our discussion, consider how our dependent variable may have affected our results. But first we will discuss our findings related to research question 2.

6.2 Are selection interviews predictive of military performance in a longitudinal perspective?

As shown in table 16, a significant positive correlation was found between the selection interview and military performance in the Army, which lends support to hypothesis 2. This finding coincides with the ones of Vik (2013, p. 37), which indicated that the leadership prediction score from selection interviews at the

Norwegian Military Academy (Krigsskolen) is a predictor of military performance. However, as we did not find significant correlations between the selection interview and military performance in the Navy or the Air Force, the overall predictive power of NCOS' selection interview seem to be weak.

One possible explanation for the lack of significant findings for the Navy and Air Force may be that the number of cadets receiving a military performance grade was lower than in the Army, potentially leading to lower variance in scores. However, we found the variance in interview ratings of leader potential to be higher than for the MSS. Thus, it seems more likely that the MSS may have caused range restriction issues (Hunter & Schmidt, 2004), rather than the leader potential ratings from the interview. This will be discussed further in a later section of this thesis.

Another possible explanation could be that the military performance measure (MSS) does not adequately measure the constructs assessed in the selection interview. As mentioned in section 4.2.2, the NCOS selection interview mainly covers *values and attitudes*, *self-awareness* and *self-efficacy*. If we compare the topics covered by the selection interview with the criteria evaluated by the MSS, listed in section 4.2.3, this explanation seems plausible. In other words, it seems likely that at least some of the explanation for the weak and nonsignificant findings regarding the selection interview's ability to predict military performance is a result of it not measuring constructs captured by the military service statement.

Nevertheless, the weak relations, or lack of relations between the selection interview and military performance, are still somewhat surprising. "The granted conclusion is that the employment interview is a useful tool to predict work performance" (Salgado & Moscoso 2002, p. 300). We therefore dedicate the next section of this thesis to a discussion about the military service statement, and some challenges with using it as a measure of military performance.

6.3 The Military Service Statement as a measure of military performance

The results of our factor analysis, presented in section 5.1, indicated that the factor structure of the personality measure in the present study can be viewed as similar to previous studies on military populations. However, with regards to our military performance data, results showed that around 80 percent of the cadets received either rating 3 (average) or 4 (slightly above average), as visualized in table 8 and 9. The relatively low variance in MSS ratings could be a bias, as it may result in weaker correlations (Hunter & Schmidt, 2004). In a study by Thomassen (2014, p. 36) similar results were found regarding the distribution of MSS ratings in various branches of the NAF. When looking at the period 2003-2013, Thomassen (2014, p. 36) found that mainly two of the five possible scores were used in the military service statement. In her study, 89 percent of Army officers received the score 4 (49,4%) or 5 (39,9%). The distribution of ratings in the Navy and Air Force were relatively similar, with 88 and 80 percent receiving one of the two best possible ratings (Thomassen 2014, p. 36). In appendix 2, we present a comparison of our sample's MSS scores, with the ones of Thomassen (2014). Overall, similar tendencies can be seen, namely that the bulk of MSS scores for the Army, Navy and Air Force, are distributed on two scores. This could pose a statistical problem, as two variables must be able to vary widely for sizeable correlations to occur (Wenstøp 2009).

There are several possible explanations for the lack of variation in the military performance data in this thesis. Some of the restricted variation may be a result of rater bias, as factors such as friendship and physical appearance could influence the superior's judgement of the cadets (Hunter & Schmidt 2004, p. 51). According to Thomassen (2014, p. 62), the fact that the military performance rating is a tool for both evaluation and selection may also a way to understand the lack of variation in MSS scores. It may be that some superior officers tend to give higher ratings in the early stages of NAF's education system, as the overall impression score of the MSS can have implications for future selection processes (Thomassen, 2014, p. 62), and therefore the future career of NCO cadets. However, the fact that most of the NCO cadets were given what arguably is relatively good ratings, may also be an indication of NCOS having conducted a successful selection process. In other words, that good

ratings were given as a result of the NCO cadets actually performing well. Nevertheless, from a statistical point of view, the low variation may mask potential relations between personality and military performance, and selection interviews and military performance. From a practical point of view, one may ask whether all NCO cadets who received either grade 3 or 4 performed equal to the ones who received the same grade. If not, one could consider adjusting the way performance is evaluated and rated. However, as the current thesis used only the overall impression score of the MSS as a measure of military performance, we are not in a position to criticize the MSS as a whole. After all, the military service statement is a comprehensive evaluation form that includes ratings of several criteria, in addition to written statements about the performance and potential of the individual (Thomassen 2014, p. 19). In other words, the overall impression score of the MSS provides us with limited insight. Nevertheless, if we consider the overall impression score of the MSS in isolation, the authors of this thesis agree with the conclusion of Thomassen (2014, p. 79), where she questions the current utility of the MSS as a tool for evaluating performance. The low variance in ratings reduces the MSS' value as a tool for identifying high performers (Thomassen 2014, p. 78).

6.4 Personality saturation in leader selection interviews

As visualized in table 22, results showed that both extraversion (.197), openness (.107), and conscientiousness (.109) had significant correlations with the selection interview ratings, which lends support to hypothesis 3. In other words, our findings suggest that there is an association between the personality traits of NCO candidates and interview ratings of leader potential. This is in line with the statement made by Roth et al. (2005, p. 570), which suggested that interviews for other types of jobs may be more saturated with personality than current research has found. As discussed in previous sections of this thesis, Salgado & Moscoso (2002) found different amounts of personality saturation in behavioral and conventional interviews, the latter being the most saturated one. To our knowledge, the selection interview of NCOS has not been labeled as either behavioral or conventional by previous research. According to a study by Janz (1982), the two types of interviews have different characteristics, as depicted in table 24. The most important one is that conventional interviews focus on

self-evaluative information, while behavioral interviews focus on behavior descriptions (Janz 1982, p. 577). If we compare the characteristics of these two types of interviews with the ones of NCOS’ selection interview, the topics related to leader potential may arguably be characterized as both behavior descriptive and self-evaluative.

Table 24: Characteristics/content of the NCOS selection interview, compared to behavioral and conventional interviews (Janz, 1982).

NCOS Selection Interview	Characteristics of Behavioral Interviews	Characteristics of Conventional Interviews
<u>General/practical questions</u>	<u>Job knowledge</u>	<u>Checking credentials</u>
Drivers licence	Knowledge related to the job	Educational level
Willingness to deploy in international operations	<u>Description of experience</u>	GPA
Repute/criminal record	Duties and responsibilities in previous jobs	<u>Description of experience and activity</u>
Use of drugs and alcohol	<u>Behavior descriptions</u>	Duties and responsibilities in previous jobs
<u>Leadership potential</u>	Questions related to past and future behaviour	<u>Self-evaluative information</u>
Values and attitudes		Likes and dislikes
Self-awareness/knowledge about self		Strengths and weaknesses
Self-efficacy		Statements of goals
		Attitudes and philosophy

However, we would argue that the topics of self-awareness, values and attitudes, would undoubtedly require a large amount of self-evaluation from the interviewee’s part. This indicates that the NCOS selection interview is more similar to a conventional interview than a behavioral. On the other hand, a similar argument can be made in favor of classifying the NCOS selection interview as behavioral. Nevertheless, as we only have information about the topics covered in the interview, and not the actual questions asked, a definitive conclusion is difficult to make. However, if we compare our findings with the ones of Salgado & Moscoso, the amount of personality saturation in NCOS’ selection interview is more similar to what has been found for conventional interviews (Salgado & Moscoso, 2002, p. 310), at least with regards to correlation strength.

With regards to the specific personality factors, finding that both extraversion and conscientiousness are predictors of interview ratings of leader potential are in accordance with hypothesis 3b. In other words, extraversion and conscientiousness seem to be predictors of both leadership (Judge et al. 2002), and interview ratings of leader potential. Hence, our findings indicate that NAF indirectly look for e.g. warmth and assertiveness (extraversion), and competence and dutifulness (conscientiousness) (Cooper 2010, p. 51), when assessing the leader potential of NCO candidates. It is also to be noted that these two factors were found to be the best predictors of interview ratings in the meta-analysis of both Salgado & Moscoso (2002) and Roth et al. (2005).

Our findings also indicate that in addition to extraversion and conscientiousness, there is some amount of openness-saturation in the interview. Hence, NCOS indirectly view e.g. imaginativeness and tolerance (Cooper 2010, p. 51) as indications of leader potential. Even though this was unexpected, McCormack & Mellor (2002, p. 193) found openness to be the strongest predictor of leader effectiveness in their sample of Australian officers. Furthermore, even though openness did not predict government/military leadership in Judge and colleagues study, it did so in a student and business setting (2002, p. 773). Lastly, it is to be noted that *respect* is one of the three core values of the NAF (Forsvaret 2015). The fact that *values* is a topic covered in the NCOS interview (table 23) could be a way to explain why more open individuals tend to receive higher leader potential ratings.

Neuroticism was not significantly related to interview ratings of leader potential, thus hypothesis 3a was not supported. This finding is to some degree surprising, as the literature reviewed in this thesis suggests that neuroticism is related to leadership (Judge et al. 2002). A possible explanation for our findings could have been that NCO candidates typically scored low on neuroticism. However, as we found our sample to score slightly higher on neuroticism than a civilian sample (Martinsen et al. 2011, p. 67), this does not seem to be the reason for our results.

Overall, our results indicate that the selection interview of NCOS is to some degree saturated with personality. NCO candidates who are more extraverted, conscientious and open, are more likely to be assessed as having leader potential than those scoring low on these factors. In that regard, it is somewhat surprising that the same personality traits do not seem to relate to military performance in a longitudinal perspective. After all, the military service statement is to some degree supposed to reflect the leader effectiveness of NCO cadets (Thomassen 2014, p. 20; Fosse 2014, p. 11).

7.0 Limitations and Future Research

Limitations

Based on our results and discussions, our military performance data seem to be the most prominent limitation in the present study, for several reasons. First, limited variance in the military performance rating represents a statistical problem, as range restriction (Hunter & Schmidt, 2004) can lead to low or insignificant correlations (Wenstøp, 2009). Second, the overall impression score does not only represent the individual's leader effectiveness, but also other performance related criteria (Fosse 2015, p. 11). Even though the overall impression score is supposed to reflect the ratings of the ten subdomains of the MSS (Thomassen 2015, p. 21), it seems reasonable to assume that some variation in sub scores would exist. Consequently, potential relations between personality, leader potential and military performance may have been left undetected by our analyses, as subdomain ratings were unavailable to us. A related limitation is the lack of information regarding the specific questions asked in the NCOS selection interview, and the lack of associated ratings. If such data had been available, deeper analyses could have been conducted on the relation between the FFM and the interview, and on the relation between the interview and the MSS. Furthermore, a limitation of this study is the possibility that our measure of military performance (MSS) does not adequately measure the constructs captured in the selection interview. If the narrower MSS sub scores had been available, an investigation of this possibility could have been conducted.

Another limitation is the possibility that common method biases, like *Context induced mood* (Podsakoff et al., 2003, p. 882), may have influenced our measures. Candidates responding to the personality inventory may have adjusted their responses in the questionnaire so that they correspond with their answers to previous questions (Podsakoff et al. 2003). Another aspect that is worth mentioning is the possibility that some of the candidates may have completed the personality inventory prior to the selection interview, and vice versa. Those who completed the questionnaire before the interview may have answered the interview questions in a way that is related to their responses to the FFM inventory. As we were unable to obtain information about the order candidates completed various steps in the selection process, we cannot rule out the possibility of such priming effects (Salancik and Pfeffer, 1977, p. 449) having occurred.

Future research

As our findings indicate that the selection interview captured more personality in a leader selection context than some of the occupations previously examined (Roth et al., 2005), we encourage further investigations of the criteria captured by selection interviews. Knowing more about what the NCOS selection interview captures may increase NAF's knowledge of the content of their predictor of job performance (Hough 2001, cited in Roth et al., 2005, p. 261). Even though we cannot generalize our findings to civilian settings, we also encourage research on the degree to which civilian leader selection interviews capture personality traits. As the literature on the topic is sparse, such investigations could increase organization's ability to select the right person for the job, as personality traits have been found to predict more than job performance (Judge et al. 2013) and leadership (Judge et al. 2002), such as turnover (Barrick & Mount 1996, p. 261) and counterproductive work behaviors (Hough et al. 1990).

Considering previous studies' findings on the relations between personality, job performance and leadership, it seems premature to conclude that personality does not influence the performance of NCO cadets. If future research takes the limitations of the present study into account, it is possible that different findings may present

themselves. In order to mitigate the limitations of our study, we would encourage future studies to use the narrower MSS sub domains (Thomassen 2015, p. 20) as performance criteria. Additionally, we also encourage future research to use of other sources of performance data than the MSS, for reasons discussed in this thesis.

Lastly, interaction analysis between the personality factors in NEO-PI-3 and military performance is something that could be considered in later studies, as the coverage of this subject seem to be sparse. If so, the findings of previous studies by McCrae & Costa (1989) and Witt (2002) could provide a useful starting point. However, for such studies to be worthwhile in the context of NCOS, we would recommend researchers to consider the limitations of the present study.

8.0 Implications and Conclusion

In this thesis, we investigated the role of personality traits in a military selection and training context - their role in explaining variance in interview ratings of leader potential, and their ability to predict military performance in a longitudinal perspective. Our aim was to contribute to NAF's effort to select the personnel most likely to perform well as military leaders, and increase their knowledge of what characterizes these individuals, with regards to personality traits. With regards to the utility of personality assessments as a selection method, our findings do not support the use of FFM personality assessments as a means to predict the military performance of NCO cadets, at least not when the MSS is used as performance criteria. However, as our findings indicate that extraversion, conscientiousness and openness to some degree is a part of what NCOS consider as leader potential, it is somewhat surprising that the same personality traits do not seem to predict military performance to a greater extent than what was found in this thesis. Similarly, it is also surprising that we found the predictive power of one of NCOS' current selection methods, the selection interview, to be low. However, as discussed in this thesis, there are several possible explanations for our findings, as well as limitations in this thesis. As our findings indicate that personality traits to some degree play a role in the selection of NCO candidates, we encourage further research on the topic of personality traits in a military selection and training context. With increased

knowledge about this topic, the Norwegian Armed Forces may be better able to select the individuals that are most suited for military service.

9.0 References

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10.0 Appendix

Appendix 1: Military Service Statement Template

FORSVARET

TJENESTEUTTAELSE

Unntatt fra offentlighet og
underlagt taushetsplikt (når utfyllt)

Les veiledning for utfylling av tjenesteuttalelsen

Rapporteringsperiode

1. Personopplysninger					
Grad	Fødselsnummer	Etternavn, fornavn			
Forsvarsgren	Kategori	Bransje	Tjenestefelt	Grunn til uttalelsen	
2. Tjeneste					
Avdeling (DIF og enhet)	Tjenestestilling	Stillingens grad	Tittrådt, dato		
	1.				
	2.				
Stillingsbeskrivelsens referansenummer	Hovedgjøremål (presiser også eventuelt forvaltningsansvar mht personell, materiell og økonomi)				
3a. Vurdering av utført tjeneste					
3b. Vurdering av potensiale mht videre tjeneste/utdanning					
4. Spesielle forhold					
1. Har det vært noe å utsette på befalets forhold til rusmidler?		<input type="checkbox"/>	Nei	<input type="checkbox"/>	Ja
2. Har befalet vært refset/straffet i rapporteringsperioden?		<input type="checkbox"/>	Nei	<input type="checkbox"/>	Ja
3. Anses befalets fysiske form å være tilfredsstillende?		<input type="checkbox"/>	Nei	<input type="checkbox"/>	Ja
	Testresultat				
5. Supplerende opplysninger, herunder tillitsverv mm					
Dato for avholdt medarbeidersamtale					

BI 0530 C- 2006 Elektronisk utgave

Side 1 av 2

6. Hovedinntrykk					
Tjenestestilling	Under norm	Litt under norm	Norm	Litt over norm	Over norm
1					
2					

7. Utførelse											
	Under norm	Litt under norm	Norm	Litt over norm	Over norm		Under norm	Litt under norm	Norm	Litt over norm	Over norm
LEDERSKAP GENERELT Norm: Får med seg sine undergitte i målrettet arbeid for løsning av pålagte oppgaver. Viser undergitte respekt og omsorg, samtidig som det stilles krav til utførelsen.				Ikke vurdert <input type="checkbox"/>		FORVALTNINGSANSVAR Norm: Har oversikt og kontroll, ivaretar ansvaret innen gitte rammer.					
						a. Materiellansvar	Ikke vurdert <input type="checkbox"/>				
						b. Økonomiansvar	Ikke vurdert <input type="checkbox"/>				
ANSVAR Norm: Utfører pålagte oppgaver samvittighetsfullt og pålitelig. Tar initiativ og treffer selvstendige avgjørelser innenfor opptruke rammer.				Ikke vurdert <input type="checkbox"/>		SPRÅKFØRING Norm: Meddeler seg tilfredsstillende, klart og konsist.					
						a. Muntlig	Ikke vurdert <input type="checkbox"/>				
						b. Skriftlig	Ikke vurdert <input type="checkbox"/>				
SAMARBEID OG KOMMUNIKASJON Norm: Går inn for å løse oppgaver i fellesskap, basert på personlig kjennskap til medarbeiderne. Samarbeider med såvel over-, side- og underordnede. Viser åpenhet for andres synspunkter og bidrar til gjensidig informasjonsutvikling.				Ikke vurdert <input type="checkbox"/>		KREATIVITET Norm: Finner nye og nyttige løsninger på problemer. Fungerer i situasjoner hvor normal praksis/ rutiner helt eller delvis ikke kan nyttes. Viser åpenhet for forandring og utvikling.					Ikke vurdert <input type="checkbox"/>
FAGLIG DYKTIGHET Norm: Viser faglige kunnskaper og ferdigheter gjennom å løse oppgaver tilstrekkelig raskt og grundig.				Ikke vurdert <input type="checkbox"/>		MESTRING Norm: Viser initiativ og handlekraft under vanskelige forhold og/ eller lengre perioder med stor belastning (f.eks. store anstrengelser, lite søvn, konflikter, korte tidsfrister og knappe ressurser).					Ikke vurdert <input type="checkbox"/>
VURDERING Norm: Finner frem til det vesentlige i en sak og treffer avgjørelser som fører til hensiktsmessige løsninger. Viser evne til prioritering.				Ikke vurdert <input type="checkbox"/>		HELHETSOVERSIKT Norm: Ser egne oppgaver i en større sammenheng og beholder oversikt selv under pågående aktivitet på et begrenset område.					Ikke vurdert <input type="checkbox"/>

8. Rapporterende offiser/kvittering for mottatt tjenesteuttalelse	
Sted og dato	Ev. merknader fra befalet
Navn, grad, tjenestestilling	Underskrift
Rådført med (navn, grad, tjenestestilling)	
Befalet mottatt orientering	Dato
	Befalets underskrift

9. Uttalelse fra nest høyere sjef	
Sted og dato	Underskrift

Veiledning for utfylling av tjenesteuttalelsen

Forsvarets Personellhåndbok del B pkt 7 gir utfyllende bestemmelser vedrørende utvikling og vurdering av befal, denne veiledningen gir en kortfattet beskrivelse av hvordan tjenesteuttalelsen skal fylles ut.

Bakgrunn

Hensikten med revideringen av tjenesteuttalelsen er å innføre en særskilt vurdering av utført forvaltningsansvar, samt søke å oppnå en felles forståelse for utfylling av blanketten.

Tjenesteuttalelsen er en tilbakemelding til den enkelte på hvordan tjenesten har vært utført i rapporteringsperioden, og et verdifullt verktøy i den enkeltes utvikling. I tillegg er den, både for den enkelte og arbeidsgiver, en viktig del av vurderingsgrunnlaget for tilsetninger, opprykk, disponeringer og uttak til skoler og kurs. Det er derfor svært viktig at det på tvers av forsvarsgrenene, og også innad i den enkelte forsvarsgren, eksisterer en omforent forståelse av hvordan tjenesteuttalelsen skal fylles ut.

Rapporteringsperiode utfylles med dag, mnd, år (dd.mm.åååå). Normalt går rapporteringsperioden fra 1 juni til 31 mai hvert år.

1 Personopplysninger

Grad forkortes. Hvis den er midlertidig påføres (m) etter graden

Fødselsnummer 11 sifre

Forsvarsgren forkortes H, S, L

Kategori første gyldige kategori velges. Yrkestilsatt (Y), avdelingsbefal (A), kontraktsbefal (K), plikttjeneste (P), vernepliktige (V) eller HV-befal (HV)

Branse operativ (O), forvaltning (F) eller teknisk (T)

Tjenestefelt utfylles med fagområde/fagkode/våpen

Grunn til uttalelsen for eksempel årlig, frabeordning, på anmodning, frabeordning av sjef, øvelse

2 Tjeneste

Avdeling angis med DIF og enhet

Tjenestestilling, dersom vedkommende har tjenestegjort i flere stillinger i perioden, skal alle tas med (normalt tjeneste av minst 5 måneders varighet)

Tiltrådt dato føres med dag, mnd, år (dd.mm.åååå)

Stillings referansenummer iht stillingsbeskrivelsen

Hovedgjøremål angir en kortfattet beskrivelse av hva vedkommende reelt har utført av arbeid

3a Vurdering av utført tjeneste

Her skal det gis et verbalt hovedinntrykk av hvordan tjenesten er utført, samt oppnådde resultater i rapporteringsperioden.

Det er viktig å skrive uttalelsen i verdige former, bruke klare uttrykksmåter og unngå formuleringer som gir grunnlag for misforståelser.

Bedømmingen av arbeidsinnsats og resultater skal vurderes opp mot stillingens faktiske arbeidsoppgaver, og ut fra en norm om hva som bør forventes av vedkommende som er disponert i stillingen.

I tilfelles hvor stillingsinnehaveren ikke fyller stillingens må krav, bør dette anmerkes, og vedkommende bedømmes deretter. Det bør også anmerkes dersom vedkommende bare har utført deler av stillingens arbeids- og ansvarsområde.

Rapporterende offiser må forsikre seg om at det er samsvar mellom det verbale hovedinntrykket av utført tjeneste, pkt 3a, og avkrysningen på pkt 6 Hovedinntrykk og pkt 7 Utførelse. Dersom det i pkt 6 Hovedinntrykk eller pkt 7 Utførelse gis bedømmelsen «over norm» eller «under norm» skal dette utdypes spesielt.

Forbedringsområder ift utført tjeneste bør fremkomme av dette pkt.

3b Vurdering av potensiale mht videre tjeneste/utdanning

Her anføres hvorvidt vedkommende bør søke utfordringer på samme gradsnivå, opprykk, eller hvilken type tjenesteerfaring vedkommende bør tilegne seg. Det kan også anføres behov for trening eller kompetanseutvikling. Likeledes bør det omtales om vedkommende innehar spesiell kompetanse eller potensiale i forhold til enkelte tjenestefelt.

4 Spesielle forhold

Alle spørsmål skal besvares med ja eller nei.

Spørsmål 1 skal besvares med «ja» dersom vedkommende har misbrukt rusmidler i tjenesten, eller slik at det har gått ut over tjenesten.

Spørsmål 3 skal besvares med «nei» dersom vedkommende ikke er i stand til å delta fullt ut i den daglige tjenesten, og/eller ikke er fysisk skikket for tjeneste i felt.

I rubrikken *testresultat* føres tallkarakter fra fysisk test.

Dersom spørsmål 1 eller 2 besvares med «ja», eller spørsmål 3 besvares med «nei», bør dette utdypes ytterligere i pkt 5 Supplerende opplysninger, eventuelt som eget vedlegg til tjenesteuttalelsen.

Veiledning for utfylling av tjenesteuttalelsen**5 Supplerende opplysninger**

Her føres opplysninger om relevante tjenesteforhold som ikke kommer klart til uttrykk andre steder i uttalelsen. Dette kan være forhold som har hatt innvirkning på gjennomføringen av tjenesten som langvarig sykdom eller annet fravær. Dette gjelder også aktiviteter som deltagelse i foreninger, organisasjoner eller annet som har relevans til utførelsen av tjenesten.

Ekstraverv som er pålagt av arbeidsgiver, slik som verneleder, ASO, prosjektarbeid, kommisjonsmedlem osv skal settes opp sammen med hovedgjøremål og inngå som en del av bedømmingsgrunnlaget.

Ekstraverv iht Hovedavtalen for arbeidstakere i staten med tilpasningsavtale (HA/TA) skal ikke bedømmes. Men ekstrabelastningen slike verv påfører den ansatte skal imidlertid tas med i en helhetsvurdering når uttalelsen skrives.

Dato for avholdt *medarbeidersamtale* føres med dag, mnd, år (dd.mm.åååå).

6 Hovedinntrykk

Dersom vedkommende har dekket flere tjenestestillinger i perioden (av minst 5 måneders varighet), gis hovedinntrykk for hver stilling.

Hovedinntrykket skal gjenspeile de vurderingene som er gjort i pkt 3 a Vurdering av utført tjeneste og pkt 7 Utførelse.

7 Utførelse

Her gis det en bedømmelse av hvordan tjenesten har vært utført, og hvordan ulike egenskaper har vært vist. Bedømmingen skal vurderes opp mot stillingens faktiske arbeidsoppgaver, og ut fra en norm om hva som bør ventes av vedkommende som er disponert i stillingen.

Norm uttrykker et forventet nivå ift utførelse beskrevet i de ulike evalueringskriterier.

Dersom det mangler grunnlag for å evaluere en eller flere av egenskapene, skal det krysses av i rubrikken «Ikke vurdert.»

Ved kortere øvelser er det ikke nødvendig å fylle ut dette punktet.

8 Rapporterende offiser/kvittering for mottatt tjenesteuttalelse

Uttalelsen underskrives og påføres rapporterende offisers navn samt navnet på personen rapporterende offiser har rådført seg med.

Mottakeren kvitterer for mottatt tjenesteuttalelse, og kan eventuelt gi egne merknader til forhold som er beskrevet eller ligger til grunn for uttalelsen. Dersom merknadsrubrikken er for liten, benyttes vedlegg.

9 Uttalelse fra nest høyere sjef

Nest høyere sjef gir sin vurdering av vedkommende, og i hvilken grad uttalelsen fra rapporterende offiser stemmer overens med eget inntrykk.

Generelt

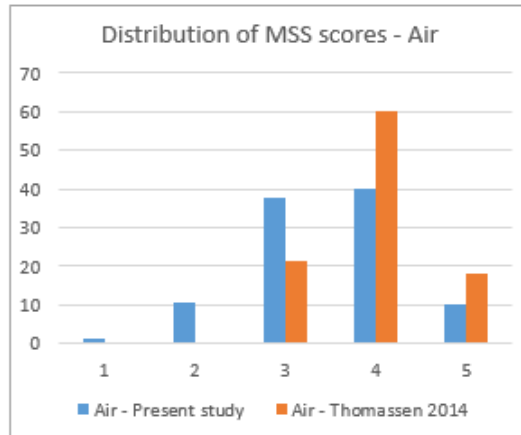
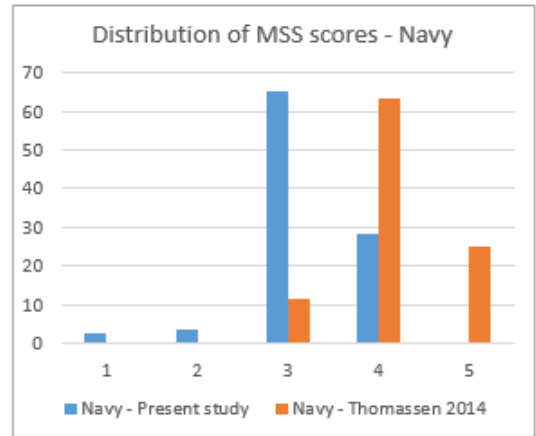
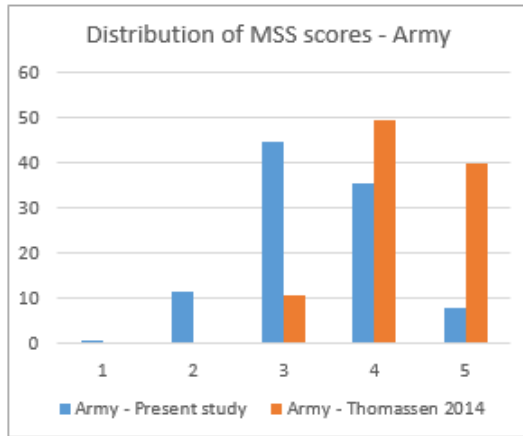
Tjenesteuttalelser skal merkes «Unntatt fra offentlighet og underlagt taushetsplikt» og oppbevares i samsvar med dette.

Tjenesteuttalelsen skal skrives ut i ETT eksemplar som underskrives av rapporterende offiser og nest høyere sjef.

Tjenesteuttalelsen skal, når det er praktisk mulig, formidles personlig og på en måte som gir mulighet for dialog.

Når befalet er orientert om innholdet og har kvittert for at orientering er holdt, kopieres uttalelsen i ett eksemplar. Originalen overleveres befalet og kopien påføres «rett kopi bekreftes» og oversendes Vernepliktsverket (VPV).

Appendix 2: Distribution of MSS ratings in the present study, compared to Thomassen (2014).



Appendix 3: Preliminary Thesis Report

ID Number: 0989197

ID Number: 0907399

Preliminary

- A study of the predictive validity of the big five personality traits in a longitudinal perspective, and of personality saturation in the leader selection interview -

Hand-in date:

16.01.2017

Campus:

BI Oslo

Supervisor:

Øyvind Martinsen

Examination code and name:

GRA 19502 Master Thesis - Preliminary

Programme:

Master of Science in Leadership and Organizational Psychology

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Summary

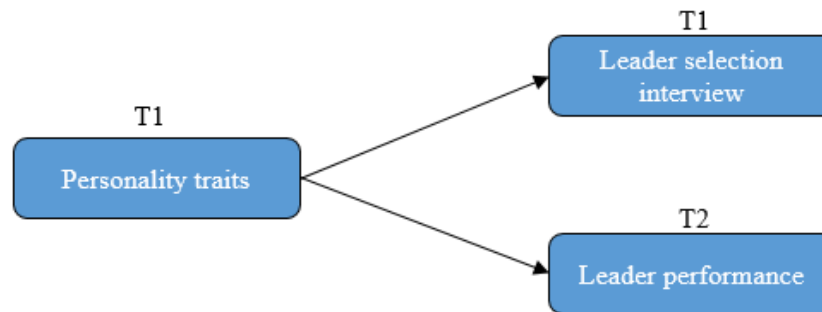
Personality has long been of interest to researchers, and has been shown to be an important predictor of leadership. The non-commissioned officer school (NCOS) select, train and develop men and women to become military leaders to serve in the Norwegian Armed Forces (NAF). Currently, this thesis aims to investigate the role of the big five personality traits in NCOS in two ways. The first question is focused on the selection interview. Here we seek to clarify the question of the degree to which there is personality saturation in a selection interview where the aim is to evaluate NCO candidate's leadership potential. The current literature on the topic is sparse, and seems to be inconsistent. A study by Salgado & Moscoso (2002) found a relation between personality and interviews, while a later study by Roth et al. (2005), found the amount of personality saturation in interviews to be low. Since research has found personality to be an important predictor of leadership. An investigation of personality saturation in a leadership context could therefore be of value, in order to increase our understanding of what constructs leader selections interviews capture. The second question is whether the big five personality traits have predictive validity in a longitudinal perspective. If the findings of this thesis coincides with the research findings on personality saturation in selection interviews, will personality traits still be a predictor of performance in the same context?

Introduction

The non-commissioned officer training school (NCOS) select, train and develop men and women to become military leaders to serve in the Norwegian Armed Forces (NAF). During springtime, young Norwegians aspiring to become leaders in the Norwegian Army attends the non-commissioned officer selection process – NAF's selection program for the NCOS. Those who are admitted, embark on a two-year long education. The first year entails training and education, while the second year primarily consists of practice, where each of the officer candidates take the role as leaders for their own team of conscripts.

Leaders of high quality is important in order to maintain a military of high quality, in a world of increasing political uncertainty. Vast amounts of resources are therefore spent in order to produce the best possible leaders for the NAF. The Officer Candidate School is the starting point of a career as a military leader. Since ensuring that the most suited candidates are admitted is of great importance, FOS entails a thorough selection process. One of several elements in this selection process is the completion of a selection interview. In this interview, experienced officers conduct a semi-structured interview with the potential officer candidates in order to assess their leadership potential. Much research has been conducted on the topic of leadership and selection. A central topic of this research is the role personality plays in predicting the outcome of such interviews. Furthermore, much research has been conducted on the role of personality in predicting leader performance. The aim of this thesis will be twofold, where the first will be to investigate the degree of personality saturation in the officer candidate selection interview, in order to clarify what is actually measured in the selection interview. Secondly, we will investigate the predictive validity of personality traits in a longitudinal perspective. More specifically, whether certain personality traits are beneficial in order to perform as an officer candidate. Increased insight into the relation between officer candidates' personality and their performance in the context of selection and training can improve the ability of NCOS to select the candidates that are best suited for becoming military leaders in the Norwegian Armed Forces. The problem formulation of this thesis is therefore as follows:

Is there personality saturation in interviews evaluating leadership potential, and do the personality traits of Officer Candidates have predictive validity in a longitudinal perspective?



Personality

Personality traits can be defined as “dimensions of individual differences in tendencies towards consistent patterns of thought, emotions and actions” (Costa & McCrae, 2003). Trait theory assumes that personality is relatively stable, that behavior is to some extent determined by characteristics of the individual, not just the situation at hand (Cooper 2010, p. 44). The relation between personality traits and leadership has been studied extensively, during the last decades. Furthermore, the introduction of the five-factor model of personality has provided researchers with a valuable taxonomy for studying personality (Judge 2002, p. 765).

In the 1930’s, researchers Allport and Odbert started their work on the so-called “lexical hypothesis” which suggests that analyzing language would help us understand the concept of personality (Digman, 1990, p. 418). More specifically, the assumption was that all significant and meaningful descriptions of individual’s characteristics would sooner or later become integrated in language, and would therefore be found in the dictionary. During the subsequent decades, several independent researchers continued this work, with the goal of understanding the content and structure of personality. The result of these researchers’ work indicated that personality could be structured into five broad constructs, or factors, even though

there was some disagreement regarding how to label them (Digman 1990 p. 420). In the 1960's, researchers Smith (1967, in Digman 1990, p. 420) and Wiggins et al. (1969, in Digman 1990, p. 420) demonstrated the usefulness of these personality traits by conducting studies showing their strong ability to predict educational achievement for students. Interest in the concept of the five-factor model of personality has gradually increased over the years, and increased has also the view on the robustness of this model (Digman 1990, p. 421). As Goldberg (1981, p. 159, in Digman 1990, p. 421) stated: "*it should be possible to argue the case that any model for structuring individual differences will have to encompass – at some level – something like these “big five” dimensions*". Even though there is a fairly good agreement on the number of dimensions needed to capture most of the variance in personality, there is less agreement with respect to the meaning of these five factors (Digman 1990, p. 420). Several words have been used to describe the content of the five broad personality traits. To exemplify, one of the factors has been labeled *surgency, assertiveness, power and social activity*, among other things (Digman 1990, p. 423), and the same goes for the other factors. However, this thesis will from now on use the terms applied in the NEO-PI, which is a personality inventory specifically tailored along the lines of the five-factor model (Digman 1990, p. 422). This inventory was developed in 1985 by researchers Costa and McCrae (Digman 1990, p. 422), and has been revised and refined several times since then. In the NEO-PI, the five factors are termed: neuroticism, extraversion, openness, agreeableness and conscientiousness. Individuals scoring high on the five factors could be described using the following adjectives (Cooper, 2010, p. 51):

- **Neuroticism:** Anxious, angry, hostile, depressed, self-conscious, impulsive, vulnerable
- **Extraversion:** Warm, gregarious, assertive, active, excitement seeker, positive emotions
- **Openness:** Imaginative, moved by art, emotionally sensitive, novelty seeker, tolerant

- **Agreeableness:** Trusting, straightforward, altruistic, cooperative, modest, tender minded
- **Conscientiousness:** Competent, orderly, dutiful, motivated to achieve, self-disciplined, thinks before acting

As previously mentioned, personality traits are viewed as relatively stable behavioral tendencies (Cooper 2010, p. 44). Among the studies supporting this view, is a study by Costa and McCrae (1988, in Digman 1990, p. 434), that followed a group of people over a six-year period. The findings showed a test-retest reliability of the traits neuroticism, extraversion and openness, in the .80's. In other words, the findings indicate that the personality of individuals, and therefore their behavior, is to some degree given, and could therefore be important to consider, in order to select the leaders that are most likely to be effective.

The concept of personality traits, and the research on it, is not without its critics. Early examples are the studies of Darley & Latane (1968, in Digman 1990, p. 421) and Milgram (1963, in Digman 1990, p. 420), that seemed to demonstrate how dependent behavior is upon the situation at hand, which they and several others argued that the personality trait research had failed to give sufficient attention. Several studies on the relation between personality and the situation has been conducted since then, e.g. by Judge and Zapata (2015), among others. Their study investigated the degree to which the situation at hand affected the predictive validity of personality traits (Judge & Zapata 2015, p. 1149). Their findings indicated that all the big five personality traits were more predictive of performance in situations that could be characterized as weak. Examples of such situations when the individual has autonomy to make his or her own decisions, and situations where work is characterized by being unstructured (Judge & Zapata 2015, 1149). Furthermore, many of the traits showed increased predictive validity in situations that activated specific traits. For example, jobs requiring social skills seemed to increase the predictive validity of the trait extraversion (Judge & Zapata 2015, p. 1149). Most researchers in the field of psychology and organizational behavior today would argue that behaviors' dependability upon the situation is obvious (Judge & Zapata 2015, p. 1149). However, the study of Judge & Zapata arguably brought more clarity to how

this interaction plays out. Since the importance and role of various personality traits is dependent on the context, a review of the research on the relation between personality and leadership would be in its place. The next section will review the literature on the relationship between personality and leadership, in order to identify the potential implications of officer candidate's personality to their performance in a selection and training context.

Personality and leadership

According to Stogdill (1974, p. 256), there are almost as many definitions of leadership as persons who have tried to define it. However, most definitions of leadership “*reflect the assumption that it involves a process whereby intentional influence is exerted by one person over other people to guide, structure, and facilitate activities and relationships in a group or organization*” (Yukl 2006, p. 3). Arguably, leadership is among the most researched topics in history. However, scientific research on this phenomenon first started in the twentieth century. Since then, research has focused on various approaches in its pursuit of understanding the concept of leadership. One of the topics that has received much attention is what determines effective leadership (Yukl 2006, p. 2). Among the earliest approaches to this research was the trait approach, which not only includes personality traits, but also other individual attributes and their ability to predict leader effectiveness (Yukl 2006, p. 180). The assumption in trait theory is that leadership is dependent on the personal qualities of the leader (Judge 2002, p. 765). Before proceeding, a few words on the term “leader effectiveness” is in its place. Deciding how to evaluate leadership effectiveness, and which approach is the most appropriate is difficult, since this choice depends on the values and objective of the person making the evaluation (Yukl, 2006, p. 11). However, as a general definition, leader effectiveness refers to the “*consequences of the leader's actions for followers and other organizational stakeholders*” (Yukl 2006, p. 9). A more specific definition can be that it “*refers to a leader's performance in influencing and guiding the activities of his or her unit toward achievement of its goals*” (Stogdill 1950, in Judge et al. 2002, p. 767). Furthermore, the more commonly used method of measuring leader effectiveness is through ratings made by the leader's peer, supervisors and/or subordinate (Judge et

al. 2002, p. 767). Leader effectiveness is distinguished from leadership emergence, which is a field of study focusing on identifying factors associated with being perceived as leaderlike (Hogan et al. 1994, p. 496, in Judge et al. 2002, p. 767).

In a study by DeRue et al. (2011), the authors investigated the validity of trait- and behavioral theories of leadership, the latter including transformational leadership behavior, among others. Their findings indicated that leader traits and behavior combined, explained 31% of the variance in leadership effectiveness. Furthermore, their findings indicated that leader behaviors accounted for more of the variance than traits (DeRue et al. 2011, p. 7).

Nevertheless, the current literature on the relation between personality and leadership indicates that personality is an important predictor of leadership. In a meta-analysis by Judge et al. (2002), the five-factor model and leadership was found to have an overall correlation of .48 (Judge et al. 2002, p.765). In the same study, findings from both a business and government/military settings were presented, with correlations as visualized below.

Personality trait	Business	Government/military
Neuroticism	-.15	-.23
Extraversion	.25	.16
Openness	.23	.06
Agreeableness	-.04	-.04
Conscientiousness	.05	.17

Correlations between personality traits and leadership (Judge et al. 2002, p. 773).

The findings indicates that having a tendency towards being sociable, active and energetic (Judge et al. 2002, p. 767), is beneficial as a leader in both the business- and military context. However, whereas extraversion was found to have the highest correlation with leadership in a business context, neuroticism was the factor with the highest correlation in the military setting, with -.23 (Judge et al. p. 773). This indicates that having a tendency to exhibit poor emotional adjustment, such as being insecure, anxious and hostile (Judge et al. 2002, p. 767), which are among the

characteristics of neurotic individuals, reduces the effectiveness of leaders military context. As shown in the model above, the findings of Judge and colleagues (2002), indicate that personality traits are important for both military and civilian leadership. However, the factors does not seem to be of equal importance in both contexts. A closer look on the military context may therefore be appropriate.

Personality and Military Leadership Potential

A closer look at the relationship between personality and military leadership potential is relevant, as this thesis will be conducted in a military setting. A review by Vickers (1995) study, which was limited to the military leadership setting, also support the relationship between personality and leadership. However, the precise pattern of the relationship turned out to be vague (Vickers 1995, p. 11). Among the reasons for this was that both positive and negative indicators of leadership could be found within a single personality domain (Vickers 1995, p. 1). Based on findings in the review, Vickers (1995, p. 19) outlines a tentative personality profile for military leadership including critical elements from the neuroticism, conscientiousness, agreeableness, and extraversion domain. Due to the small amount of data available on the openness to experience domain, this factor was not included (Vickers 1995, p. 18). An overview of the central components of military leadership, according to the findings of Vickers (1995, p. 19), is visualized below.

Personality trait	Component's correlation with leadership	
	Negative	Positive
Neuroticism	Depression, stress vulnerability, pessimism	
Extraversion	Sociable, show-off	Assertiveness, aggressive
Agreeableness	Kind, generous	Frank, trusting
Conscientiousness		Competence, effort, achievement striving, self- discipline

Central components for leadership (Vickers 1995, p. 19).

In his review, Vickers' stress the importance of analyzing personality at the facet level (1995, p. 18), since "*detail is important when predicting leadership*" (Vickers, 1995, p. 14). Furthermore, he argues that even though it seems possible to establish a military leadership selection profile based on personality, the literatures inconsistent coverage of the personality domains is challenge (Vickers 1995, p. 19).

Leadership Potential in NCOS

The Norwegian Armed Forces have stated what they look for when conducting the selection process for NCOS. According to their webpages (forsvaret.no, 2016, 13.01), the characteristics of a good leader, used to assess their leader candidates, is comprised of five domains: *Being a role-model, ability to tackle objectives, mental robustness, cooperation and development*. Each of these five domains are accompanied by descriptions of behaviors and characteristics that explain what the five domains entail (forsvaret.no, 2016, 13.01). As an example, one of their descriptions under the domain "mental robustness" is emotional stability and the ability to think clearly in situations of high physical and psychological demands. Arguably, these descriptions show similarities with the definition of the big five factor neuroticism (Cooper 2010, p. 51). Furthermore, the domain "ability to tackle objectives" entails, among other things, to complete commenced tasks and being able to work systematically. These descriptions arguably shows similarities with the factor conscientiousness (Cooper 2010, p. 51). The other domains and their associated descriptions also have similarities with the factors and facets of the big five. We will consider using NAF's definition of leadership potential, combined with the findings of Vickers (1995, p. 19) in order to generate hypotheses on the facet level of the big five personality factors. However, at this point, we present the following hypotheses, based on the findings of Judge and colleagues' (2002) meta-analysis:

H1: The big five personality traits are related to officer candidate performance

H2: Neuroticism is negatively correlated with officer candidate performance

H3: Extraversion is positively correlated with officer candidate performance

H4: Openness is positively correlated with officer candidate performance

H5: Agreeableness is negatively correlated with officer candidate performance

H6: Conscientiousness is positively correlated with officer candidate performance

Personality saturation in selection interviews

Selection can be defined as the process of choosing the individual that is best suited for a particular position in an organization, from a group of applicants (Mondy et al. 2002, p. 158). There are several procedures that can be applied in a selection process. However, the selection interview seems to have an intuitive appeal for hiring managers, and is one of the most frequently used procedures (McDaniel et al. 1994, 599). The goal of the interview is to predict future job performance on the basis of candidate's' oral responses to oral inquiries (McDaniel et al. 1994, 599).

Interviews can be differentiated based on their degree of standardization, according to McDaniel et al. (1994, p. 601). Those that gather information in a less systematic manner are called *unstructured* interviews. On the other side of the standardization continuum, is the *structured* interview (McDaniel et al. 1994, p. 602). This type utilizes a printed form containing specific items to be covered, has a uniform method of recording and rating the oral responses of the interviewee (McDaniel et al. 1994, p. 602). Several meta-analyses have investigated the validity of employment interviews, one of them by Schmidt and Hunter (1998). The results showed that structured interviews have a predictive validity of .51, similar to tests of general mental ability. In the same study, the unstructured interview was found to have a predictive validity of .38 (Schmidt & Hunter 1998, p. 265). Employment interviews have also proven to be reliable in meta-analytic studies (e.g. in McDaniel et al. 1994, p. 604). By dividing the structured and unstructured interviews, they found an average reliability of .84 in structured and .64 in unstructured. In other words, interviews, and especially the structured interview, are valuable predictors of job performance.

Few conclusions have been more widely supported than the idea that structuring the interview enhances reliability and validity (Campion et al., 1997, p. 665). However, there are several things researcher should be aware of in regards to an employment interview. When evaluating an interview, the interviewers should rate each single answer with a scale to be as structured as possible, according to Campion et al. (1997). Another possibility, which may give slightly more flexibility during the interview, is to have several ratings in the end of the interview, but it wouldn't be that directly linked to each question (Campion et al., 1997). Campion et al. (1997) also

stresses the importance using detailed anchored rating scales, helping the raters to have realistic expectations when assessing answers provided from the candidates.

In employment interviews, multiple interviewers might be beneficial as they could reduce individual biases in the evaluation process (Campion et al., 1997). In addition, it could be easier for several interviewers to remember important information from the answers given from the candidate (Stasser & Titus, 1987; in Campion et al., 1997). Campion et al. (1997, p. 681) also states that the reliability of interview ratings should be higher when there are several raters. Using the same interviewers would also be advantageous, because one will reduce the candidate rating variance that is among interviewers from the actual score variance (Campion et al., 1997). This is based on findings from Dreher, Ash, and Hancock (1988; in Campion et al., 1997), which shows that interviewers have rating tendencies and a differentiation between their validities. Findings by Campion et al. (1994; in Campion et al., 1997, p. 683) show that by using highly structured interviews, which gave an inter-rater reliability of .97, different interviewers didn't matter. This is an interesting finding in our context with a high number of candidates to NAF, which could make it more difficult to use the same interviewers.

Even though interviews are found to be both reliable (Conway et al. 1995, in Roth et al. 2005, p. 261), and valid predictors of job performance (Schmidt & Hunter 1998), far less is known about what constructs the interview actually capture (Roth et al. 2005, p. 262). There is a substantial interest among both managers and researchers in this topic, and one of the questions posed is how much personality saturation there is in interview ratings (Roth et al. 2005, p. 261). Personality saturation in interviews refers to the degree to which measures of personality is related to interview ratings (Roth et al. 2005, p. 261). According to a study by Roth and colleagues (2005, p. 271), the authors state that the current literature has found that personality saturation in structured interviews is low. However, they also note that both the amount of studies on the subject is sparse, and that these studies have focused on just a few types of jobs. It may therefore be that other types of jobs may be more saturated with personality than the current research has found (Roth et al. 2005, p. 270). It is important to understand personality saturation in selection interviews, because one

may recognize which constructs actually being measured in our predictions of job performance (Hough 2001, cited in Roth et al., 2015, p. 261). Knowing what the selection interview measures could give interviewers valuable insight when assessing candidates for different positions. According to Barrick & Mount (1996, in Roth et al. 2005, p. 261), turnover and absenteeism (Judge, Martocchio & Thoreson, 1997, in Roth et al. 2005, p. 261) are two of several criterias that could be predicted by personality. This means that if the personality saturation in an interview is high, the interview could potentially predict other criteria, in addition to job performance, such as e.g. absenteeism and turnover.

In a meta-analysis of construct validity of the employment interview, by Salgado and Moscoso (2002), the researchers did find a relationship between interviews and personality. In their study, they grouped the interviews into two different categories: conventional interviews and behavioral interviews (Salgado & Moscoso, 2002). What they found was that the conventional interview to some degree assessed the Big Five personality dimensions (Salgado & Moscoso, 2002), contrary to the findings of Roth and colleagues (2005). Among the five personality factors, emotional stability had the strongest correlation (.38), with extraversion (.34) and openness (.30) following as the second and third strongest correlations (Salgado & Moscoso, 2002, p. 310). Conscientiousness and agreeableness had a respective correlation of .28 and .26. Behavioral interviews, on the other hand, was not found to assess personality. However, they seemed to assess social skills, job knowledge, job experience, and situational judgment, according to Salgado & Moscoso (2002).

Personality Saturation in the Leader Selection Interview

Based on our review of Roth and colleagues (2005, p. 261) article, one should expect interviews to have little personality saturation. However, as Roth et al. argues, the amount of literature on the topic is sparse. Furthermore, Roth et al.'s study primarily focused on jobs related to customer service. Contrary to the findings of Roth et al. (2005), Salgado & Moscoso (2002) did find a relation between personality and interviews. If we combine these findings with the ones from our review of the literature on personality and leadership, who shows that personality is of significant

importance to leadership, an investigation of the degree of personality saturation in the selection interview would be in its place. More specifically, since personality seems to be of importance to leadership both in a military and civilian context, one could assume that measures of personality would be related to interview scores rating the leadership potential of interviewees. Furthermore, as previously mentioned, NAF's criteria for selecting NCO candidates (forsvaret.no, 2016, 13.01) show similarities with the big five personality factors. An investigation of the degree of personality saturation in an interview aimed at identifying leadership potential would add to what we know about personality saturation in interviews by providing data and findings from a new setting. At this point, no hypotheses will be presented related to this topic.

Method

Sample and Procedure

The sample consists of 1200 applicants to the non-commissioned officer training school of the Royal Norwegian Armed Forces. The admission process is held yearly and is a common process for the navy, air, and ground forces and their respective NCO schools, according to Gimsø, Martinsen, and Arnulf (2011, in Gimsø, 2014, p. 40). To ensure full anonymity, we will not mention which year this specific NCO admission process took place. Selecting the best candidates with the highest potential for becoming an officer (leader) in the future is the overall goal with the admission process, according to Gimsø et al. (2011, in Gimsø, 2014). Applicants participating in the admission process had previously been screened and selected based on different measures, such as an examination of men and women liable for military service and grades from high school (Gimsø et al., 2011, in Gimsø, 2014). Every candidate in the admission process had to conduct psychological, physical, and medical examinations, and was excluded from the final part of the process if they did not perform better than the minimum requirements. In the final part of the process, candidates offered NCO admission were those judged to have better qualifications based on the physical tests, interview ratings, and the field exercise (Gimsø et al., 2011, in Gimsø, 2014). In May the following year, nearly a year after the NCO admission, other measures were

collected within the same sample, including a military service statement. Candidates were measured based on one's performance since the admission. However, the sample size was reduced from the original amount to around 450.

The preliminary thesis was written before we received the dataset from the Royal Norwegian Armed Forces. Therefore, no detailed information about gender, age distribution, or selection ratio is included. However, previous studies (e.g. Gimsø, 2014, p. 40) from earlier NCO admission processes shows that there are a disproportionate number of men and the average age is approximately 20 years. Details will be included in the final thesis.

Measures

Data in the present study have been collected on two different points in time from the same sample - applicants to the non-commissioned officer training school of the Royal Norwegian Armed Forces. Thus, it can be characterized as a longitudinal research, which could be defined as *a research design in which data collected on a sample on at least two occasion* (Bryman & Bell, 2011, p. 715). The data collected allows us to investigate whether measures of personality in the selection process can predict performance almost one year later.

NEO-PI-3

Candidates in the NCO admission process completed a Norwegian version of the NEO-PI-3, which is a revised version of the well-used NEO-PI-R for measurement of the FFM of personality (Costa and McCrae, 1992). The inventory has revealed evidence of high validity (Costa and McCrae, 1992); the same goes for the Norwegian version of it (Martinsen, Nordvik, Østbø, 2011). It includes 240 items and measure Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. The items in this study were scored on a five-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

It is important to emphasize that personality measures is not without criticism. According to Hogan, Barrett, & Hogan (2007, p. 1270), there are especially two major points of criticisms when it comes to personality measures for employee

selection. One of them is faking, named *impression management* by Hogan et al. (2007), and involves that you control your behavior to appear more in line with the expectations. In other words, you answer in a way that is more socially desirable, which could be defined as “*the tendency of some people to respond to items more as a result of their social acceptability than their true feelings*” (Podsakoff et al., 2003, p. 82). When controlling the behavior during social interaction, which also includes responding to inventory items (Hogan et al., 2007), it is understandable that one could question studies based on personality inventories. However, a study conducted by Hough and Furnham (2003, in Hogan et al., 2007, p 1270) shows that “*impression management has minimal impact on employment outcomes*”. In addition, faking does not seem to be a major problem in job application processes, according to several studies (Hogan et al., 2007).

Selection Interview

As mentioned, candidates had to go through a selection interview in the NCO admission process. According to Gimsø et al. (2011, in Gimsø, 2014), the interviews lasted approximately 60 minutes and were held by trained and experienced officers. Two interviewers are usually present during these interviews, which intend to measure leadership potential, according to Gimsø et al. (2011, in Gimsø, 2014). He also identified five main criteria especially relevant in the assessment: *maturity/motivation, values/attitudes, activities/interests, leadership qualities, and articulation/communication* (Gimsø et al., 2011, in Gimsø, 2014, p. 41). The interviews follow a standard template, but the interviewers had the opportunity to go into things they considered appropriate for each candidate, according to Gimsø (2014), thereby they characterizing the interviews as semi-structured. They assumed that the reliability of the interview were closer to meta-analytic findings for structured interviews, which were .84 (McDaniel et al., 1994; in Gimsø, 2014, p. 42), than for unstructured interviews, which were .68, because they could not estimate the reliability or the validity of the present selection interview. Since we have not received the interview questions, or the data from the interview, we cannot present further details about the selection interview in our current thesis.

Evaluation of NCO Candidate's Leadership Potential

Those serving in the NAF shall annually have service statement and appraisal, according to NAF's personnel handbook (Simonsen, 2014, 08.01). In the present study, data from around 450 non-commissioned officers were gathered, almost a year after their NCO admission. The service statement is written by their superior and shall judge non-commissioned officers qualifications, skills, and potential in the service.

Common Method Bias

In the late 1950s, researchers (e.g. Campbell & Fiske, 1959, in Podsakoff et al., 2003) began to look into the possibility that common method variance could have a potential impact on a relationship between two constructs. Today, it is widely agreed upon that it is in fact one of the main sources of measurement error (Podsakoff et al., 2003). According to Podsakoff et al. (2003, p. 879), common method variance could be explained as "*the variance that is attributable to the measurement method rather than to the constructs the measures represent*". This can lead to a differentiation between true and observed correlation, either by increasing or decreasing the relationship between constructs (Podsakoff et al., 2003). Thus, there is a risk for either Type I or Type II errors.

As a personality inventory is used to measure the candidate's personality, and an interview is used to rate leadership potential in the present study, one would likely reduce the probability of a systematic effect since it don't share common methods. However, other common method biases could influence the measurement, like *Context induced mood* (Podsakoff et al., 2003). Candidates responding to the personality inventory would probably "standardize" the variance in the following responses of the questionnaire with their first answers, according to Podsakoff et al. (2003).

Another aspect that is worth mentioning is the possibility that some of the candidates took the questionnaires before the selection interview, and others in reverse order. This was the case when Gimsø (2014) conducted a study within the same context some years ago, risking a priming effect (Salancik and Pfeffer (1977, in Podsakoff et

al., 2003). Those who responded at the questionnaire before the interview would probably answer the interview questions in a way that is related to their response on the inventory. Gimsø et al. (2011, in Gimsø, 2014, p. 41) state that there were no lists of which candidates conducted the selection interview before the questionnaire, but that it probably would have a counterbalancing effect.

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