

Ida Antonsen

Exploring aspects of construct and criterion validity of Norwegian Military Personality Inventory (NMPI)

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Supervisor: Ingvild Saksvik-Lehoullier & Eva Langvik
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Norwegian University of Science and Technology
Faculty of Social and Educational Sciences
Department of Psychology



Norwegian University of
Science and Technology

Preface

First, I would like to thank all who participate in this study, without your time and honesty, this would not have been possible. I would also like to extend my thanks to the Norwegian Armed Forces, and *Tom Skoglund* in particular. Thank you for including me on your project and providing me with the research data, it was exactly what I hoped for when I reached out to you. I hope these findings are useful to you.

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It is bittersweet that this journey soon is at an end, but as one journey ends – another begins!

Oslo, May 2017

Ida Antonsen

Abstract

Every instrument used for selection purposes should be valid, reliable and practical. The aim of this study is to examine the construct and criterion validity of Norwegian Military Personality Inventory (NMPI), a personality test developed by the Norwegian Armed Forces (NAF). During the summer of 2016, 715 candidates attending the NAFs assessment center answered a questionnaire containing NMPI and NEO Personality Inventory. As a part of a larger research project, this study seeks to bring more insight to the psychometric properties of NMPI. Construct validity was analyzed by comparing the NMPI to NEO-PI, and criterion validity was examined by studying the relationship between the five personality factors from NMPI and objective measures of performance during the assessment center. These performance criteria were competence scores from interview and field, and the dichotomous granted admission after the assessment center. The author found support for the premise that the NMPI does measure the Big Five factors of personality. Findings were: 1. Extraversion and Conscientiousness (both NMPI) positively predicted admission. 2. Openness to Experience (NMPI) negatively predicted performance in both field and interview. 3. Extraversion (NMPI) predicted better performance in the both field and interview. However, the amount of variance explained by the factors were 7% or lower in the respective regression analyses. Further, the data appears to have suffered from restricted variation. The results are discussed in terms of the existing literature and implications for future use of the inventory, as well as future research are suggested.

Keywords: Big Five, Personality Inventories, Performance, Armed Forces

Contents

PREFACE	I
ABSTRACT	III
THEORETICAL FRAMEWORK	3
PERSONALITY	3
<i>Big Five</i>	3
Extraversion (Surgency).	4
Agreeableness.	4
Conscientiousness (Dependability).....	4
Emotional Stability (Neuroticism).....	4
Culture (Intellect/Openness).	4
<i>The bandwidth-fidelity dilemma</i>	4
<i>Measuring Personality</i>	5
PSYCHOMETRICS IN PERSONALITY TESTS	6
<i>Content and face validity</i>	6
<i>Construct validity</i>	6
<i>Criterion validity</i>	7
<i>The validity of Personality tests</i>	7
SELECTION	8
<i>Personality and performance</i>	9
Conscientiousness and performance.	10
Emotional Stability and performance.	11
Extraversion and performance.	11
Agreeableness and performance.	11
Openness (Intellect) and performance.	12
<i>Selection in the NAF today</i>	12
NMPI.....	13

THE CURRENT STUDY	13
METHODS	15
SAMPLE.....	15
PROCEDURE.....	15
INSTRUMENTS.....	15
<i>NEO-PI.</i>	15
<i>NMPI-80.</i>	16
<i>Candidate performance.</i>	16
<i>Granted Admission.</i>	17
STATISTICAL ANALYSIS	17
<i>Correlation Analysis.</i>	17
<i>Principal Component Analysis.</i>	18
<i>Regression Analyses.</i>	18
RESULTS	19
DISCUSSION	29
THE NMPI INSTRUMENT	29
<i>The factor structure.</i>	29
Restricted range.	30
Removed items.....	30
CONSTRUCT VALIDITY: THE CONVERGENCE BETWEEN NMPI AND NEO-PI..	31
CRITERION VALIDITY: NMPI AND PERFORMANCE.....	31
<i>Extraversion.</i>	32
<i>Conscientiousness.</i>	33
<i>Openness to Experience.</i>	34
<i>Emotional Stability.</i>	35
<i>Agreeableness.</i>	35
<i>General considerations.</i>	36

PRACTICAL IMPLICATIONS FOR THE NAF.....37

Ethical considerations.38

STRENGTHS AND LIMITATIONS39

CONCLUSION43

REFERENCES.....44

APPENDIX A: FACTOR LOADINGS FOR NEO-PI.....57

APPENDIX B: THE PRELIMINARY FACTOR STRUCTURE OF NMPI58

APPENDIX C: RELEVANT PARTS OF THE QUESTIONNAIRE61

Tables

Table 1 Descriptive Statistics and Cronbachs Alpha for Personality Traits in NEO-PI-3 and NMPI, Competence Scores (CS) and Granted Admission (GA).....	20
Table 2 Factor Loadings for Principal Component Analysis With Varimax Rotation of NMPI items.....	21
Table 3 Correlation Coefficients for Personality Traits in NMPI and NEO-PI-3, Competence Scores (CS) and Granted Admission (GA).....	25
Table 4 Associations Between NMPI Personality Dimensions and Competence Scores in Interviews and in Field, Controlling for Age and Gender	27
Table 5 Logistic Regression for predictions of Gender, Age, NMPI Personality Dimensions and Granted Admission.....	28
Table 6-A Factor Loadings for Principal Component Analysis With Varimax Rotation of NEO-PI-3 facets.....	57
Table 7-A Factor Loadings for Principal Component Analysis With Varimax Rotation of NMPI items.....	58

Identifying personal determinants of performance has long traditions in the Armed Forces (Fosse, Buch, Säfvenbom, & Martinussen, 2015; Hansen, 2006; Martinussen, 2005; Sellman, Born, Strickland, & Ross, 2010). Testing the candidates personality as a part of the selection regime in both civil and military occupations is still very popular (Bilgiç & Sümer, 2009; Carless, 2007; Chappelle, Novy, Sowin, & Thompson, 2010; Congard, Antoine, & Gilles, 2012; Fosse et al., 2015; Furnham & Fudge, 2008; Mayer & Skimmyhorn, 2017; McCormack & Mellor, 2002; Ones, Dilchert, Viswesvaran, & Judge, 2007; Stark et al., 2014; Vecchione, Alessandri, & Barbaranelli, 2012). For the Norwegian Armed Forces (henceforth referred to as NAF), terror, cyber-attacks and international peacekeeping missions are all part of an increasingly more complex work situation and the need for skilled personnel is prominent. Selecting the wrong individuals for training and service might lead to major financial losses. Adding to this, it is especially important when selecting personnel to high-risk positions, where the right decision is crucial for success in challenging situations (Moldjord, Nordvik, & Gravråkmø, 2005). The NAF invests a great deal of resources on educating military officers (Skoglund, 2016). Limited economic resources, compulsory military service for both men and women, and increased popularity to serve in the army has made selecting the right personnel more crucial than ever before. The complexity of the NAFs duties and social responsibilities speaks for a diverse workforce. To meet these demands, there has been an explicit goal to recruit staff representing a greater diversity of backgrounds, abilities, skills and experience than before (Prop. nr 151 S, 2016). It is crucial that the development of new selection criteria relies on research evidence.

Personality tests are often used in applied settings, and several studies have found that personality is able to explain some of the variation in job-performance (Barrick, Mount, & Judge, 2001; Fosse et al., 2015; R. Hogan, Hogan, & Roberts, 1996; Judge, Rodell, Klinger, Simon, & Crawford, 2013; Mayer & Skimmyhorn, 2017; Ones et al., 2007; Salgado, 1998; Salgado & Táuriz, 2014). These findings gives reason to believe that personality tests are beneficial when selecting the future officers in the NAF as well. Today, the NAF use personality tests as one of several selection criteria. The inventory used by the NAF has been criticized for being too broad and general and therefore not suited for military selection (Skoglund, 2016). The NAF has further argued that the items are outdated. By creating their own inventory, the NAF can adjust and add other measures and items in the future, for continuous improvement and the current need at the given time. Based on this, the NAF has proposed that there is a need for a new inventory for selecting the most suited military personnel. This further leads up to the purpose of this paper.

This paper is a part of a more comprehensive study aiming to ensure that the personality inventory used by the NAF is reliable and valid, as well as practical for military selection. It is exploratory in nature and aims to investigate if the structural properties of the newly developed Norwegian Military Personality Inventory (NMPI) are in line with the theoretical framework of the Big Five dimensions of personality and if NMPI can predict some of the criteria for performance at NAFs assessment center..

Theoretical Framework

Personality

A comprehensive definition is suggested by Pervin (1980), where personality is defined as those individual characteristics of the person that accounts for consistent patterns of behavior in general. The body of research on personality and performance is most commonly based on the trait-perspective on personality, and this paper will therefore focus on the trait-perspective on personality (Barrick et al., 2001; Bilgiç & Sümer, 2009; Fosse et al., 2015; Hurtz & Donovan, 2000; Judge et al., 2013; Judge & Zapata, 2015; McCormack & Mellor, 2002; Salgado, 1998; Salgado & Táuriz, 2014; Schmidt & Hunter, 1998; Tett, Jackson, & Rothstein, 1991). Trait theorists argue that individual differences should be represented on a continuum, and seek to measure the entire span of personality (Allport & Odbert, 1936). The study of personality traits is a well-established field in social research, but the number of personality factors needed to fully describe an individual has been discussed in great detail throughout the literature. It has resulted in several validated and well-documented personality taxonomies, such as the Big Five and the Five-Factor Model of Personality (Goldberg, 1992; McCrae & Costa, 2010).

Big Five. Across a wide variety of research involving trait-descriptive terms, five broad factors have been found (Costa & McCrae, 1992a; De Fruyt, McCrae, Szirmák, & Nagy, 2004; Digman, 1990; Goldberg, 1992; McCrae & Costa, 2010). The proposed Big Five model has been subjected to considerable critics, among other that five factors are inadequate to fully describe personality, that it lacks predictive power or that the structure lacks theoretical framework (Block, 1995, 2001, 2010; Cattell & Cattell, 1995; Eysenck, 1991, 1992; Mershon & Gorsuch, 1988; Musek, 2007; Paunonen, Haddock, Forsterling, & Keinonen, 2003; Paunonen & Jackson, 2000; van der Linden, te Nijenhuis, & Bakker, 2010). In any case, there is widespread agreement that there exist only a few large personality factors, and that these factors can summarize the personality domain reasonably well.

As the five factor-solution representing personality emerged, research on the topic has increased dramatically. The factors were derived from factor analysis and are commonly known as the “Big Five” (Goldberg, 1990). The Big Five framework does not represent an instrument, but must be seen as an evolving scientific construct. These “Big-Five” factors have traditionally been numbered and labeled as follows: (I) Extraversion (or Surgency), (II) Agreeableness, (III) Conscientiousness (or Dependability), (IV) Emotional Stability (vs. Neuroticism), and (V) Culture. Alternatively, Factor V has been interpreted as Openness

(Costa & McCrae, 1987) and as Intellect (Digman & Takemoto-Chock, 1981; Peabody & Goldberg, 1989).

Extraversion (Surgency). A high score on Extraversion concern to what degree an individual is gregarious, sociable and assertive (Goldberg, 1992; McCrae & Costa, 2010). Low scorers are often described as reserved, quiet and timid.

Agreeableness. Individuals with high scores on Agreeableness tend to be trusting, humble, altruistic and genuinely concerned about the wellbeing of others (Goldberg, 1992; McCrae & Costa, 2010). Those with low scores on this factor tend towards being cold, straightforward and skeptical towards others.

Conscientiousness (Dependability). Those who score high on Conscientiousness are usually described as being dedicated, systematic and thorough (Goldberg, 1992; McCrae & Costa, 2010). High scorers tend to be hard working, persevering, organized and dependable. Low scorers are often described as spontaneous, flexible and disorganized.

Emotional Stability (Neuroticism). A high score on Emotional Stability concerns whether an individual is self-confident, calm and cool (Goldberg, 1992; McCrae & Costa, 2010). Individuals with low scores on Emotional Stability tend to be nervous, insecure, emotional and are often characterized as worriers.

Culture (Intellect/Openness). In the Big Five framework, this factor is called Culture but has also been called Intellect and Openness (Goldberg, 1990). To keep in line with the majority of literature and for practical reasons, the factor will henceforth referred to as Openness. Individuals who score high on Openness are usually curious, creative and cultured (Goldberg, 1992; McCrae & Costa, 2010). Those low on this dimension tend to be more practical and traditional, and are less inclined to try new things.

The bandwidth-fidelity dilemma. These factors are further separated into six facets (Goldberg, 1990, 1992). Recently, there has also been proposed a three-level 6-2-1 hierarchical model of personality, where each of the domains consist of two facets, which again are composed of the six NEO sub-facets (DeYoung, Quilty, & Peterson, 2007; Judge et al., 2013). The issue of how to best measure personality, either by lower order (narrower) or higher order (broader) constructs has been addressed by the bandwidth-fidelity dilemma. Bandwidth refers to the breadth of information, whereas fidelity refers to the reliability of the information. Some researchers suggests that the dilemma forces a choice between obtaining a variety of information, versus getting more precise and certain results (Cronbach & Gleser, 1965). The broader bandwidth factor has a higher reliability than the narrower facets, since the factor contains more items than any of its composite facets, and since the broader factors

are a composite of several inter-correlated facets (Ones & Viswesvaran, 1996). Despite of the advantages of increased reliability broader traits do not show better predictive power than narrower traits (Ashton, 1998; Chapman, 2007). Although one facet of a domain is related to a criterion, other might overshadow the effect if they are not related to the criterion. This suggestion has been demonstrated in several studies (Ashton, 1998; Chapman, 2007; Weiss & Costa, 2005). The broader factor will therefore show less predictive power than the individual facets, and therefore not be acknowledged in studies only examining the broader factors.

However, some have argued that the two are not necessarily dependent and does not agree with the notion that fidelity must be sacrificed over bandwidth (Chapman, 2007; Ones & Viswesvaran, 1996). Others have argued that all parts of the hierarchy are important when understanding the construct of personality and that the value of broader or narrower traits depends on the context (Markon, Krueger, & Watson, 2005). Further, they found that narrower traits were better predictors of specific behavior, which has been supported by other studies as well (Judge et al., 2013; Tett, Steele, & Beauregard, 2003). Davies, Connelly, Ones, and Birkland (2015) argued for an even higher and broader personality construct, and suggested one general factor that accounted for the variance in personality.

Measuring Personality. Personality tests does not seek to find the identity of individuals, but rather their reputation (R. Hogan, 2005). Reputation is based on past behavior, and past behavior is the best information obtainable about future behavior. Self-reports about typical behavior in the past is therefore a common method of gathering information about one individuals personality (e.g. Goldberg, 2010; McCrae & Costa, 2010). The Big Five framework is not an instrument and therefore there has been developed several instruments seeking to measure past behavior, contextualized by the five dimensions. The NEO-Personality Inventory (NEO-PI; McCrae & Costa, 2010) is one of the most popular personality inventories designed to measure the Big Five domains (Funder, 2001). The NEO-PI comes in both a shorter version (NEO-FFI) consisting of 60 items and a longer version (NEO-PI-3/NEO-PI-R) consisting of 240 items (McCrae & Costa, 2010). Instruments measuring the Big Five domains, such as the NEO-PI, are often used to study the relationship between personality traits and selection, as well as the relationship between personality and job-performance. In NEO-PI, personality traits are measured on a continuum (McCrae & Costa, 2010), as opposed to the type dichotomy of other personality instruments like the Myer-Briggs Type Indicator (Myers, McCaulley, Quenk, & Hammer, 1998).

Psychometrics in Personality tests

It is imperative with a satisfactory insight into the properties of psychometric measurements when utilizing a psychometric instrument (Congard et al., 2012; Cronbach & Meehl, 1955; McCrae, Kurtz, Yamagata, & Terracciano, 2011; Salgado & Táuriz, 2014). A pitfall when not having proper knowledge about psychometric properties is interpreting the results wrong or drawing the wrong conclusions. If the NAF are going to select personnel based on personality, it is a prerequisite that the measurements of personality satisfy certain criteria of reliability and validity. Cronbach and Meehl (1955) emphasizing testing content validity, construct validity and criterion (predictive and concurrent) validity when developing a psychometric instrument.

To ensure that a personality test is reliable, the test should contain a sufficient number of items that measure the same construct (Borsboom, Mellenbergh, & van Heerden, 2004; DeVon et al., 2007). It is desirable with high covariance both between items and across different settings over time. An increased number of items measuring a construct will usually increase reliability, but too many items can decrease reliability because the respondents can get tired or lose interest, and therefore answer carelessly (DeVon et al., 2007). Reliability is a prerequisite for validity.

Content and face validity. It is vital that the conclusions drawn based on a test score are valid (DeVon et al., 2007). These authors points to translational-, construct and criterion validity as ways to understand the significance and implications of a test score. Translation validity consists of face validity and content validity (DeVon et al., 2007). Content- and face validity is subjective and it is common to seek experts or lay people to review the instrument for grammar, syntax, organization, appropriateness, and confirmation that it appears to flow logically (DeVon et al., 2007; Netemeyer, Bearden, & Sharma, 2003).

Construct validity. When selecting future candidates to the NAF it is imperative that construct validity is well documented before utilizing the test. Construct validity is the degree to which an instrument measures the construct it is intended to measure (Campbell & Fiske, 1959; Cronbach & Meehl, 1955). The construct validity of a test can be established by comparing it with a prior test known to be valid, more precisely tests that are considered “gold standard”. Construct validity consists of both convergent and discriminant validity, and can be ensured by comparing with other personality tests and see if the scores covariate or differentiate (Campbell & Fiske, 1959; DeVon et al., 2007). Convergent validity refers to the degree to which two measures of constructs that theoretically should be related, are in fact related. Conversely, discriminant validity is the inventory’s capability to discriminate

between constructs that are theoretically different (Campbell & Fiske, 1959; DeVon et al., 2007).

Criterion validity. When a personality test is used for selection purposes, it is imperative that the test correlates with some relevant measure of performance (DeVon et al., 2007; Moscoso & Salgado, 2004). Criterion-related validity pertains to evidence of a relationship between the attributes in a measurement tool with its performance on some other variable (DeVon et al., 2007). Criterion validity of a personality test is to what extent the measures of personality correlates with measures of an outcome variable, for instance job-performance. It is common to divide criterion validity in concurrent validity and predictive validity (DeVon et al., 2007). The purpose of predictive validity in selection settings is to compare test scores before a decision is made, counter to a criterion score collected after the decision has been made. Predictive validity strategies is time-consuming and can be difficult to measure properly, because there is seldom room for testing those who were not selected and it requires testing over time. The more practical alternative is to document concurrent validity, which measures those who were selected and then compares it to a criterion measure (DeVon et al., 2007). However, this does not allow for comparison with the general population. In a validation study, the aim is not to predict the score on the job-performance criteria, but on the actual job-performance (Morgeson et al., 2007; Murphy & Davidshofer, 2005). According to Gignac and Szodorai (2016), should correlations at .10 be considered low, .20 acceptable and .30 high in social science research.

The validity of Personality tests. Prior to the 1990s the use of personality testing in employee selection was generally looked down on by personnel selection specialists. The general conclusion was that personality tests did not demonstrate adequate predictive validity to qualify for use when selecting personnel (Guion & Gottier, 1965; Schmitt, Gooding, Noe, & Kirsch, 1984). However, meta-analytic work in the early 1990s suggested that the Big Five might have some utility when selecting personnel (Barrick & Mount, 1991; Mount, Barrick, & Stewart, 1998; Salgado, 1997, 1998; Tett et al., 1991). On the basis of this work, a majority of researchers seems to conclude that different personality factors, and Conscientiousness, in particular, is a valid predictor of job-performance. Others argues that Conscientiousness indeed is a valid predictor for job-performance, but that the correlation are almost trivial at the broad dimension level (Hurtz & Donovan, 2000; Judge, Klinger, Simon, & Yang, 2008; Morgeson et al., 2007).

Others has criticized the use of personality testing for selection purposes because they claim that it is easy to fake or manipulate a desired personality profile (Morgeson et al., 2007;

Sjöberg, 2015). However, Smith and Ellingson (2002) found that response distortion has little impact on the construct validity of personality measures used in selection contexts. Few people know the profile for a particular job, it is difficult to fake an entire profile and there has been little evidence supporting the fact that candidates actually alter their profile (Morgeson et al., 2007)

Selection

Military organizations has traditionally been pioneers in selecting and testing personnel (Driskell & Olmstead, 1989; Hansen, 2006). Personality tests in the NAF are primarily used as a basis for an interview or further assessment, and not as elimination techniques (Skoglund, 2016). Most positions in the NAF consists of some sort of selection criteria, but personality tests are primarily applied when selecting candidates for Non-Commissioned Officer training and other operative services, in addition to the selection of candidates for the Air Force aviation training.

The Chief of Defense has argued that because of the rapid changes in technology, society and in the structure of the Norwegian military in general, military leaders should expect increased complexity when serving in the NAF (Forsvarsstaben, 2012). These changes can naturally affect selection to the NAF. There are several methods available when selecting to the NAF, for example through tests, interviews or observations (Schmidt & Hunter, 1998). The main purpose by conducting different tests is to make a better prediction about performance counter to random selection. Schmidt and Hunter (1998) claims that successfully selected employees will lead to a reduction in training costs and increased job performance. Apart from the assessment center when applying for officer training, the NAF recruits most of their personnel internally. This implies that the candidates they hire for officer training should have leadership potential and this further emphasizes the importance of selection to the NAFs officer education.

As mentioned the NAF selects all personnel during their own assessment center (Skoglund, 2016). The first assessment centers in the United States contained measures of personality and were used to study the links between personality and occupational performance (Bray, 1982). Assessment center ratings are valid predictors of occupational performance (Arthur, Day, McNelly, & Edens, 2003; Gaugler, Rosenthal, Thornton, & Bentson, 1987; Schmidt & Hunter, 1998). Collins et al. (2003) found 524 articles containing correlations between measures of personality and cognitive ability and performance in assessment centers. After narrowing it down to only those studies using the Five-factor

Model and applying relevant corrections, they reported the following average level correlations with Overall Assessment Center Ratings: (a) Cognitive Ability, .67, (b) Extraversion, .50, (c) Emotional Stability, .35, (d) Openness, .25; and (e) Agreeableness, .17. This further led to a multiple R of .84, indicating that most of the valid variance in Overall Assessment Center Ratings can be captured with good measures of cognitive ability and normal personality (R. Hogan, 2005).

Personality and performance. Identifying personal determinants of performance has long tradition in the Armed Forces (Carless, 2007; Chappelle et al., 2010; Congard et al., 2012; Fosse et al., 2015; Furnham & Fudge, 2008; Hansen, 2006; Hartmann, Sunde, Kristensen, & Martinussen, 2003; Martinussen, 2005; Mayer & Skimmyhorn, 2017; McCormack & Mellor, 2002; Sellman et al., 2010; Viswesvaran, Deller, & Ones, 2007). In Norway, psychological testing has in various forms been conducted since the second world war (Hansen, 2007). Even so, the main body of research on the development of tests for military purposes can be found in American literature, on an American sample (Knapp & Tremble, 2007). Fosse et al. (2015) published a paper consisting of a Norwegian sample, which indicates a growing interest in individual differences and testing in the Norwegian military as well.

There has been some evidence that personality tests are less suited for selection purposes in the NAF counter to the general population (Hartmann et al., 2003; Martinussen, 1996). They found lower correlations between personality and performance in military samples compared to the normal population, and suggested that this might have been caused by selection bias (restricted range of scores) on the factors. Several researchers have criticized the predictive value of personality tests on job-performance (R. Hogan, 2005; Morgeson et al., 2007). Other critics have argued that the Big Five dimensions are too broad to predict job-performance and other important life outcomes (Block, 2001; Cattell & Cattell, 1995; Hough, 1992; Judge, Piccolo, & Kosalka, 2009; Judge et al., 2013; Paunonen et al., 2003; Tett et al., 2003).

Meta-analyses and published research show that there is a relationship between personality and performance in educational (Poropat, 2009; Salgado & Táuriz, 2014) and work settings (Barrick & Mount, 1991; Barrick et al., 2001; Bilgiç & Sümer, 2009; Fosse et al., 2015; J. Hogan & Holland, 2003; Hurtz & Donovan, 2000; Judge & Zapata, 2015; Mayer & Skimmyhorn, 2017; Salgado, 1997; Salgado, Anderson, & Tauriz, 2015; Schmidt & Hunter, 1998; Tett et al., 2003) as well as with military leadership performance (Bartone, Eid, Johnsen, Laberg, & Snook, 2009; Judge, Bono, Ilies, & Gerhardt, 2002; McCormack &

Mellor, 2002). In meta-analyses, job-performance is often measured by superior evaluation, training progress and personnel data (Barrick & Mount, 1991; Salgado, 1997; Schmidt & Hunter, 1998), which are all different aspects of performance.

An important part of performance in the NAF is being a good leader (Skoglund, 2016). Studies have found that the characteristics of what is considered a good leader tend to vary in low- and high risk situations (Hannah, Avolio, Luthans, & Harms, 2008; Hannah, Uhl-Bien, Avolio, & Cavarretta, 2009; Judge et al., 2002). Judge and Zapata (2015) conducted a comprehensive meta-analysis in which they argue for an interactionist model of job-performance and personality, in which the situation exerts both general and specific effects on the relationship between job-performance and personality. They showed that the strength of the situation predicted the validity and relationship between the two variables, where in environments with less constraint and more autonomy the effect of traits on job-performance increased. Further, some traits were more activated in specific contexts (Judge & Zapata, 2015). Other studies have demonstrated that performance is better predicted by narrower traits or facets, counter to broader factors (Judge et al., 2013; Markon et al., 2005; Paunonen et al., 2003). There are also some findings suggesting that narrower performance measure in both the personality construct, as well as more specified performance variable will add more predictive power when utilizing personality tests for selection purposes (Tett et al., 2003).

Several meta-studies found that the most stable personality factors predicting job-performance are Conscientiousness and Neuroticism/Emotional stability (Barrick & Mount, 1991; Salgado, 1997; Salgado & Táuriz, 2014; Tett et al., 1991). However, others have outlined Conscientiousness and Extraversion as the most important factors in predicting leadership performance (Hendricks & Payne, 2007; Judge et al., 2002). In all, the findings are somewhat inconclusive, but the following section will present the current research on the broad factors.

Conscientiousness and performance. Out of all Big Five factors, Conscientiousness has shown as the personality trait with the strongest relationship with job-performance (Barrick et al., 2001; Fosse et al., 2015; Mayer & Skimmyhorn, 2017; Salgado, 1997; Smithikrai, 2007; Timmerman, 2004) and leadership performance (Bartone et al., 2009; Judge et al., 2002). In a recent study by Mayer and Skimmyhorn (2017), Conscientiousness from the Big Five framework was found robustly related to general military performance, overall talent ratings from superiors and academic GPA in a military cadet sample. Conscientiousness has also been found to correlate with the Military Leadership Scale ($r =$

.76), an adjective check-list designed to discriminate effective from poor military leaders (Piedmont, McCrae, & Costa, 1991). The Big Five trait of Conscientiousness is a robust correlate of consequential outcomes, but applied psychologists have noted that it is reasonably easy to “fake high” on conscientiousness and have explored some of the conditions under which this occurs (Birkeland, Manson, Kisamore, Brannick, & Smith, 2006; Komar, Brown, Komar, & Robie, 2008; Mayer & Skimmyhorn, 2017; Peterson, Griffith, Isaacson, O'Connell, & Mangos, 2011). Accordingly, it seems natural that the results from the current study will indicate a positive relationship between Conscientiousness and performance.

Emotional Stability and performance. A recent study by Mayer and Skimmyhorn (2017) found that high scores on Neuroticism was negatively related to a military performance rating scale. Further, Bartram and Dale (1982) found that military cadets had lower N-scores than the general population. Other studies have found a negative relationship between Neuroticism and job-performance (Barrick et al., 2001), but these findings were not replicated in later studies (Salgado & Táuriz, 2014). Meta-analytic evidence suggests that Emotional stability/Neuroticism has demonstrated validity across samples, criteria and occupations, and that it is a valid predictor for leadership performance across all criteria and occupations (Salgado & De Fruyt, 2005). Judge et al., (2002) showed that Emotional stability correlated positively with leadership performance, and argues that those with high scores are better leaders because they have high self-esteem and are confident.

Extraversion and performance. Extraversion has found to be positively related to job-performance in several studies and meta-analyses ((Barrick & Mount, 1991; Furnham & Fudge, 2008; Hurtz & Donovan, 2000; Rothmann & Coetzer, 2003) Even so, Barrick, Mount and Judge (2001) noted that Extraversion was only related to success in specific jobs, such as sales or management. In their meta-analysis of military leaders, Judge et al. (2002) found a positive relationship between Extraversion (defined in terms of the Five-factor Model) and military leadership, where Extraversion posed as the dimension with the strongest relationship to military leadership out of all other variables.

Agreeableness and performance. A study by Judge and colleagues (2002) did find a relationship between Agreeableness and military leadership, but the predictive value of the findings were almost trivial. Salgado (1997) found in his meta-analysis of a European sample that Agreeableness was more likely than the other personality traits to show as a valid predictor of training proficiency. This was later confirmed by Barrick et al., (2001). They also found that Agreeableness predicted better performance in certain occupations and

contexts, for instance to group related performance criteria or in service occupations. Further, there is some evidence that supports a link between high degrees of Agreeableness and more prosocial work behaviors (Chiaburu, Oh, Berry, Li, & Gardner, 2011). Bartone et al., (2002) found that warmth and friendliness predicted leadership performance after officer training in military cadets. In spite of this evidence, Agreeableness has posed as the Big Five dimension that over time has shown the weakest relation with leader efficiency (Judge et al., 2002).

Openness (Intellect) and performance. Meta-studies have found that Openness has a positive relationship with leadership performance, but the relationship was weaker in military samples counter to other samples (Judge et al., 2002). In their study of Australian military cadets, McCormack & Mellor (2002) found that highly open individuals were more likely than others to be selected to attend a leadership promotion course, indicating that highly open individuals were more likely to be promoted. A high score on the Openness dimension have previously been found related to higher intelligence (O'Connor & Paunonen, 2007) and has also been found positively related to academic performance (Poropat, 2009). Barrick et al., (2001) found that Openness predicted some aspects of performance in specific occupations, and especially in training situations. However, a study of military leadership and personality showed no evidence of a relationship between Openness and military leadership performance (Bartone et al., 2009).

Selection in the NAF today. Today, the selection process to the NAF takes place a few times each year and consists of several tests. The goal of this selection process is to identify candidates who have potential to fulfill the NAF's ambitions for leadership, physical demands and professional standards (Skoglund, 2016). After meeting the formal requirements (i.e. age, completed at least 12 years of education, general physical ability), the most suited candidates are invited to participate in a two-week assessment center. This assessment center consists, among other things, of physical testing, interviews and field exercises.

Since the military mainly recruits their personnel through the assessment center it is crucial that the tests they conduct there are relevant and reliable. First, there are huge costs associated with selecting unfitted personnel. The training and education that the NAF provides is costly, and personnel that has little or no contribution to the organizations primary objective will represent economic loss. Second, it is also arguably important to select the right potential leaders in high-risk operations where lives are at stake. Morgeson et al., (2007) stresses the importance in developing personality tests that are closely linked directly to job tasks. This leads up to the development of NMPI.

NMPI. The five distinct personality dimensions in NMPI are named Extraversion (I), Agreeableness (II), Conscientiousness (III), Emotional Stability (IV) and Openness to Experience (V). According to the NAFs internal report (2016) the factors should represent the same as their corresponding factors in the Big Five framework. The items are mainly collected from the International Personality Item Pool (IPIP) by the NAF (Goldberg, 1992, 2001). The associations between other measures of the Big Five markers and IPIP versions have been recorded and are generally encouraging: in the short form of the IPIP-NEO, correlations range from .70 to .82 (.85 to .92 when corrected for unreliability) with the corresponding NEO-PI factors (Goldberg, 2001).

The Current Study

This particular study aims to investigate the construct validity of the NMPI instrument, as well as examining the relationship between the Big Five and overall performance at the NAFs assessment center.

The investigation of the NMPI was conducted in three stages. First step was to investigate the factorial structure of the NMPI items and the internal consistency of the NMPI factors in a sample consisting of candidates applying for military service. This is examined with a correlation analysis as well as Cronbach Alpha values. The second step correlates NMPI factors with the NEO-PI-3 in the same sample, in order to assess the NMPIs construct validity. The third step is to assess criterion validity, more specifically the predictive validity of the test was assessed by comparing the personality scores in the NMPI to three measures of candidates performance in the same sample.

First, this study will add to the previous research conducted on the NMPI and further develop the robustness of the inventory. Second, it will add to the extensive research on personality and further corroborate the Five-Factor representation of personality both in a military context and in population in general. Third, it will show whether NMPI is an effective and well-suited inventory for military selection and therefore contribute to more knowledge on which factors that it is beneficial to include in the NAFs selection regime in the future. This leads up to the following research question: *Does the Norwegian Military Personality Inventory (NMPI) share the same structural properties as the Big Five framework for Personality, and how does NMPI relate to performance during the selection process to the NAF?*

Methods

Sample

The sample consisted of individuals who participated in the admission process to officer training in the Norwegian Armed Forces, during summer 2016. A total of 915 individuals completed all parts of the survey (response rate at 85%). The sample consisted of 208 (22.8%) women and 705 (77.2%) men. Age ranged from 17 – 34 years ($M = 19.6$, $SD = 1.86$).

Procedure

The questionnaire was administered to all candidates during the two-week admission process and the candidates were given two hours to complete the survey. At what time the candidates answered the questionnaire varied, but all were completed during the first week of the admission process in 2016. Participants were informed that their answers would not affect whether or not they were granted admission to officer training or not. This study was approved by the Norwegian Center for Research Data (NSD). It was voluntary to participate and the candidates had the opportunity to withdraw their consent at any given time.

Instruments

The questionnaire was a part of a comprehensive test battery measuring different aspects of leadership and individual differences, and consisted of 592 items. The candidates were asked to state their sex and age, as well as their social security number. Gender was coded: 0 = male, 1 = female. Age were treated as a continuous variable. Instruments used in this particular study includes the NEO-PI-3, Norwegian Military Personality Inventory (NMPI-80), leadership evaluation from commanding officers and a dichotomous variable indicating if the candidate were granted admission or not. The Department of military psychology and leadership development at Norwegian Defence University College (NDUC) were responsible for making respondents unidentifiable.

NEO-PI. The five personality dimensions were measured using a Norwegian translated version of NEO-PI-3, the newest version of the NEO-PI (McCrae & Costa, 2010). The inventory measures the five dimensions Extraversion, Agreeableness, Neuroticism, Conscientiousness and Openness to Experience. High factor scores corresponds to high degree of Extraversion, Agreeableness, Conscientiousness and Openness to Experience and Neuroticism (reversed Emotional Stability). The total number of NEO-PI items was 240. The index required the participants to answer on a five-point likert-scale ranging from *strongly disagree* to *strongly agree*. Some items were reversed before analyses. Cronbach's alpha for

scales on all NEO-PI domains are presented in table 1. All items from the inventory are presented in the questionnaire in appendix C. In addition, the factor structure of NEO-PI-3 can inspected in appendix A.

NMPI-80. The index intends to measure the five underlying dimensions of personality established in the “Big Five”-literature (Goldberg, 1990; McCrae & Costa, 2010). The five personality dimensions were measured based on the items and structure that were developed in previous studies (conducted by NDUC). The index measures measure the five dimensions Extraversion, Agreeableness, Emotional Stability, Conscientiousness and Openness to Experience. High scores on the factors corresponds to a high degree of Extraversion, Agreeableness, Emotional Stability, Conscientiousness, and Openness to Experience. A questionnaire consisting of 105 items were developed based on qualitative evaluations by several researchers at NDUC. The items were mainly found in “International Personality Item Pool”, which is a free site of scientific items measuring personality and is listed at a web site (<http://ipip.ori.org>). In addition, a Norwegian short-version of the Big Five Inventory (BFI-20) (Engvik & Clausen, 2011) was incorporated in the inventory. The NAF conducted several preliminary analysis of the inventory, and ended up with a shortened index with 80 items that yielded a total explained variance at 42.8% (Skoglund, 2016).

The version of NMPI-80 used in this study was in Norwegian language, and consisted of 79 unique items (the original inventory consist of 80 items, but one item was by mistake administered two times and the second were therefore removed before analysis). The items were translated from Norwegian by the author for publishing purposes and are not validated in English. A seven point likert-scale ranging from *incorrect* to *exactly correct* was used. Some items were reversed before analyses. Alpha values are shown in table 1. All items from the original inventory can be examined in appendix C.

Candidate performance. Competence score reflect an evaluation by commanding officers measures and is the average competence score a candidate demonstrated on relevant criteria for performance during the assessment-center. High scores indicate good performance and low scores indicate poor performance. Candidate performance during the admission period was measured at two separate occasions, where as the first measured relevant competencies criteria in an interview (n=822) and the other during a field exercise (n=559).

The interview was conducted by two commanding officers who evaluated a candidate on a scale ranging from one to nine, where the candidate had to score over three in order to participate in the remaining admission process. Different criteria for performance were: Role model, Solve missions, Mental robustness, Interaction/teamwork and Development. Being a

role model is to act with integrity, respect and in line with the NAFs core values (respect, responsibility and courage). The ability to solve missions is to take initiative and responsibility, to work systematic towards a goal and to contribute to achievement of success. Mental robustness relates to the ability to think clear in situations with high physical and mental demands and to cope well with stressful life-events. Interaction/teamwork relates to the candidate's ability to gain trust from others, communicate clearly, delegate work tasks, motivate and support others. Development reflects a candidate's ability to promote independence in others, detect mastery in others and encourage innovation and reflection for themselves and others. The scores on the different criteria are afterwards combined to a leadership prognosis. This prognosis, combined with other test results (e.g. fitness test or cognitive abilities), then forms the basis for whether or not they are invited to participate in the field week or are sent home after week one. To ensure a fair process and good reliability, the interviews were conducted based on an interview guide and scoring sheet, in addition to extensive training of the interviewers. The mean competence score from the interviews were 6.09 ($SD = 1.51$). The variable is referred to as *CS interview* in the results.

The other competence variable was evaluated by a commanding officer in a field exercise over seven days. The scale ranged from one to nine, and measure the same criteria for performance as in the interview. These are afterwards combined to a leadership prognosis as a basis for granted admission or not. It was necessary with a score over three on all criteria to remain in the admission process. The mean competence score from the field exercise were 5.58 ($SD = 1.81$). The variable is referred to as *CS field* in the results.

Granted Admission. Granted admission was a dichotomous variable identifying those who were offered a position in the Norwegian Armed Forces and those who did not. Not admitted was coded zero and admitted was coded one. The variable does not contain information about whether the candidate accepted their admission offer or not, or if the candidate withdraw from the assessment-center or was rejected. In total, 464 (50.8%) candidates were granted admission and 449 (49.2%) candidates were not.

Statistical Analysis

All statistical analyses were conducted on SPSS version 23 for mac.

Correlation Analysis. A correlation analysis was conducted to examine the construct validity between NMPI and NEO-PI-3, as well as to examine criterion validity for both NMPI and NEO-PI-3.

Principal Component Analysis. To investigate the structure and psychometric properties of NMPI a Principal Component Analysis (PCA) was conducted. PCA was chosen due to the exploratory nature of this study. Factor analysis and PCA differs in that the former uses the shared variance instead of total variance (Gaskin & Happell, 2014). Resulting extractions in PCA are correctly referred to as components, but in order to keep with existing research, the extractions will be referred to as factors. Cronbachs alpha for all factors were calculated after the PCA. This was to ensure internal consistency within the factors.

Regression Analyses. To examine criterion validity regression analyses were conducted. Two multiple linear regression were conducted to evaluate the predictive value of the five traits represented in NMPI on the performance criteria (competence score from interview and field), controlling for age and gender. The assumptions of linearity and additivity, independence between variables, homoscedasticity and normality were tested before proceeding to analysis. No violations of the assumptions were found. Missing cases were deleted list-wise.

When examining the relationship between the five factors measured by NMPI and granted admission a binary logistic regression analysis was conducted. Predictors of granted admission was the five personality factors from NMPI, as well as the control variables age and gender. No violations of assumptions were found before proceeding with the analysis.

Results

Several analyses were performed to evaluate the psychometric properties of the instruments. All items in the NMPI-instrument were included in the preliminary analyses. In the preliminary analyses a principal component analysis (PCA) was performed on both NMPI and NEO-PI-3 to examine the structural properties of the instruments. The preliminary factor structure yielded a total explained variance at 42.81% for the NMPI instrument. Eigenvalues were respectively 7.95 (Agreeableness), 7.80 (Extraversion), 7.08 (Emotional Stability), 6.03 (Conscientiousness) and 5.00 (Openness to Experience). Alpha-values were generally high: Emotional Stability ($\alpha = .89$), Extraversion ($\alpha = .89$), Openness to experience ($\alpha = .78$), Agreeableness ($\alpha = .90$) and Conscientiousness ($\alpha = .87$). It is important to note that items included in each factor were based on their theoretical affiliation in the Big Five framework, and not based on highest loadings in this particular factor structure. The results from the preliminary analyses indicated that some items did not load as expected in line with the Big Five framework. The factor structure and item loadings from the preliminary analyses can be examined in detail in appendix B.

To test if deletion of some of the items would improve the structure and psychometric properties of the NMPI instrument it was decided to remove those items that loaded below .3 on their corresponding theoretical factor or items that by deletion contributed to a substantial increase in Cronbach's Alpha values. In total, eight items were removed from the instrument and new analyses were performed with the shorter version of the instrument. On the Conscientiousness- and Emotional Stability factor, none of the items were removed. Two items were removed from the Extraversion factor since they loaded highest on the Conscientiousness factor and below .3 on the Extraversion factor (.27 and .28 respectively). These were «is action oriented» (item two) and «is always doing something» (item 57). The item «Am though to get to know» (item 50) were removed from the Agreeableness factor because deleting it lead to an increase in Cronbach's Alpha. In addition, the item had an overall low correlation to the total Agreeableness factor (.40). Several items were removed from the Openness to Experience factor. Items removed were «am little concerned with what I feel» (item five), «is open and tolerant to other people's ways of life» (item 17), «is a down to earth person (item 26), «prefer stable routines» (item 34) and «Respects others views of what is right or wrong» (item 40). Item five was removed because of its low loading in the Openness to Experience factor (.03), item 17 and 40 was removed based in high loadings on Agreeableness (.53 and .47) and loadings below .3 on Openness to experience (.16 and .13).

Item 34 was also removed due to loadings below .3 on the belonging theoretical factor (.17) and item 26 was removed because of negative loadings on its theoretical factor (-.07). The preliminary factor structure can be examined in Appendix B.

After deletion, new descriptive analysis and reliability analysis were conducted. Table 1 shows the descriptives and Cronbach Alpha after removing eight items. The table shows the mean scores (*M*), standard deviations (*SD*) and internal consistency (α). The reliability analysis shows a small increase in Cronbach Alpha for Emotional Stability and Openness to Experience after deletion.

Table 1

Descriptive Statistics and Cronbachs Alpha for Personality Traits in NEO-PI-3 and NMPI, Competence Scores (CS) and Granted Admission (GA)

	<i>M</i>	<i>SD</i>	α	N	Items
<i>NMPI</i>					
1. Emotional Stability	5.24	.86	.90	857	15
2. Extraversion	5.18	.78	.89	862	16
3. Openness to Experience	5.08	.74	.82	962	12
4. Agreeableness	5.74	.67	.90	870	15
5. Conscientiousness	5.69	.69	.87	866	13
<i>NEO-PI-3</i>					
6. Neuroticism	1.31	.42	.85	913	43
7. Extraversion	2.71	.37	.77	912	43
8. Openness	2.44	.39	.68	912	43
9. Agreeableness	2.60	.36	.76	912	43
10. Conscientiousness	2.92	.38	.86	911	43
<i>Other variables</i>					
11. CS interview	6.09	1.51	-	822	-
12. CS field	5.58	1.81	-	559	-
	Admitted		Not Admitted		
13. GA	51% (466)		49% (448)		

*Note: Granted admission is a dichotomous variable. Total N = 915. * $p < .05$. ** $p < .01$.*

The NMPI factors all had a potential range from 1 to 7. The actual range for the factors were 1.73 – 6.93 (Emotional stability), 2.63 – 7.00 (Extraversion), 2.50 – 7.00 (Openness to Experience), 2.07 – 7.00 (Agreeableness) and 3.62 – 7.00 (Conscientiousness). The NEO-PI factors had a potential range from 0 to 4. The actual range for the factors were, .25 – 3.02 (Neuroticism), 1.40 – 3.67 (Extraversion), 1.33 – 3.58 (Openness) and 1.08 - 3.60 (Agreeableness) and 1.52 – 3.88 (Conscientiousness).

For analyses of both the revised NMPI- and NEO-PI measure, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (.93 and .89 respectively) was acceptable or better. Bartlett's test of sphericity was significant ($p < .001$) for both analyses. This encourages proceeding with the analyses. Varimax rotation was used in both analyses since the Big Five theory suggests that the factors should not be correlated with each other (Goldberg, 1990). The results from the factor analysis of NEO-PI can be examined in Appendix A. For the NMPI (after deleting eight items) this yielded a total of fifteen factors with an eigenvalue of greater than 1 (Kaiser, 1960). However, visual inspection of the scree plot indicated that the point of inflexion was at the fifth factor, suggesting that extraction should be performed on the five factors preceding it. The five factors had Eigenvalues at respectively 14.72, 5.84, 4.81, 3.85 and 2.90 and explained 44.62 % of the variance. Taken together with the empirical evidence in previous research that suggests five dimensions of personality (Goldberg, 1990; McCrae & Costa, 2010). This indicated that five factors were to be extracted for further analysis. After deleting the eight items with poor validity from the inventory, the explained variance of the five-factor structure increased 42.81 % to 44.62 %. All items loaded highest on their theoretical factor expect item 73: *Keep my distance to other people* (reversed), which loaded highest on the Extraversion factor. An important notion after deleting eight items is that the Openness to Experience now has no reversed items. The resulting component matrices from the analysis is shown in table 2.

Table 2
Factor Loadings for Principal Component Analysis With Varimax Rotation of NMPI items

	1.	2.	3.	4.	5.
	C	E	A	O	ES
<i>Conscientiousness (C)</i>					
C43: Is hardworking and likes to get things done	.70				
C55: Has clear goals and works systematic to reach them	.67				
C20: Is good at putting things in a system	.65				
C15: Is a punctual person	.65				
C33: Always meets prepared	.64				
C23: Do my duties immediately	.63				
C64: Has a lot of mess around me R	.63				
C65: Vaste my time R	.58				.35
C9: Am detail oriented	.54				
C4: Sticks to agreements	.52				

C37: Does things half-way R	.50		
C44: Has high ambitions	.47	.42	
C7: Is keen to reach my goals	.46	.32	
<i>Extraversion (E)</i>			
E75: Likes to be in the center of social interaction	.70		
E53: Likes to be the center of attention	.67		
E62: Often stays in the background R	.66		
E66: Do not like attention R	.65		
E36: Often starts a conversation	.62	.35	
E51: Is introverted R	.61		
E28: Likes to be where people gather	.60	.35	
E12: Talk to a lot of people	.59	.48	
E6: Makes friends easily	.59	.37	
E60: Like to lead others	.60		
E31: Likes to take charge	.53		
E48: Is an energetic person	.53	.35	
E38: Thrive best when I am alone R	.46		
E41: Is dominant and assertive	.46		
E72: Like to have influence	.42		.42
E30: Like to compete	.41		
<i>Agreeableness (A)</i>			
A14: Is concerned about others well-being	.77		
A10: Is warm and friendly	.69		
A11: Thinks the best of people	.69		
A49: Likes to help others	.68		
A47: Have often compassion for others	.68		
A54: Is helpful towards others	.67		
A21: Takes time for others	.61		
A13: Is interested in others	.47	.60	
A19: Have something nice to say about everyone		.58	
A32: Rarely trust others R		.57	
A67: Become easily fond of others		.56	
A80: Is good at understanding other peoples needs		.47	
A16: Likes to cooperate with others		.46	
A22: Is usually polite		.43	
A73: Keep my distance to other people R	.49	.43	
<i>Openness to Experience (O)</i>			
O35: Is fascinated easily with colors and patterns			.68
O69: Thinks art is important			.64

O39: Has good imagination		.64
O68: Is good at creative thinking		.60
O27: Notice beautiful things		.57
O70: Is familiar with many words and concepts		.54
O78: Gets a lot of good ideas		.53
O59: Is curious on other cultures		.51
O25: Asks questions that no one else thinks of		.48
O71: Often seeks new experiences	.40	.44
O29: Is curious and likes to learn new things		.42
O45: Understand things easily		.38
<i>Emotional Stability (ES)</i>		
ES8: Worries a lot R		.80
ES3: Get easily stressed out R		.77
ES42: Get nervous easily R		.76
ES56: Is afraid of a lot of things R		.72
ES63: Often feel tense R		.72
ES74: Often doubt myself R	.30	.68
ES76: Is often sad R		.61
ES79: Has often feelings of guilt R		.60
ES1: Gets scared easily R		.59
ES18: Is often afraid of making a fool out of myself R	.35	.57
ES46: Often feel that others are better than me R		.54
ES58: My mood change fast R		.53
ES24: Often thinks about what others mean about me R		.51
ES77: Are mainly quite relaxed		.49
ES52: Gets angry easily R	.35	.40
Eigenvalues	5.71 7.44 7.29 4.73 6.96	
% explained variance	7.93 10.34 10.12 6.57 9.65	

*Note: Factor loadings < .3 are suppressed. Highest loadings are bolded. Reversed items are marked with **R**. Missing data is excluded list-wise. 44.61% of variance explained by extracted factors. n = 764.*

A correlation analysis was conducted to examine convergent validity of the NMPI-factors against NEO-PI-3, as well as to examine criterion validity of NMPI and the performance criteria. Items included in each factor (NMPI) are based on their theoretical affiliation and not by highest loadings in the previous PCA analysis. All factors in NMPI had a strong correlation with their affiliating factor in NEO-PI-3, with Agreeableness as the weakest at .64. The negative direction of the NMPI associations is because the factor is scored towards the emotionally stable pole, as opposed to the emotionally labile pole in the NEO-PI-3. Emotional stability, Extraversion, Agreeableness and Conscientiousness (all from NMPI)

was positively related to CS interview. Neuroticism from NEO-PI was negatively related to CS interview, and Extraversion and Agreeableness (both from NEO-PI) was positively related to CS interview. Openness to Experience (NMPI) was negatively related to CS field. Extraversion, Emotional stability, Agreeableness and Conscientiousness (all from NMPI) had a significant correlation with granted admission. Extraversion and Conscientiousness (both from NEO-PI) was positively related to granted admission in NEO-PI. CS interview and CS field correlated positively, and both CS variables correlated positively with granted admission. All other correlations were non-significant. All correlations between study variables can be examined in detail in table 3 below.

Table 3
Correlation Coefficients for Personality Traits in NMPI and NEO-PI-3, Competence Scores (CS) and Granted Admission (GA)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
<i>NMPI</i>													
1. Emotional Stability	-												
2. Extraversion	.41**	-											
3. Openness to Experience	.25**	.40**	-										
4. Agreeableness	.20**	.49**	.35**	-									
5. Conscientiousness	.32**	.30**	.24**	.40**	-								
<i>NEO-PI-3</i>													
6. Neuroticism	-.82**	-.37**	-.26**	-.30**	-.42**	-							
7. Extraversion	.31**	.80**	.28**	.57**	.28**	-.31*	-						
8. Openness	.13**	.31**	.76**	.31**	.10**	-.14**	.33**	-					
9. Agreeableness	.08*	-.01	.06	.64**	.28**	-.26**	.19**	.13**	-				
10. Conscientiousness	.32**	.24**	.25**	.39**	.82**	-.53**	.26**	.13**	.37**	-			
<i>Performance variables</i>													
11. CS interview	.10**	.22**	.01	.16**	.13*	-.09*	.22**	.05	.06	.12**	-		
12. CS field	.01	.07	-.11*	.02	.06	-.03	.07	-.07	.03	.05	.26**	-	
13. GA	.10**	.21**	.03	.09**	.14**	-.09**	.18**	.01	.04	.13**	.31**	.62**	-

Note: Missing data is excluded pair-wise. Granted Admission is coded 0= not admitted, 1= admitted. * $p < .05$. ** $p < .01$.

A multiple linear regression analyses was calculated to predict CS field and CS interview based on the five personality traits from NMPI, controlling for age and gender. The results are displayed below in table 4. The Durbin-Watson statistic was within acceptable range (Durbin & Watson, 1951), ranging from 1.82 (interview) to 2.67 (field). VIF and tolerance was also within acceptable ranges for both analyses.

The analyses showed that the NMPI personality inventory explained a significant proportion of variance in CS interview ($\Delta R^2 = .07$, $F(7, 683) = 8.01$, $p < .001$). Extraversion was a significant predictor of a higher score in the average CS interview variable. Holding the other variables constant, candidates CS interview score increased on average with .41 for every increased score on the Extraversion variable. Openness to Experience negatively predicted the average CS interview score. Holding the other variables constant, the CS interview score decreased on average with -.20 for every increase in the candidates scored on the Openness to Experience variable. In addition to personality, gender was a significant predictor for CS interview, where men were more likely to receive high scores counter to women. Neither Agreeableness, Conscientiousness, Emotional stability nor age was statistical significant predictor for CS interview.

Examining the results from the relationship between CS field and the NMPI-factors, the analyses showed that the NMPI personality inventory explained a significant proportion of variance ($\Delta R^2 = .02$, $F(7, 468) = 2.02$, $p < .05$). A higher score on Extraversion predicted a higher score on average CS field. The CS field score increased on average with .30 for each increased level on the Extraversion trait, holding the other variables constant. Openness to Experience was a significant predictor of lower score on the average CS field variable. The CS field score decreased on average with -.38 for each increase in total Openness to Experience score, holding the other variables constant. The analyses did not find Agreeableness, Conscientiousness, Emotional stability, age or gender to be significant predictors for CS field.

Table 4
Associations Between NMPI Personality Dimensions and Competence Scores in Interviews and in Field, Controlling for Age and Gender

	B	SE(B)	β	95% CI	ΔR^2
<i>CS Interview</i>					
	2.84	.69		[1.48, 4.19]	.07
Gender	.40	.15	.11**	[.11, .69]	
Age	.00	.01	.01	[-.02, .02]	
Extraversion	.41	.09	.21***	[.23, .60]	
Agreeableness	.08	.11	.04	[-.13, .30]	
Conscientiousness	.14	.10	.06	[-.05, .32]	
Emotional Stability	.07	.08	.04	[-.08, .22]	
Openness to Experience	-.20	.09	-.10*	[-.37, -.03]	
<i>CS Field</i>					
	5.21	1.11		[3.04, 7.38]	.02
Gender	.05	.22	.01	[-.38, .48]	
Age	.03	.02	.07	[-.01, .06]	
Extraversion	.30	.14	.12*	[.03, .57]	
Agreeableness	-.12	.17	-.04	[-.45, .22]	
Conscientiousness	.16	.14	.06	[-.12, .44]	
Emotional Stability	-.02	.12	-.01	[-.25, .20]	
Openness to Experience	-.38	.13	-.15**	[-.63, -.13]	

Note: Missing data is excluded list-wise. CI = confidence intervals. $n_{\text{interview}} = 691$, $n_{\text{field}} = 476$. * $p < .05$, ** $p < .01$, *** $p < .001$.

A binary logistic regression analysis was conducted to predict admission to the Norwegian Armed Forces for the 915 candidates in the two-week admission-process, using the personality dimensions of NMPI and NEO-PI-3 as predictors and at the same time controlling for Age and Gender. The results are presented in table 5 below. A test of the full model against a model only consisting of the constant was statistically significant ($\chi^2 = 39.83$, $p < .001$ with $df = 7$). Nagelkerke's R^2 of .07 indicates a moderately weak relationship between prediction and grouping, showing that only seven percent of variance in granted admission can be explained by the variables included in the model. Overall success of the prediction was 56.9% (55.8% for not admitted and 58% for admitted). Extraversion positively predicted granted admission. For every increase a candidate scores on the Extraversion factor, the odds ratio is 1.80. This implies that when all other variables in the model are held constant, the odds of a candidate being admitted increases with 80%. Further, Conscientiousness positively predicted granted admission. For every increase a candidate score on the Conscientiousness continuum, the odds ratio is 1.33. This suggests that when all other variables in the model are held constant, the odds of a candidate being admitted

increases with 33%. Age, Gender, Agreeableness, Emotional stability and Openness to Experience were not significant predictors.

Table 5
Logistic Regression for predictions of Gender, Age, NMPI Personality Dimensions and Granted Admission

	B	SE	df	O. R	95% CI	
					Lower	Upper
<i>Granted Admission</i>						
Gender (0 = male)	.18	.19	1	1.20	.83	1.74
Age	.02	.02	1	1.02	9.82	1.05
Extraversion	.59	.12	1	1.80**	1.42	2.30
Agreeableness	-.18	.14	1	.83	.64	1.09
Conscientiousness	.29	.13	1	1.33*	1.04	1.71
Emotional Stability	.01	.10	1	1.01	.83	1.23
Openness to Experience	-.18	.11	1	.89	.71	1.11

*Note: CI = confidence interval. Granted Admission (0 = not admitted, 1 = admitted). Female is reference category. * $p < .05$. ** $p < .001$, $n = 764$.*

Discussion

The NAF is currently developing a new instrument named the Norwegian Military Personality Inventory. This study was exploratory in nature and the purpose of was to examine the psychometric properties of NMPI, and its relationship with relevant criteria for performance at their assessment-center for officer education in the NAF.

First, this was conducted by examining the factor structure of NMPI and comparing it to a valid measure of personality, the NEO-PI-3. The structure of NMPI supports the theoretical understanding of five broad dimensions, as presented in the Big Five framework of personality, with only minor deviations from the expected item loadings. Second, the NMPI was compared to relevant criteria for performance during the assessment-center. The regression analyses indicated that a high score on the Extraversion factor and a low score on the Openness to experience factor (both NMPI) predicted better performance in both the interview and field. Further, the logistic regression analysis showed that those with a high score on Extraversion (NMPI) and Conscientiousness (NMPI) was more likely to be granted admission after the assessment-center counter to low scorers. The results are discussed in terms of the existing literature. Limitations and future directions are also discussed.

The NMPI Instrument

In this study, NMPI has been able The Cronbach Alpha values for the NMPI factors shows that the inventory has high internal consistency compared to other relevant measures of the five personality factors (Big Five framework) previously cited (Goldberg, 2001) as well as compared to the alpha scores on NEO-PI-3 in this study. This shows that the NMPI does indeed measure the five dimensions of personality and appears to be valid in terms of construct validity.

The factor structure. A visual inspection of the factor structure of NMPI after removal of eight items (table 2) show that it is more or less in line with the Big Five structure of personality, and with the early findings from the preliminary studies conducted by the NAF. All items load over .4 on their expected factor (range .40 - .80), as well as nearly all items loaded highest on their expected factor. Item 73, *keep my distance to other people* (reversed), loaded highest on the Extraversion factor, but were expected to load highest on Agreeableness. This is not surprising as sociability is one of the characteristics of Extraversion (McCrae & Costa, 2010). Other items appear to relate to the right theoretical factor, but have cross-loadings above .3 on one of the other factors. Cross-loadings above .3 are complex variables, and the inventory should contain only a few, if any, complex variables

(Thurstone, 1947). The NMPI poses as a somewhat complex structure, with fifteen cross-loadings. The variables also relate to their theoretical factor, but the factors often correlate just as high with a non-theoretical factor. As demonstrated by the correlation analysis, it appears as the factors are highly correlated with each other, in general. A new factor analysis with rotation allowing for correlations between factors was run, but the factor structure was not substantially different from the first analysis.

Restricted range. Especially items measuring Emotional stability and Neuroticism appears to have lower mean scores and restricted range. The coefficient of variation for Emotional stability was 16%, indicating low variation in the study sample (Forkman, 2009). Since the candidates already are pre-selected in this might have affect the scores, meaning that those who are invited to participate in the NAFs assessment center are more emotionally stable counter to other norm groups (Peabody & Goldberg, 1989). Another explanation might be that the data-collection was affected by social desirability, as the average score on Conscientiousness and Emotional Stability from NMPI are higher than in the general population measured by NEO-PI (Martinsen, Nordvik, & Østbø, 2011). As NMPI lacks norm-groups is it difficult to establish whether the respondents in this study scores lower than the general population. However, the mean score and variation on Neuroticism in NEO-PI is lower than what has been observed in other studies (Martinsen et al., 2011). This might have affected the results and might be a threat to the generalization of the findings in this study.

Removed items. Personality inventories should always aim at being as precise as possible (Donnellan, Oswald, Baird, & Lucas, 2006). This will make it more time efficient, as well as reducing drop-outs or risking that candidates only answer randomly when getting tired or bored. Answering nearly 100 items (and a lot more in multi-topic surveys) demands a lot of concentration and can be a cognitive burden for the respondent. Eight items were removed from further analysis in this particular study. This affected the results in various ways. Firstly, the item/factor structure is now in line with the proposed structure suggest by the NAF in their internal report (Skoglund, 2016), but with fewer items than initially proposed. In addition, by deleting some items the internal consistency increased in one factor. Another consequence is that the questionnaire now is reduced by eight items, which might lead to less bias in response-style in future use of the instrument. To make an even more precise instrument it would have been interesting to further slim the number of items. The benefit of this procedure leads to a more homogeneous scale despite a loss of accuracy of the measure of each factor (Donnellan et al., 2006). Future research on the instrument could select those items with the

strongest relationship to performance and by doing this creating an even more precise prediction.

Construct validity: The convergence between NMPI and NEO-PI

The NMPI appears to have good internal consistency and relate strongly to major dimensions of personality assessed by one of the leading questionnaires, the NEO-PI-3. This supports the construct validity for NMPI. The correlations between NMPI and NEO-PI-3 are more or less in line with those between the Big Five markers in IPIP and NEO-FFI in the study by Gow, Whiteman, Pattie, and Deary (2005). However, it has been suggested that even such high correlations do not imply that the different versions are truly equivalent (Costa & McCrae, 1999). Nevertheless, the findings in this study are promising in terms of construct validity. Correlations between the factors in NMPI and NEO-PI-3 were generally high. The associations are particularly strong for Neuroticism/Emotional Stability, Extraversion and Conscientiousness (all above .80). Even though Agreeableness and Openness to Experience in NMPI and NEO-PI had lower correlation, the correlation was relatively high also for these variables (.64 and .76). Previous research has also indicated that Agreeableness and Openness to Experience are the least stable traits out of the five (Costa & McCrae, 1992b; Goldberg, 1992; John & Srivastava, 1999).

Criterion validity: NMPI and Performance

NMPI seeks to be more relevant to performance in the NAF, counter to other measures of the Big Five dimensions of personality. Morgeson et al., (2007) raised a number of concerns regarding using personality tests to predict job-performance. Several of these are directly relevant for the motivation of this study. The authors argue that the validities of the most commonly used personality inventories in predicting overall job performance cannot be said to be satisfying and that only 5% of the variance in overall job performance is accounted for by the 'entire span of normal personality' (Morgeson et al., 2007). Second, if personality inventories are to be used, the authors recommend the use of customized personality measures that are job specific and face valid, which are easier to explain to both candidates and organizations (Morgeson et al., 2007).

In both NMPI and NEO-PI-3 the results from the correlations analysis indicated modest strength of the relationships between the performance criteria (granted admission and Competence scores) and personality. The regression analyses showed that there was a relationship between the NMPI-factors Extraversion and Openness to Experience, and performance related criteria (competence score from interview and field). These findings are

somewhat consistent with previous research indicating a positive relationship between Extraversion and job-performance (Barrick & Mount, 1991; Barrick et al., 2001; J. Hogan & Holland, 2003; Hurtz & Donovan, 2000; Judge et al., 2002; Rothmann & Coetzer, 2003) and a more uncertain relationship between Openness to Experience and job-performance (Barrick et al., 2001).

Even though the criterion related validity is nearly identical in both NMPI and NEO-PI-3, Conscientiousness and Extraversion in NMPI appears to have slightly better criterion validity, as they were more strongly related to the criteria than the corresponding factors in NMPI. This might be because NMPI does, in fact, measure the constructs of Conscientiousness and Extraversion better counter to NMPI. However, the difference between the criterion validity for the two instruments are relatively small, and does probably not have any practical implications. Another explanation is that the candidates have answered inconsistent or differently in the respective inventories. The NEO-PI-3 were placed in the middle of the questionnaire, while NMPI were at the end, which might have led to differences in their responses.

Extraversion. The results showed a positive relationship between Extraversion and both competence score from the interview and granted admission. The findings from the regression analysis stated a positive relationship between the NMPI factor Extraversion and performance in the interview, when controlling for age, gender and the other personality factors. This finding is consistent with previous studies indicating a relationship between Extraversion and job-performance in both military and civil settings (Barrick & Mount, 1991; Barrick et al., 2001; Hurtz & Donovan, 2000; Judge et al., 2002; Judge et al., 2008; Rothmann & Coetzer, 2003). That individuals high in Extraversion should perform better than low scorers in interview settings is not surprising. Perhaps the most frequently noted feature of Extraversion is that of social attention (Ashton, Lee, & Paunonen, 2002). It is therefore natural to assume that those high on Extraversion would perform better than those low on Extraversion in positions in the NAF that demands social interactions. Previous research also found a positive relationship between Extraversion and military leadership (Judge et al., 2002).

The logistic regression analysis showed that Extraversion was a strong predictor for performance. This further strengthens the assumption that scoring high on Extraversion is related to performance during the assessment-center. Given that the NAF's performance criteria at the assessment-center that are closely linked to officer job-performance, it is arguably more likely that Extraverts will be successful in the NAF, counter to introverts.

It is somewhat surprising that the relationship between Extraversion and performance in the field exercise was non significant. Extraversion was related to the other performance measures, and the field exercise was highly correlated with granted admission in the correlation analysis. A reason for this might be the way the field exercise is measured. The score is based on a week-long exercise with various tasks where different personality traits are preferable in different settings and over the different aspects of what they are evaluated on. For instance, perhaps Extraverts may have an advantage in tasks evaluating interpersonal capabilities (like the NAFs performance criteria *Solve missions* or *Interaction/Teamwork*), but not in other aspects of the leadership prognosis.

J. Hogan and Holland (2003) argued in their meta-analysis that the Extraversion construct was too broad, and suggested to separate ambition from Extraversion. Their findings indicated that it was the ambition part of Extraversion (Surgency in the Big Five) which predicted performance and not Extraversion in itself. In line with these findings it would have been interesting to see if the correlation and overall explained variance would have been higher if studied on a narrower level.

Conscientiousness. Previous meta-analyses have found Conscientiousness to be one of the strongest predictors for job-performance over various settings (Barrick et al., 2001; Fosse et al., 2015; Mayer & Skimmyhorn, 2017; Piedmont et al., 1991; Salgado, 1997; Smithikrai, 2007; Timmerman, 2004). These findings were supported in this study, finding that Conscientious individuals were more likely to be granted admission to the NAF after the assessment center. It is not surprising that there are apparent advantages of being highly conscientious as a military leader, as such individuals are purposeful, strong willed, and determined (Goldberg, 1990; McCrae & Costa, 2010). This gives strength to the empirical evidence suggesting Conscientiousness as an important predictor of military performance, and adds to the previous research (Fosse et al., 2015; Mayer & Skimmyhorn, 2017; McCormack & Mellor, 2002).

Even though Conscientiousness (from the NMPI) correlated positively with both the interview-score and granted admission, the linear regression analyses could not detect similar relationships. Particularly the criteria measuring *Solve missions* should relate to the Conscientiousness factor. This, however, might be due to the setting in which the test was taken. Perhaps the assessment-center affected the respondents answers in some way, that the NAF does not evaluate the candidates in settings where this trait is detectable or the fact that the NMPI instrument were administered last in a very comprehensive questionnaire. Another explanation, in line with Judge and Zapata (2015) might be that the trait were not activated in

any of the given context during the assessment center, or that the situation strength affected the results.

Another explanation of the lack of a predictive relationship between NMPI Conscientiousness and the two performance criteria might be that the Big Five dimensions are too broad, and that perhaps Conscientiousness would have been related performance on the facet level (e.g achievement and dependability) rather than by the more general dimensions. This is in line with previous research on the Big Five dimensions and performance, indicating stronger relationships with narrower traits (Ashton, 1998; Judge et al., 2013; Markon et al., 2005; Paunonen et al., 2003; Tett et al., 2003). Perhaps are some facets of Conscientiousness, like achievement-striving, dutifulness and self-efficacy, more related to performance in the NAF than other facets.

Openness to Experience. High Openness to Experience negatively predicted performance in terms of competence score given in the interview and field. Open individuals are inventive, versatile, intellectual, and entertain a wide range of interests (Costa & McCrae, 1992). It could therefore be argued that highly individuals would receive better scores in some of the performance measures in the NAF (Development in particular). Even so, one of the hallmarks of Openness is a preference for autonomy (McCrae & Costa, 2010) and the trait is associated with the tendency to self-govern (Hmel & Pincus, 2002). Since the assessment-center, and the armed forces in general, has a strict hierarchy structure of command it can be argued that a high degree of Openness to Experience might affect the performance negatively. Findings from a recent meta-analysis showed that Openness were related to job-performance in occupations where independence was valued (Judge & Zapata, 2014). This supports the notion of a negative relationship between Openness to Experience and performance in the NAF. This adds to the perception of that individuals who are creative, open-minded and flexible are less likely to succeed in the NAFs assessment-center. These findings does not imply that those with low scores would have performed poorer in military service than those with high scores, but assuming that the criteria for selection (competence scores) are relevant this might be the case.

However, some previous research has indicated that Openness to Experience is positively related to training performance (Barrick et al., 2001; Salgado, 1997) and military leadership performance (Judge et al., 2002; McCormack & Mellor, 2002). As the NAF and other Western armies become more and more dependent on highly technical equipment and weaponry, officers who can understand and implement such technologies are crucial in the future. The apparent benefits of being highly open as a military leader should be further

explored in future research, as the current empirical evidence are contradictory. Future research should therefore try to establish whether Openness in NMPI (or in the Big Five framework in general) is related to military leadership and military performance after the initial selection process.

Emotional Stability. Of the Big Five traits, previous research has indicated that Emotional stability appears to have the most consistent relationships with job performance, with relatively small, positive correlations (Barrick et al., 2001; Hurtz & Donovan, 2000). That emotionally stable individuals should perform better in the interview setting is not surprising, given that neurotic (less emotionally stable) individuals have been found to report negative relationships with others, as well as overall poor interpersonal relationship quality (Lopes, Salovey, & Straus, 2003). In addition, emotionally stable individuals are less likely to appraise stressful situations as threats (Gallagher, 1990; Goldberg, 1990), ultimately increasing the likelihood that they will respond appropriately in difficult situations. Following this, it would be expected that Emotional stability also would have been related to performance, particularly the field exercise, given that it intends to be highly stressful for the candidates. Emotionally stable individuals tend to remain calm under pressure, are self-confident, and resilient should be expected to perform better at such criteria. This findings from this study does not support these assumptions. The reason might be, in this case as well, that there would have been different results on the facet level or at more specified job-performance criteria. Another explanation might be that the candidate group is pre-selected, and therefore might have suffered from restricted range (Peabody & Goldberg, 1989). If more “low scorers” on Emotional stability had been included, this might have nuanced the results and perhaps given other results. Ideally the scores should be compared to a norm-group, but as noted earlier in the discussion, the restricted variation in Emotional stability might have affected the magnitude of the results in this study (Forkman, 2009).

Agreeableness. The correlation analysis did find a positive relationship between Agreeableness (NMPI) and the competence score given in the interview. However, the trait did not correlate with other performance criteria. Also, Agreeableness could not predict any of the performance criteria. Agreeable individuals are described as cooperative, trusting, kind, warm and modest (Costa & McCrae, 1992; Goldberg, 1990), and previous research supports a link between agreeableness and prosocial work behaviors (Chiaburu et al., 2011). Some of the performance measures in the interview and field exercise (*Interactions/Teamwork and Development* in particular) had a strong interpersonal component encouraging several of the adjectives describing agreeable individuals. It is therefore surprising that Agreeableness did

not predict any of the performance criteria. Given that most jobs have a social component, the average relationship of agreeableness to performance is surprisingly low in previous research as well (Barrick et al., 2001). As Johnson (2003) noted, it may be that Agreeableness may aid performance in some jobs but be a limitation in others. Because the trait agreeableness motivates individuals to behave in ways that promote group belongingness (Goldberg, 1992; McCrae & Costa, 2010), competitive environments should weaken the potentially beneficial effects of agreeableness on performance. In this study, Agreeableness might have correlated positively with some aspects of performance and negatively with others, and the assessment-center is a competitive context that might have an effect on the performance of highly agreeable individuals.

General considerations. The regression model, including personality, gender and age did significantly predict the performance criteria, but the variance accounted for by the model were marginal. Certainly, more control variables could have been included in the multiple regression analyses to increase the explained variance (e.g. cognitive ability, grades from high school, physical fitness). Nevertheless, there is also a risk of trying to over-fit the model when including too many variables. Another interesting notion is that under examination of the bivariate correlations presented in Table 3 shows that the correlations between Openness to Experience and the competence score from the interview are close to zero (as well as non-significant). As the factor show quite high correlations with the other personality dimensions included in the inventory, it seems plausible to suggest that this variable may have acted as a suppressor variable (Tabachnick & Fidell, 2007) in the prediction of performance in the interview.

In spite of the fact that the model showed low explained variance and therefore have a low predictive power, the findings were still significant. A low explained variance indicate that the majority of the variance in Competence scores (in interview and field) cannot be explained by the independent variables; Extraversion, Emotional Stability, Conscientiousness, Agreeableness and Openness to Experience, age and gender. According to Cohen's (1992) classification, this would indicate small size effects. This might lead to a less precise prediction in the following regression analyses.

These effect sizes may cause concern about to what degree these findings have a practical implication. However, a low R^2 value can merely reflect the presence of a broad variation in the study sample. It is also often common with low explained variance when assessing psychological variables and individual differences like personality (Abelson, 1985). When the aim is to look at association between variables, it is not that important with a high

R^2 value (Gignac & Szodorai, 2016). It is suggested that even small effect sizes likely to show an important relationship. Therefore, it is arguable that there is a practical significance of these findings despite the low explained variance and low correlations between the personality factors and performance related criteria.

One explanation of no/little predictive relationship between the performance criteria and several of the NMPI factors, in particular Emotional Stability might be imprecise or too broad performance criteria. The correlation coefficient and the predictive ability of the NMPI factors might have been higher if more specific job-performance criteria had been applied. Bilgic & Sümar (2009) found that narrower performance measures led to higher correlation coefficients and that personality traits were better at predicting performance if the criterion were more specified for situational, context and tasks (see also Judge & Zapata, 2015). In line with previous research indicating a stronger predictive value of narrower traits, perhaps it would have been fruitful to assess the potential facets of NMPI as well (Hurtz & Donovan, 2000; Judge et al., 2002; Judge et al., 2013; Markon et al., 2005). This would also urge the development of an even simpler factor structure, with fewer cross-loadings and more precise estimations.

Practical Implications for the NAF

As the structural properties of the NMPI instrument are promising in this study, NMPI appears to be a suitable part of a future test-battery aiming to select both officers and leaders in the military. The findings indicate that both NMPI and NEO-PI are personality inventories suitable for selection to the NAF, and that there are only small differences in the criterion validity of NMPI and NEO-PI. The NMPI poses as a cost-efficient and effective way to measure possible candidates to the NAF counter to paying for the rights of NEO-PI. The extensive number of applicants and military personnel personality tested in the NAF each year gives reason to believe that the NMPI will likely lead to major economic savings. Further, when NAF has ownership of the test utilized it allows for continuous adjustments and improvements of the inventory.

The NMPI seeks to be more relevant to military selection than the NEO-PI, but this has not been supported in this particular study. The criterion validity was slightly better in NMPI, counter to NEO-PI, but the difference was likely of trivial magnitude. Even so, the structural properties are promising and by selecting the items that relate the most to relevant performance measures, the NMPI might be a more precise and context relevant inventory to the NAF counter to other, more general measure of personality.

In addition, the empirical evidence from this and previous research are not conclusive on what personality factors that best can predict leadership or performance in the armed forces. Previous research has found that the five factors (and the underlying facets) can predict different aspects of performance over a various situations and contexts (Barrick & Mount, 1991; Barrick et al., 2001; Barrick, Parks, & Mount, 2005; Bilgiç & Sümer, 2009; Fosse et al., 2015; Hurtz & Donovan, 2000; Judge & Zapata, 2015; Salgado, 1997; Salgado et al., 2015; Schmidt & Hunter, 1998). Because of this variability, it is not practical or ethical to operate with cut-off scores for personality in their pre-screening of eligible future officers or leaders at the broad level. This, however, does not imply that the NAF would not benefit from testing their officers. Given that various positions in the NAF are in need of different personalities, they could test the candidates to ensure diversity. To recruit different types rather than searching for a particular profile will perhaps increase the likelihood of selecting the personnel that fits and thrive in all the different positions in the NAF. Another application might be to test the recruits after officer training as a part of determining which position or division they would most likely succeed. The NAF could perhaps test if the NMPI could be used as a tool to aid the NAF in distributing their recruits for the different positions in the NAF after they have completed their training. This would of course only be useful if the positions in the NAF had been examined closely and the desired personal characteristics were based on job-analyses.

The NAF is encouraged to further develop their inventory. This should be done by including more respondents (also those who did not get an invite to participate in the assessment-center), as well as assess criterion validity for performance in the NAF after the assessment-center. The NAF has a unique opportunity to tests a vast number of candidates each year, and should use this as a way to develop a robust and precise measure of the Big Five.

Ethical considerations. The candidates participating in this study answered the survey during the first assessment-week and were therefore in an already stressful and demanding setting. The candidates might have felt that it was compulsory to answer the questionnaire, since military personnel were collecting their survey responses. However, the candidates were informed that it was voluntarily to participate in the study and were explicitly told that their responses would not affect their score on the assessment-center. The candidates did not receive a read-back on the test, which is not in line with international guidelines for ethical testing. It would have too costly to give an oral feedback on the candidate's

personality profile, but if the test had been administered on computer rather than on paper, the candidates could have received an automatic generated report on their results.

Another aspect is the ethical dilemma of developing a new instrument to measure personality. It might be considered unethical to develop a personality test motivated purely by economic gain. The NAF acknowledge that there is an economic motivation behind developing their own test, but also states that they desire to develop a test that is more relevant to the NAF than other personality tests (Skoglund, 2016). NMPI in its current form does not have a higher predictive value than the NEO-PI, but the NAF should aim at further developing their inventory towards being more predictive than NEO-PI.

Strengths and Limitations

Even though every effort was taken to ensure high quality in all parts of the study, some limitations needs to be addressed.

First, the data were collected during the assessment-center and therefore during a time when the candidates were under evaluation. This might have affected the way the candidates responded the questionnaire. A study by Sjöberg (2015) found that faking in self-report personality tests varied as function of degree of how important the consequences of test results could be expected to be, with more high-stakes situations being associated with more faking. Even though the candidates were informed that their responses did not affect the result of the assessment-center, it might be reasonable to believe that the candidates perceived the test as a part of the assessment-center. Sjöberg (2015) found that women and immigrants were less likely than men and non-immigrants to fake their answers. If the NAF were to select based on personality scores this might be a danger to equality and diversity in the NAF. Even so, although in the high stakes testing situation examined here there was a possibility that the respondents portrayed themselves a bit more positively than the norm, it was difficult to be certain as there are few or no studies with comparable norm groups for NMPI. The research on faking in personality testing has generally found that faking has little effect on the construct validity of the test (Barrick & Mount, 1996; Cunningham, Wong, & Barbee, 1994; Ellingson, Smith, & Sackett, 2001; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990). Other studies, however, has a less optimistic perspective and suggests that faking may have a pronounced impact on selection decisions and hiring decisions (Christiansen, Goffin, Johnston, & Rothstein, 1994; Rosse, Stecher, Miller, & Levin, 1998).

Even though there were generally few low scores on either of the factors, the respondents reported a broad range of most of the personality factors in NMPI in this particular study (see results section). However, examining the standard deviations and means

there are some indication of a restricted range of scores in the study sample, particularly for the NMPI factors. Future research should include a larger study sample, which might increase the variability in the different factors.

Second, the items in the NMPI and NEO-PI were only a small part of a very comprehensive questionnaire consisting of 592 items. Nearly all items measured different aspects of individual psychological differences and several items were quite similar. This might have led to a bias in the data and might have affected the results. NMPI was administered at the end of the questionnaire, which might have caused the respondents to become careless, tired or annoyed. This might also have affected the variability within the factor scores in NMPI, given that the respondents might have answered differently because of having answered many similar questions previous in the questionnaire. The NMPI in itself is quite comprehensive and perhaps it would be better to remove the items that in this study shows the lowest relationship to relevant criteria for performance or showed low correlations to their corresponding theoretical factor in future testing.

Third, as mentioned, one potential limitations in this study is the facts that all respondents had already been through a selection process before testing, and therefore might not reflect the general population (restricted range of scores) (Peabody & Goldberg, 1989). This makes it difficult to make any generalizations about the population in general. The candidates selected to participate in the NAFs assessment centres are often highly talented individuals relative to the general population, are currently predominantly male, and have greater interests in the military than is typical. There is no theoretical reason to believe that this sample's characteristics might limit the generalization of the findings, but there could be additional factors that render the results different from those of the general population. Future research on the NMPI should collect survey responses to those who were not selected and invited to the assessment-center. This would reduce the potential problem with restricted range and would give more precise information about the relationship between personality and criteria for performance in the military.

The strength of this study is its large study sample and its design (N=915). The large study sample increases the statistical power and gives reason to believe that our study is representative for the desired target group. The criteria data was collected after the personality test and is an objective measure of performance. The usage of instructors' evaluations from the both the interview and the field exercise, as well as whether or not they were granted admission, from institutional records as a means of measuring performance, as objective

indicators are considered to be more reliable, valid, and less biased than self-reports on performance (Viswesvaran, 2001).

Nevertheless, this design has some limitations. The use of self-reported data for the Big Five personality traits are susceptible to common method bias and social desirability (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). This was perhaps even more likely in this particular study, since all respondents were trying to get admitted to the NAF and therefore were interested in portraying themselves in a favorable light. Additionally, the design makes it difficult to make conclusions about the predictive validity of the NMPI on officer performance. These results have given valuable insight in the criterion related validity of the inventory, but it is difficult to say anything about how scores on the five personality factors affects military performance outside the assessment center based on these data. Another limitation with self-report questionnaires is that people usually have little insight in their own personality (Dunning, Heath, & Suls, 2004; Gonyea, 2005). However, the participants are the experts on themselves and Spector (2006) argues that one should expect humans to accurately report internal states. Therefore, the use of self-report should be considered as a strength in this study, rather than a limitation. Future research on the NMPI should emphasize a longitudinal design, for example by conducting a re-test on relevant criteria as well as the NMPI during- and after completed service. This will further give insight in how the instruments properties behaves over time, as well as establish test-retest reliability.

Future research is further encouraged to examine how the personality traits interacts, and their relevance in various settings. Previous research indicated that which personality traits make a good military leader varies in low- and high risk situations (Hannah et al., 2008; Hannah et al., 2009; Judge et al., 2002) as well as that some traits are more activated in specific contexts (Judge & Zapata, 2005). In line with these findings it would have been interesting to see if there were any differences in performance on relevant criteria in different situations. The fact that eligible personality traits varies in various situations further supports the argument about conducting thorough job-analysis for the different positions the NAF are selecting personnel to. Morgeson et al., (2007) called for more specific performance criteria when applying personality tests for personnel selection. Identifying and correctly measuring all aspects of the criteria important to a job might be an impossible challenge, but nevertheless are future research on NMPI and the Big Five encouraged to investigate relationships between personality and more contextual or task specific performance measures.

Conclusion

This study sought to examine if the NMPI and a measure of the “Big Five” shared the same structural properties as NEO-PI and how the NMPI relates to performance at the NAFs assessment center. This particular study has found support for the premise that the NMPI measures the Big Five factors of personality, although the utility of NMPI for selection purposes remains to be determined. NMPI poses as a robust measure of personality and appears ready for further development and testing. Collecting a greater pool of personality scores would allow for the development of norm-groups for NMPI, as well as establish whether restricted range has affected the results. Collecting responses from young adults who were not invited to the assessment-center will further reduce the issue with restricted range of scores.

The findings from this study indicates that some aspects of performance on the assessment-center can be predicted by Extraversion, Openness to Experience and Conscientiousness in NMPI. This study examined the criterion-related validity of the NMPI dimensions with respect to three measures of performance. In doing so, the purpose of the study was exploratory in nature. Future work is needed to establish the theoretical linkages for the observed relationships between specific measures of personality and different domains of job performance in the NAF. The recent empirical findings emphasizing the importance of facets predicting performance, further encourage a development of narrower facets for NMPI. Future research on NMPI are further encouraged to strive towards an even more precise measure of personality that are closely linked, not only to performance criteria from the assessment-center, but from actual task-related measures relevant for officer performance.

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Appendix A: Factor loadings for NEO-PI

Table 6-A

Factor Loadings for Principal Component Analysis With Varimax Rotation of NEO-PI-3 facets

	1. C	2. E	3. N	4. A	5. O
Self-Discipline	.74				
Orderliness	.73				
Competence	.72		-.39		
Achievement Oriented	.70				
Thoughtfulness	.67				
Dutifulness	.66			.38	
Sociability		.73			.40
Warmth		.72			
Positive Emotions		.72	.39		
Activity	.39	.63			
Feelings	.46	.54			
Excitement seeking		.51			
Self-marking	.35	.50	-.38		
Actions		.39	-.35		.31
Anxiety	.31	.37	.81		
Depression			.78		
Vulnerability	-.36		.74		
Self-consciousness		-.38	.71		
Hostility			.57		
Impulsivity	-.36	.34	.47	-.38	
Compliance				.69	
Straightforwardness				.69	
Modesty				.64	
Altruism	.31	.41		.61	
Trust		.33		.61	
Sensitivity		.37		.52	
Esthetics					.76
Ideas					.76
Fantasy					.69
Values					.49
Eigenvalues	4.00	3.89	3.86	3.52	2.39
% explained variance	13.34	12.96	12.88	11.72	7.95

Note: Items were not available in the dataset; the PCA is therefore based on facets. Loadings below .3 are suppressed. Highest loadings are bolded. 58.85% of variance explained by extracted factors.

Appendix B: The preliminary factor structure of NMPI

Table 7-A

Factor Loadings for Principal Component Analysis With Varimax Rotation of NMPI items

	1. C	2. E	3. A	4. O	5. ES
<i>Conscientiousness (C)</i>					
C43: Is hardworking and likes to get things done	.70				
C55: Has clear goals and works systematic to reach them	.66				
C20: Is good at putting things in a system	.66				
C15: Is a punctual person	.64				
C33: Always meets prepared	.64				
C23: Do my duties immediately	.63				
C64: Has a lot of mess around me R	.61				
C65: Vaste my time R	.57				.35
C9: Am detail oriented	.53				
C4: Sticks to agreements	.51				
C37: Does things half-way R	.48				
C44: Has high ambitions	.46	.41			
C7: Is keen to reach my goals	.45	.31			
<i>Extraversion (E)</i>					
E75: Likes to be in the center of social interaction		.70			
E53: Likes to be the center of attention		.67			
E62: Often stays in the background R		.66			
E66: Do not like attention R		.65			
E36: Often starts a conversation		.63	.32		
E51: Is introverted R		.62			
E28: Likes to be where people gather		.60	.32		
E12: Talk to a lot of people		.60	.44		
E6: Makes friends easily		.60	.34		
E60: Like to lead others		.60			
E31: Likes to take charge		.51			
E48: Is an energetic person		.51	.33		
E38: Thrive best when I am alone R		.48			
E41: Is dominant and assertive		.43			
E72: Like to have influence		.42			.42
E30: Like to compete		.40			
E2: Is action oriented	.45				
E57: Is always doing something	.34				
<i>Agreeableness (A)</i>					

A14: Is concerned about others well-being		.77
A10: Is warm and friendly		.68
A11: Thinks the best of people		.68
A49: Likes to help others		.68
A47: Have often compassion for others		.69
A54: Is helpful towards others		.67
A21: Takes time for others		.61
A13: Is interested in others	.50	.59
A19: Have something nice to say about everyone		.58
A32: Rarely trust others R		.57
A67: Become easily fond of others	.30	.54
A80: Is good at understanding other peoples needs		.48
A16: Likes to cooperate with others		.46
A22: Is usually polite		.45
A73: Keep my distance to other people R	.41	.50
A50: Am though to get to know	.52	.34
<i>Openness to Experience (O)</i>		
O35: Is fascinated easily with colors and patterns		.65
O69: Thinks art is important		.62
O39: Has good imagination		.62
O68: Is good at creative thinking		.59
O27: Notice beautiful things		.55
O70: Is familiar with many words and concepts		.54
O78: Gets a lot of good ideas		.54
O59: Is curious on other cultures		.51
O25: Asks questions that no one else thinks of		.49
O71: Often seeks new experiences	.39	.49
O29: Is curious and likes to learn new things		.45
O45: Understand things easily		.40
O5: Am little concerned with what I feel		-
O17: Is open and tolerant to other people's ways of life	.53	
O26: Is a down to earth person	-.37	
O34: Prefer stable routines		-.40
O40: Respects others views of what is right or wrong	.47	
<i>Emotional Stability (ES)</i>		
ES8: Worries a lot R		.77
ES3: Get easily stressed out R		.76
ES42: Get nervous easily R		.76
ES56: Is afraid of a lot of things R		.72

ES63: Often feel tense R					.71
ES74: Often doubt myself R					.68
ES76: Is often sad R					.62
ES79: Has often feelings of guilt R					.60
ES1: Gets scared easily R					.59
ES18: Is often afraid of making a fool out of myself R					.57
ES46: Often feel that others are better than me R					.54
ES58: My mood change fast R					.53
ES24: Often thinks about what others mean about me R					.51
ES77: Are mainly quite relaxed					.49
ES52: Gets angry easily R			.36		.41
<hr/>					
Eigenvalues	6.03	7.80	7.95	5.00	7.08
% explained variance	7.60	9.90	10.07	6.30	9.00

*Note: Factor loadings < .3 are suppressed. Highest loadings are bolded. Reversed items are marked with **R**. Missing data is excluded list-wise. 42.82% of variance explained by extracted factors. n = 764.*

Forespørsel om deltagelse i spørreundersøkelse

Bakgrunn og formål:

Formålet med prosjektet er å undersøke hva som kjennetegner en god lederkandidat som blir tatt opp til utdanning ved befals- og krigsskolene i Forsvaret.

Gjennom prosjektet ønsker vi å få utvidet kunnskap om hva som predikerer gode prestasjoner ved skolene, herunder å kvalitetssikre de seleksjonskriterier som anvendes i dag og utvikle nye kriterier. Videre ønsker vi å få økt kunnskap om kjennetegn som kan bidra til mer målrettede tiltak for lederutvikling ved skolene.

Alle som deltar på opptaksukene får denne henvendelse om deltagelse i forskningsprosjektet.

Hva innebærer deltagelse i studien

Deltagelse i studien innebærer at du besvarer et spørreskjema og at du samtykker til at vi kan innhente opplysninger fra opptaksprøvene og tjenesteresultater fra gjennomført utdanning og plikttjeneste. Opplysninger fra opptaksprøvene vil være opplysninger fra vitnemål videregående skole, resultater fra Forsvarets evnetester, personlighetstester, fysiske tester, intervju og feltvurdering. Opplysninger om tjenesteresultater vil være tjenesteuttalelser fra skole og plikttjeneste, skoleresultater og ledervurderingen 360 Mil. I spørreskjemaet vil du finne en rekke spørsmål og påstander som er knyttet til forhold som motivasjon, profesjonsidentitet, personlighetstrekk og verdier. De som blir tatt opp til utdanning vil bli kontaktet med ett nytt spørreskjema mot slutten av befalsskoleåret og ett mot slutten av plikttjenesteåret. Disse delene vil i større grad omhandle dine erfaringer fra lederrollen i Forsvaret.

Frivillig deltagelse

Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn. Dersom du trekker deg, vil alle opplysninger om deg bli anonymisert. Om du ikke ønsker å delta eller senere trekker deg har dette ingen betydning for opptaket.

Innsamlede opplysninger skal kun brukes til forskning. Svarene vil ikke få betydning for opptaket eller din senere tjeneste som befalelev eller befal.

Hva skjer med informasjonen om deg?

Alle personopplysninger vil bli behandlet konfidensielt. Det er kun vi som er forskere og våre medarbeidere som får tilgang til de innsamlede opplysninger. Opplysninger fra opptaksprøvene og fremtidig tjeneste vil vi koble ved hjelp av personnummer. Befalsskolene og sjefpsykologen i Forsvaret vil ikke få tilgang til spørreskjemadata. Koblingsnøkkel med personopplysninger vil holdes fysisk atskilt fra det koblede datamateriale. Ved eventuell publisering av artikler eller rapporter, vil enkeltpersoner ikke kunne gjenkjennes. Prosjektet avsluttes 20.06.2020, hvor alle data blir anonymisert og koblingsnøkkel med personidentifikasjon slettes.

Informasjon om studien

Studien er meldt og godkjent av Personvernombudet for forskning, Norsk samfunnsvitenskapelig datatjeneste AS.

Dersom du har spørsmål til studien, ta kontakt med avdeling for militærpsykologi:

Forsker/kommandørkaptein Rino B. Johansen på tlf 99279274/rinjohansen@mil.no eller Forsker/høgskolelektor Thomas Fosse på tlf 45664112/tfosse@mil.no.

Samtykke til deltagelse i studien

Jeg har mottatt informasjon om studien, og samtykker til deltagelse.

Signert av prosjektdeltager (dato/signatur)

Forklaring:

- Bruk skalaen for å indikere i hvilken grad hver av de følgende påstandene reflekterer hvordan du typisk er/hva som passer best for deg (SETT ETT KRYSS FOR HVERT SPØRSMÅL).
- Flere spørsmål kan virke like, men inneholder viktige nyanser. Besvar hvert enkelt spørsmål så godt som du kan og ikke bry deg om hva du har svart på tidligere spørsmål.

	Uenig	Litt uenig	Verken eller	Litt enig	Enig
	1	2	3	4	5
Jeg unngår det som kan hindre meg i å nå mine mål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg velger venner som jeg tror vil hjelpe meg til å oppnå mine langsiktige mål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mine venner hjelper meg til å oppnå mine langsiktige mål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg leser/jobber helst på plasser hvor jeg ikke kan forstyrres	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg unngår steder hvor det selges gatekjøkkenmat for ikke å bli fristet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De fleste av mine venner er impulsive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg gir ofte etter for gruppepress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg foretrekker impulsive venner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mengden alkohol jeg drikker påvirkes av hvor mye alkohol mine venner drikker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg havner ofte i situasjoner hvor jeg blir utsatt for gruppepress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg påvirkes ganske lett av andre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har en tendens til å havne i situasjoner som utfordrer min viljestyrke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg unngår situasjoner hvor jeg kan bli fristet til å opptre umoralsk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mine rutiner gjør at jeg unngår fristelser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Uenig	Litt uenig	Verken eller	Litt enig	Enig
	1	2	3	4	5
Jeg havner sjeldent i situasjoner hvor jeg må ta meg sammen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg går aktivt inn for å unngå fristelser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg deler helst ikke mine mål med andre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg ber om hjelp fra andre for å nå mine mål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg deler mine ambisjoner med andre for å forplikte meg selv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg vil slutte med en uvane forteller jeg andre om det	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har en tendens til å bryte avtaler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg lager forpliktende "avtaler" med meg selv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg setter tidsfrister for meg selv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg pålegger meg selv restriksjoner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har noen ganger vansker med å sette grenser for meg selv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg lever opp til mine egne standarder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg gir meg selv belønninger for god innsats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg prøver å gjøre ubehagelige oppgaver så behagelig som mulig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg vet eksakt hva jeg må gjøre for å nå mine utdannings- eller karrieremål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg lager planer for når, hvor og hvordan jeg skal nå mine mål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg setter meg et mål lager jeg som oftest konkrete planer for hvordan jeg skal nå det	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Uenig	Litt uenig	Verken eller	Litt enig	Enig
	1	2	3	4	5
Jeg er klar over hva jeg må gjøre for å nå mine mål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg glemmer unna ting som jeg vet kan friste meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg distraheres lett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg forstyrres lett av mine impulser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kroppslige impulser har noen ganger for mye styring over meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ufrivillige tanker har noen ganger for mye styring over meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For ikke å bli distrahert må jeg ha det rolig rundt meg når jeg jobber	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har lett for å la tankene vandre mens jeg leser noe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg fokuserer daglig på mine langsiktige mål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distraksjoner gjør ikke at jeg mister fokus på mine mål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis jeg blir sint, prøver jeg å fokusere på noe annet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er observant på mine negative følelser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har god konsentrasjonsevne	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er bevisst mine impulser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har problemer med å holde konsentrasjonen på det som blir sagt i en forelesning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg greier å konsentrere meg selv når det er mange forstyrrelser rundt meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selv om jeg er sliten klarer jeg å konsentrere meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Uenig	Litt uenig	Verken eller	Litt enig	Enig
	1	2	3	4	5
Jeg forsøker å se på mine handlinger fra andres perspektiv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg tenker sjeldent over hvorfor jeg gjør slik jeg gjør	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg forsøker å se mine handlinger i et lengre/større perspektiv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg tenker ofte gjennom hvordan jeg kan betrakte en utfordring på en ny måte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg tenker ofte gjennom hvordan jeg virker på andre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg skal gjøre noe nytt og utfordrende prøver jeg å løsrive meg fra min vanlige tankemåte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg ser ofte nye løsninger gjennom å redefinere situasjonen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg skal legge av meg en uvane prøver jeg å visualisere en fremtid uten uvanen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg skal gjøre noe nytt og utfordrende, er jeg i stand til å "tenke utenfor boksen"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg står overfor fristelser jeg bør unngå, tenker jeg på noe annet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det andre opplever som fristende har ofte en omvendt effekt på meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er ofte skeptisk til fristelser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis jeg uventet får penger, bruker jeg dem som regel ganske raskt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg står overfor en uønsket fristelse har jeg problemer med å slutte å tenke på den	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fristelser biter ikke på meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg er i dårlig humør, prøver jeg å gjøre noe slik at humøret mitt vil endre seg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg er nedfor, prøver jeg å tenke på noe positivt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Uenig	Litt uenig	Verken eller	Litt enig	Enig
	1	2	3	4	5
Når en ubehagelig tanke plager meg, prøver jeg å tenke på noe annet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg er nedfor, prøver jeg å gjøre noe som jeg liker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når det er vanskelig for meg å konsentrere meg om hva jeg skal lese, forsøker jeg å finne måter jeg kan øke min konsentrasjon på	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg møter en vanskelig utfordring, forsøker jeg å håndtere den på en systematisk måte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For å overvinne ubehagelige følelser som følger med nederlag, forteller jeg ofte meg selv at det ikke er så ille og at jeg kan gjøre noe med det	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når det er vanskelig å komme i gang med en oppgave, prøver jeg å finne på noe som kan få meg i gang	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg gjør noe som er skremmende, fokuserer jeg på hvordan jeg kan overvinne frykten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg må gjøre noe kjedelig, fokuserer jeg mindre på det som er kjedelig og mer på belønningen som følger etter jeg er ferdig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg fristes av noe, gjør jeg noe annet som får meg til å slutte å tenke på fristelsen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg ikke har lyst til å trene, presser jeg meg fortsatt til å gjøre det	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når det er vanskelig for meg å konsentrere meg om en oppgave, deler jeg den opp i mindre oppgaver	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det er ofte mulig for meg å endre hva jeg føler for det meste, ved bare endre måten jeg tenker på	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg er usikker på hvordan jeg skal løse en oppgave, forsøker jeg å gjøre et eller annet bare for å komme i gang	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg ikke kommer videre med en oppgave, prøver jeg å betrakte oppgaven på en annen måte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har en tendens til å si rett ut hva jeg tenker på, uansett hva det er	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg avbryter ofte folk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg vil ha godt av å tenke mer før jeg handler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Uenig	Litt uenig	Verken eller	Litt enig	Enig
	1	2	3	4	5
Jeg tar mange ting på sparket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har en tendens til å gjøre impuls kjøp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg mister besinnelsen lett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er utålmodig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har lett for å bli avhengig av ting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg finner det vanskelig å bryte uvaner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg bruker for mye penger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg drikker noen ganger alt for mye	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noen ganger greier jeg ikke stoppe meg selv fra å gjøre ting, selv om jeg vet det er galt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noen ganger liker jeg å bryte reglene og gjøre ting som jeg egentlig ikke skal gjøre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg avbryter ofte mine treningsplaner fordi jeg ikke har lyst til å trene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har en tendens til å utsette ting til jeg må gjøre de	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg overveldes ofte av alt jeg har å gjøre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Behag og moro hindrer meg noen ganger i å få gjort arbeid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg lar meg ofte forstyrre av internett og sosiale medier mens jeg arbeider	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har vanskelig for å komme i gang med ting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har vanskelig for å fullføre ting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1

	Uenig	Litt uenig	Verken eller	Litt enig	Enig
	1	2	3	4	5
Jeg gir opp for lett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er en perfeksjonist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg blir redd, fokuserer jeg for mye på hva som kan gå galt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det kan hende at jeg har vanskelig for å slutte å gråte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Min egen frykt for ting gjør at jeg blir enda reddere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg klarer å ta kontroll over følelsene mine når jeg blir lei meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg utfordrer min frykt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har lett for å gråte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg holder følelsene mine for meg selv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg føler en positiv følelse, sørger jeg for ikke å gi uttrykk for den	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg kontrollerer mine følelser ved å ikke gi uttrykk for de	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg føler en negativ følelse, sørger jeg for ikke å gi uttrykk for den	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har en tendens til å bli sarkastisk når jeg blir irritert eller sint	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg blir sint sier jeg fæle ting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg blir sint klarer jeg å besinne meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er god til å motstå fristelser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er lat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Uenig	Litt uenig	Verken eller	Litt enig	Enig
	1	2	3	4	5
Jeg sier upassende ting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg tillater aldri meg selv å miste kontrollen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg gjør enkelte ting som ikke er bra for meg, hvis de er morsomme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Folk kan regne med at jeg holder tidsplaner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Å stå opp om morgenen er vanskelig for meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg synes det er vanskelig å si nei	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg endrer mening ganske ofte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Folk ville beskrevet meg som impulsiv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg sier nei til ting som ikke er bra for meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg holder det alltid ryddig rundt meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg gir av og til etter for fristelser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg skulle ønske jeg hadde mer selvdisiplin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg lar meg følelsesmessig rive med	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er dårlig til å holde på hemmeligheter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Folk vil si jeg har høy grad av selvdisiplin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har arbeidet eller studert hele natten i siste liten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg blir sjelden motløs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Uenig	Litt uenig	Verken eller	Litt enig	Enig
	1	2	3	4	5
Jeg har sunne vaner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg spiser sunn mat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det er vanskelig for meg å konsentrere meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg klarer å jobbe effektivt mot langsiktige mål	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg handler ofte uten å tenke gjennom alternativene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg kommer alltid presis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg utsetter ting så lenge at det går ut over velvære og effektivitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis det er noe jeg bør gjøre, gjør jeg det før jeg gjør andre og mindre viktige ting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Livet mitt ville vært bedre om jeg hadde gjort ting tidligere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg burde gjøre noe, gjør jeg gjerne noe annet i stedet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Når jeg ser tilbake på dagen, vet jeg at jeg kunne utnyttet tiden bedre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg bruker tiden min fornuftig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg venter med å gjøre ting mer enn hva som er fornuftig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg utsetter ting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg gjør alltid ting når jeg mener at de bør gjøres	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det hender til stadighet at jeg arbeider eller studerer hele natten i siste liten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		Stemmer ikke.				Stemmer helt.		
		1	2	3	4	5	6	7
1	Blir lett skremt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Er handlekraftig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Blir lett stressa.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Holder avtaler.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Er lite opptatt av hva jeg føler.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Får lett venner.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Er opptatt av å nå mine mål.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Bekymrer meg mye.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Er detaljorientert.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Er varm og vennlig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Tror det beste om folk.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Snakker med nye mennesker.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Er interessert i andre mennesker.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Er opptatt av at andre skal ha det bra.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Er en punktlig person.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Samarbeider gjerne med andre.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Er åpen og tolerant for andres måte å leve på.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Er ofte redd for å dumme meg ut.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Har noe godt å si om alle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Er flink til å sette ting i system.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	Tar meg tid til andre.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	Er som regel høflig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	Gjør mine plikter med en gang.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	Tenker ofte på hva andre mener om meg.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	Stiller spørsmål som ingen andre kommer med.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26	Er en jordnær person.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27	Legger merke til vakre ting.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28	Liker å være der mennesker samles.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29	Er nysgjerrig og liker å lære nye ting.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30	Liker å konkurrere.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31	Bestemmer gjerne.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32	Stoler sjelden på andre.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33	Stiller alltid forberedt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34	Foretrekker faste rutiner.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35	Lar meg fascinere av mønstre og farger.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36	Starter ofte samtaler.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37	Gjør ting halvhjertet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38	Trives best når jeg er alene.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39	Har en god fantasi.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40	Respekterer andres syn på hva som er rett og galt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41	Er dominerende og selvsikker.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Stemmer ikke.					Stemmer helt.	
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