MEASURING MILITARY IDENTITY: SCALE DEVELOPMENT AND PSYCHOMETRIC EVALUATIONS

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Our purpose was to perform a psychometric evaluation of a new 33-item questionnaire developed in Norway. To evaluate it we assessed its internal consistency, performed an exploratory factor analysis, and investigated aspects of construct validity. We also examined test-retest reliability. A second purpose was to investigate whether or not individual level variables such as age, gender, or service were related to different military identities. In Study 1 we collected cross-sectional data from military personnel in the Norwegian Armed Forces (N = 317). In Study 2 we collected longitudinal data from students undertaking junior officer education (N = 238). We identified a 3-factor structure, comprising professionalism, individualism, and idealism. Internal consistency for the 3 subscales was acceptable (α = .60–.83). Test-retest reliability and construct validity were supported. We found professionalism to be significantly higher in the Army as compared to in the Navy and Air Force. We did not detect gender differences in terms of military identities, but we did detect small negative correlations between age and professionalism and between age and idealism.

Keywords: military identity, professionalism, scale development, reliability, factor analysis, construct validity.

During the Cold War, Norway played a vital part in the terror balance and strategic interplay between NATO (North Atlantic Treaty Organization) and the Warsaw Pact, and experienced a direct and existential threat from the Soviet

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Union (Ulriksen, 2002). A nation in arms model was therefore cultivated, including an idealistic military identity based on collectivism, patriotic, and altruistic values, with the primary cause being the defense of Norwegian territory (Ulriksen, 2002). As the Cold War ended, the Norwegian Armed Forces became increasingly involved in multinational missions, which challenged the appropriateness of an idealistic military identity. In 2005, this led to a strategic decision being made to alter the Norwegian military identity from idealism towards professionalism, also referred to as the Norwegian military paradigm shift (Eriksson, 2004, 2006). Incorporating professionalism into doctrine served to introduce and formalize it as a necessary condition of military service, and was used as a tool for increasing military performance (Forsvarets Overkommando [Norwegian Armed Forces, Defense Staff], 2007). The introduction of professionalism coincided with the emergence of a more hostile operational environment, which sparked a challenging political debate as well as an internal discussion in the Armed Forces regarding whether or not it should cultivate a warrior culture. Alongside this military paradigm shift, Norway has also seen a sociocultural development where self-interest and individualism have gained influence at the expense of the authority and collective values of the traditional nation state. As individualism conflicts with the collective nature of the Armed Forces, it might be expected to have a negative influence on the military, an idea that has been empirically supported by Faris (1988, 1995) and Griffith (2007, 2008).

Replacing idealism with professionalism therefore raises crucial conceptual and practical questions. What is the current nature of the military identity of Norwegian military personnel, and to what extent is the move towards professionalism justified? Matlary (2009) argued that performance measures related to military identity are urgently needed, as little work has been done to operationalize, validate, or measure the construct of professionalism. There is also a need to explore the extent to which Norwegian military personnel identify with other known identity dimensions such as warriorism and individualism, as this might have a negative influence on Armed Forces. Doing this requires valid and reliable assessment tools. We, therefore, performed a psychometric evaluation of a newly developed Norwegian questionnaire aimed at measuring aspects of military identity by assessing its internal consistency and test-retest reliability, and carried out exploratory factor analysis and construct validity tests. We also investigated whether or not variables such as age, gender, or service are related to the different military identities.

Literature Review

How Might Military Identity be Defined and Measured?

Rooted in military sociology, the concept of military identity has been explored and measured in normative terms (such as culture, attitudes, values,

and motivation), following the classical theories of Huntington (1957), Janowitz (1960), and Moskos (1977). However, opinion is divided on how to interpret military identity, how to measure it, and the extent to which it affects members of a military organization (Evetts, 2003; Lock-Pullan, 2001). Norwegian military identity is thus conceptualized as a multidimensional construct, comprising idealism, professionalism, warriorism, and individualism. In the following sections, we address the definition, operationalization, and measurement of each of these aspects of military identity.

Idealism

In Norway, idealism was the dominant military identity during the Cold War, based on the nation in arms model and the concept of the citizen solider, fostering strong collectivism, patriotism, and altruistic values (Ulriksen, 2002). Military service was regarded as a national obligation and a way of life, motivated by a greater good that was seen to surpass personal interests. Conceptually and theoretically, the construct of idealism closely corresponds with institutional military values, outlined and defined through Moskos' (1977, 1988) institutional-occupational (I-O) thesis (see also Moskos, Williams, & Segal, 2000). Aspects of idealism have also been empirically examined, using both single items and scales (Franke, 1997; Franke & Guttieri, 2009; Franke & Heinecken, 2001; Laberg, Ingjaldsson, Kobbletvedt, & Horverak, 2005). However, the current assumption is that idealism as a military identity is less relevant now and should be abandoned (Eriksson, 2004, 2006). Nevertheless, such a shift could be questioned, as researchers have recently provided evidence suggesting that traditional values (i.e. idealism) have been underestimated both as a motivation to serve and as potentially important predictors of military effectiveness and performance (Ben-Dor et al., 2007; Griffith, 2008).

Professionalism

The fundamental tenet of the Norwegian military doctrine is as an overarching ideal of military professionalism, which involves a combination of desirable shared attitudes, values, norms, skills, and behaviors that are expected from military personnel serving in the Norwegian Armed Forces. According to Huntington (1957), professionalism is characterized by: (a) The necessity and willingness among military personnel to participate in international joint operations (expeditionary ethos); (b) A strong instrumental focus, with emphasis on the conduct of operations, in particular the development and cultivation of combat skills (operational ethos); and (c) A motivation to serve based on team cohesion and war comrade fellowship rather than on a desire to serve a superior cause (peer ethos). These characteristics closely resemble Wong and Johnson's (2002) concept of military professionalism. They also converge

with Stensønes' (2012) findings from interviews with experienced Norwegian Afghanistan veterans. On the other hand, the Norwegian concept of military professionalism differs from the more general, classic, and accepted theoretical hallmarks of military professionalism (Gabriel, 1982). Most importantly, the Norwegian concept appears to exclude, or at least undervalue, altruistic values and institutional features such as serving a superior cause. The necessity of the latter appears to be justified by the decoupling of national identity and patriotism on the one hand, and the demands of the mission on the other (Edstrøm, Lunde, & Matlary, 2009). Furthermore, professionalism seems to overemphasize the war-like component of soldiering, which might be dysfunctional in operations requiring different qualities.

Researchers have developed items and scales for military professionalism that may be used to measure professional values, motivation, and identity (Hall, 1968; Soeters, 1997). However, few recent attempts have been made to measure military professionalism as a single, coherent construct, meaning that work to create such a scale is still needed.

Warriorism

A *warrior* can be broadly defined as *a person skilled in warfare or combat* (Wong, 2005). In this sense, most soldiers will be warriors. However, differentiation is required, as motives may be related to a specific desire or attraction to involve in combat, or to a preference for war as a lifestyle in its own right, rather than as a means to achieving political goals (Moore & Gillette, 1990). Viewed thus, the concept of warriorism is confined to attitudes toward war fighting, expectations about fighting in a war or combat, and the degree of personal satisfaction expected from participating in combat. Aspects of warriorism have been measured by Franke (1997; see also Franke & Guttieri, 2009) among US officers and West Point cadets, and by Laberg et al. (2005) among Norwegian soldiers.

Individualism

Norwegian society seems to have developed in a direction where the rise of individualism and self-interest may have weakened the authority and collective values of the national state. This has affected the Armed Forces at an organizational and individual level. Moskos (1977) claimed that military service changed accordingly from a calling of vocation legitimized by institutional values to a regular occupation legitimized by the labor market. Thus, occupational values and motives implied the priority of self-interest, with its potentially negative impact on both the members and the organization (Wood, 1988). Battistelli (1997, 2000) extended Moskos' I-O thesis and argued that individualism result from both occupational and postmodern attitudes. Jacobsen (2005) supported these ideas in

a study of service motivation among Norwegian officers. The Norwegian Joint Doctrine also highlights the importance of avoiding egocentrism and selfishness, implying that individualism is a threat to the quality of service. In studies on the impact of individualism, researchers have indicated negative effects such as reduced combat effectiveness (Faris, 1988, 1995; Griffith, 2007, 2008).

Hence, existing theories and concepts appear to provide a basis for the four constructs (dimensions) comprising military identity. For some of them, established models of explanation also exist alongside measurements in the form of item batteries or established scales. Aspects of certain constructs have also been empirically tested. However, scales targeting specific dimensions seem to be lacking, especially in the case of professionalism. The construction of a comprehensive scale measuring all major aspects of military identity may be based on a mixture of established and proven items, with theory-based items developed specifically to cover each dimension.

Military Identity and its Relationship to Organizational Commitment

Organizational commitment (OC) may be described as the employee's psychological attachment to the organization, and may be distinguished from other work-related attitudes e.g., job satisfaction. Researchers have found support for a positive relationship between aspects of military professionalism and commitment in the armed forces (Griffith, 2007, 2008; Moskos et al., 2000). Mowday, Steers, and Porter (1979) found three related factors of OC: (1) Strong belief in and acceptance of the organization's goals and values, (2) Willingness to exert considerable efforts on behalf of the organization, and (3) Strong desire to maintain membership in the organization. All these factors echo aspects of the doctrinal construct of professionalism. OC may therefore be treated as an indicator of professionalism, where a positive correlation between these variables would support the construct validity of professionalism.

The Present Study

We aimed to develop reliable scales to measure dimensions of military identity by using principal components analysis (PCA), and by examining the scale's internal consistency and test-retest reliability. We also investigated the construct validity of each military identity dimension by examining their correlations with OC. We also performed a regression analysis using OC as the dependent variable and identity dimensions as independent variables. We expected OC to be positively related to professionalism and negatively related to individualism. The final purpose was to examine whether or not individual variables such as age, gender, or type of service were related to the various identities.

Study 1

The purpose in Study 1 was to perform a psychometric evaluation of a new Norwegian 33-item questionnaire aimed at measuring military identity.

Method

Participants. Participants were recruited from six different units in the Norwegian Armed Forces to ensure variability in functional area, service, branch, level of competence, and age, of whom 296 (93%) were male, with ages ranging between 19 and 55 years. Of the participants, 45% were 22 or younger, 28% were 23-32, 15% were 33-42, while 9% were 43 or older. A total of 63 respondents were from the Army, 229 from the Navy, and 24 from the Air Force.

Procedure. We distributed a questionnaire to be returned by regular mail or in a sealed envelope to the principal investigator. Out of 420 distributed surveys, 317 copies were returned (response rate = 75%).

Measures. The questionnaire consisted of two parts; one measuring dimensions of military identity (NPIS) and a second part measuring OC. The NPIS section consisted of 33 items, partly theory-based, and partly selected from previous scales or test batteries. Four domains were covered: idealism, professionalism, warriorism, and individualism, with corresponding items listed in Table 1. All items were scored on a 7-point Likert scale (1 = *totally disagree* to 7 = *totally agree*). Four items were negatively worded and reverse-scored before inclusion in statistical analyses. Nine items were used to measure idealism, of which six were theory based and three were adapted from Franke's (1997) scales and Laberg et al. (2005). Eight items, all based on existing theories including analysis of the Norwegian Joint Doctrine, were used to measure professionalism. Nine items were used to assess individualism, including four items based on theory or existing tests, and five items adapted from a previous Norwegian study (Jacobsen, 2005). Seven items were used to measure warriorism, of which five were adopted from Franke (1997), Franke and Heinecken (2001), and Laberg et al. (2005), while the last two items were based on Haaland's (2008) analysis of warriorism. OC was measured using the short form of the OC Questionnaire (OCQ) developed by Mowday et al. (1979). The OCQ consists of nine items scored on a 7-point Likert scale (1 = *totally disagree* to 7 = *totally agree*), indicating the degree to which a person values the organization they work for, and the extent to which they wish to maintain organizational membership. We asked the participants to assess their commitment at the unit level.

Statistical analyses. We used SPSS version 17.0 for all statistical analyses. We evaluated the factorial structure with PCA, using a varimax rotation. Exploratory rather than confirmatory factor analysis was chosen in this study, as this was a first attempt to identify a factor structure in this instrument. Prior to performing

PCA, we assessed the suitability of the data for factor analyses. Inspection of the correlation matrix revealed the presence of several coefficients of .30 and above. The Kaiser-Meyer-Olkin value was .79, exceeding the recommended value of .60 (Kaiser, 1970, 1974), whilst Barlett's (1954) test of sphericity reached statistical significance, supporting the factorability of the correlation matrix.

We considered examination of a scree plot to be the best method for determining the number of factors to retain (Costello & Osborne, 2005). Stevens (2002) suggested that the scree plot provides a fairly reliable criterion for factor selection for samples of more than 200 participants, such as our sample of 317.

Tabachnick and Fidell (2007) suggested .32 as a suitable cut-off point for minimum item factor loading. This equates to approximately 10% overlapping variance with the other items loading on the factor. Items loading .32 or higher on two or more factors are considered to be cross-loading (Costello & Osborne, 2005). Stevens (2002) supported this by recommending loadings greater than .298 for a sample size of 300. Based on these suggestions, we considered loadings of above .30 to be significant in the present study. Effect sizes either in terms of correlations (r) or Hedges' $g = (M_1\text{-}M_2)/SD$ pooled were evaluated according to Cohen's (1969) criteria where $r = .30$ and $r = .50$ represent medium and large effect sizes for correlations, while $g = .50$ and $g = .80$ represent medium and large effects for Hegde's g, respectively.

To investigate the predictive value of military identity on OC we created and examined a hierarchical regression model. The first step in the regression model included gender, age, and service as control variables. We coded the three groups representing the person's service branch (Army, Navy, and Air Force) by means of two dummy variables. The reference category was the Army, and we coded the two dummy variables: ServiceAir = 1 if Air Force, otherwise 0, and ServiceNavy = 1 if Navy, otherwise 0. At step two we entered the military identity dimensions. We only interpreted individual predictors if the corresponding step was significant. Finally, we calculated Pearson's correlations to see whether or not any individual level characteristics such as age, gender, or service were related to military identity. We examined differences in identity between services with a one-way analysis of variance (ANOVA).

Results

Descriptive statistics and PCA results for professional identity items are presented in Table 1. An inspection of the scree plot revealed a break after the fourth component, and based on Cattell's (1966) scree test, we decided to retain four components for further investigation. Further analysis revealed that items belonging to professionalism and warriorism generally loaded on the same component. A 3-component solution was therefore investigated. Further, it was

Table 1. Descriptive Statistics and Principal Components Analysis Results for the NPIS Items

Item no.		M (SD)[a]	Component loadings		
			1	2	3
26	My motivation is to gain operational experience by using my military skills in highly intensive operations.	4.27 (1.78)	.74		
13	The possibility of participating in war actions is an important motivating factor to me.	3.12 (1.81)	.70		
16	Self-sacrifice, courage, and fellowship in war are more important than ever.	3.80 (1.67)	.67		
17	I prefer service in high-intensity rather than in peacekeeping operations.	3.20 (1.76)	.66		
33	It is my duty to serve in those places around the world decided by the Government and the Armed Forces.	5.03 (1.69)	.61		
15	One of my top motivating factors is to completely develop and master my military skills.	5.17 (1.50)	.60		
6	When I joined the Armed Forces, I had a clear expectation of taking part in war operations.	3.07 (1.73)	.56		
19	Codes of honor and unit values are of the utmost importance in the Armed Forces.	5.20 (1.50)	.54		
3	The Government may deploy me to whichever mission as long as it does not contradict my moral convictions.	4.85 (1.81)	.53		
5	The most important part of the military role is to prepare for and conduct war-like operations.	4.48 (1.67)	.48		
9	I believe that controlled aggression will be an important element if I have to take part in war actions.	5.15 (1.74)	.48		
31	I am attracted to the Armed Forces because it allows me to experience personal excitement and challenges.	5.24 (1.47)	.48		
18	Self-fulfillment is a very important part of my engagement in the Armed Forces.	5.13 (1.34)	.43		
10 R	The Armed Forces' main tasks should not be the preparation for or conduct of war.	5.36 (1.56)	.43		
14	I could easily participate in most kinds of international operations without regards to the underlying cause.	3.66 (1.80)	.39		
2	My motivation for being in the Armed Forces is to serve something more important than my own needs.	4.59 (1.50)	.35		
4 R	I get my motivation from the mission's relevance, not from my immediate unit or team members.	4.40 (1.45)		.67	
12	I am motivated to serve in the Armed Forces due to the possibilities and challenges I am offered.	5.47 (1.37)		.54	
7	An important premise for participation in international operations is to be rewarded with high salaries.	5.04 (1.62)		.52	
24	The Armed Forces must respect my civilian life e.g., family-, residential-, and leisure interests.	5.65 (1.37)		.46	
23	I see being in the Armed Forces as an ordinary job.	4.44 (1.77)		.44	
11	Commitment to the Armed Forces is not as vital to the officer/soldier role as it used to be.	3.32 (1.68)		.44	
8 R	In the Armed Forces, duties take priority over rights.	4.40 (1.53)		.36	
25	If I have to sacrifice my own life, it will be for of my closest unit members, not for the people of my nation.	4.02 (1.72)	.31	.34	
1	The Armed Forces should primarily be used to defend Norwegian territory.	2.78 (1.66)			.61

Table 1 continued

Item no.	M (SD)[a]	Component loadings		
		1	2	3
28 My motivation to participate in international operations depends on whether these support Norwegian interest at large.	3.83 (1.60)			.60
22 It is wrong to participate in military operations that do not explicitly promote Norwegian values and interests.	3.42 (1.80)			.53
20 It is wrong to participate in war-like actions in a country which is not my own.	2.09 (1.26)			.48
29 It is more important to defend one's own territory than to defend Norwegian interests in international operations.	4.23 (1.70)			.45
27 I participate in international missions as long as I sympathize and identify with the mission.	4.12 (1.51)			.44
30 I look upon work in the Armed Forces as a calling where I can serve my country.	3.78 (1.68)	.40		.42
21 A clear indication of being a good citizen is to serve in the Armed Forces to defend one's country.	4.55 (1.80)	.33		.36
32 R In the Armed Forces, I have to accept that personal needs come after the needs of the unit fellowship.	3.84 (1.76)	-.30		
Variance explained (%)		18	8	7

Note. $N = 317$. Factor loadings < .30 were omitted from the table. Factor 1: Professionalism/Warriorism, Factor 2: Individualism, Factor 3: Idealism. Original NPIS dimensions; 1: Professionalism/Warriorism (items 3, 4, 15, 19, 25, 26, 33, 14, 5, 6, 9, 10, 16, 17, 13), 2: Individualism (items 18, 31, 32, 12, 11, 23, 24, 7, 8), 3: Idealism (items 1, 2, 20, 21, 22, 27, 28, 29, 30).
[a] M and SD were calculated for all items after negatively worded items were reversed. R = reverse scored.

revealed that the majority of items measuring professionalism and warriorism loaded on component 1 along with some of the items measuring individualism and idealism. Six items used to measure individualism loaded on component 2 whilst eight items used to measure idealism loaded on component 3. Additionally, three items showed substantial cross-loadings. The analysis therefore indicated that the survey of military identity measured three separate dimensions, with professionalism and warriorism items comprising one dimension, and idealism and individualism being the second and third factors. Before the construction of the final three subscales, items with cross-loadings (items 21, 25, and 30) were removed, alongside three items loading on an unexpected component (item 2 unexpectedly loaded on professionalism and not idealism, while items 18 and 31 unexpectedly loaded on professionalism and not individualism). Item 32 was also removed due to a low and negative factor loading.

Based on the PCA results, three subscale scores were created, which were based on the mean score of each factor's individual items. The Cronbach's alpha for the three identity dimensions ranged between .60 and .86 (Table 2).

Table 2. *Correlations Between Military Identity, Organizational Commitment, and Demographic Variables from Study 1*

	M	*SD*	Organizational commitment	Professionalism	Individualism	Idealism	Age
Organizational commitment	5.03	(1.08)	.91				
Professionalism	4.21	(0.86)	.38**	.81			
Individualism	4.64	(0.87)	-.25**	-.34**	.60		
Idealism	3.09	(0.77)	-.04	.03	.07	.60	
Age	27.1	(0.92)	.12*	-.15*	-.04	-.14*	-
Gender	-	-	.18*	-.05	-.01	-.07	-.07

Note. N = 317. * *p* < .05, ** *p* < .01 (two-tailed). Gender was coded: 0 = male, 1 = female. Cronbach's alpha values are displayed in the diagonal.

To investigate construct validity, we calculated correlations between total scores on each identity dimension and OC scores. Results are presented in Table 2. The identity subscales correlated with OC in the expected directions, supporting the construct validity of professionalism. With the exception of idealism, all correlations were significant and moderate in size (Cohen, 1969).

We conducted a hierarchical regression analysis to examine whether or not commitment could be predicted by three identity dimensions. These results are presented in Table 3.

Table 3. *Hierarchical Multiple Regression Analysis for Predicting Organizational Commitment*

Variables	Organizational commitment	
	β	ΔR^2
Step 1. Control variables		.10***
Gender[a]	.19**	
Age	-.05	
Service 1	-.07	
Service 2	-.07	
Step 2. Military identity		.20***
Professionalism	.36***	
Individualism	-.24***	
Idealism	-.02	
R^2		.30
N		300

Note. All coefficients were taken from the last step of the equation. * $p < .05$, ** $p < .01$, *** $p < .001$.
[a] Gender was coded 1 = male and 2 = female. Service was coded by using two dummy variables; Dummy variable 1: Army = 1, Navy = 0, Air Force = 1. Dummy variable 2: Army = 0, Navy = 1, Air Force = 0.

Gender, age, and service were entered in the first step as control variables and found to explain a significant amount of the variance (11%). Gender on its own explained a significant amount of the variance, indicating differences between males and females in OC, with females scoring higher than males. When entered in step 2, military identity explained a significant part of the variance in OC (20%), after controlling for age, gender, and service. Of the individual predictors, professionalism was significantly and positively related to OC, while individualism was significantly but negatively associated with OC. Idealism failed to explain a significant part of the variance in OC.

There were differences in military identity between each service and age and between each service and gender. A 1-way ANOVA was conducted to compare scores on the three subscales of military identity between services. Analyses showed significant differences in professionalism ($F(2, 313) = 62.8$, $p < .001$) across services. A Tukey's significant differences post hoc test indicated that members of the Army ($M = 5.08$, $SD = .72$) scored significantly higher than did members of the Air Force ($M = 4.03$, $SD = .65$) and the Navy ($M = 4.19$, $SD = .87$). The effect sizes in terms of Hedges' g were large, both between the Army and the Air Force (g = 1.58), and between the Army and the Navy (g = 1.06). Analyses also showed significant differences in individualism ($F(2, 313) = 3.7$, $p < .01$), with a post hoc test indicating that members of the Army scored significantly lower ($M = 4.39$, $SD = .92$) than those from the Navy ($M = 4.70$, $SD = .85$). The difference was small (Hedges' g = .36). Additionally, analyses showed significant differences in idealism between the services ($F(2, 313) =$

5.83, $p < .05$), with a post hoc test indicating that members of the Army ($M = 3.39$, $SD = .81$) scored significantly lower than did members of the Navy ($M = 3.67$, $SD = .82$), representing a small effect ($g = .34$). Furthermore, there were small, but significant, negative correlations between age and professionalism ($r = -.15$) as well as idealism ($r = -.14$) (see Table 3). No significant correlations were detected between gender and the military identity dimensions.

Study 2

In Study 2 we examined the psychometric properties of the second version of the NPIS, assessing its internal consistency and test-retest reliability. Additional support for the validity of constructs explored in Study 1 was also examined, by investigating correlations between military identity and OC.

Method

Participants. The sample was recruited from applicants to the Norwegian junior officer education program. The final sample, constituting 55% ($N = 236$) of the initially invited participants, comprised 85% men ($N = 202$) and 15% women ($N = 36$), aged on average 20.3 years ($SD = 1.53$).

Measures. Based on analyses and results from Study 1, the following modifications were made to the NPIS subscales. Idealism: three items were removed, for reasons explained above. Furthermore, five new items were included, of which two were adapted from Franke (1997), while the remaining three were theory-based. Professionalism: five items were removed, and two new theory-based items were included, to improve the survey's sensitivity to the professionalism/warriorism construct. Individualism: three unsuitable items were removed. Four new items were included, of which three were adapted from previous item batteries and one was theory-based. The second version of NPIS thus consisted of 33 items across three subscales: idealism (11 items), professionalism (12 items), and individualism (10 items) (see Appendix).

OC was measured using the short form of the OCQ by Mowday et al. (1979), as described in Study 1.

Statistical analysis. Cronbach's alpha coefficients were calculated to assess internal consistency. We computed Pearson product-moment correlations between test and retest scores in addition to intraclass correlations (ICC; 1-way random model, single measures) to assess the test-retest reliability of the NPIS subscales. The test-retest correlation provides a measure of consistency over time, although it is not sensitive to systematic changes, e.g., an overall increase in test scores between test and retest. The ICC provides a better index for detecting evenly distributed systematic errors (Yen & Lo, 2002).

Procedure. A total of 1,250 questionnaires were distributed to students during the selection period in June 2010 (T1), and 850 completed questionnaires were

received. Then, at the end of their petty officer training in June 2011 (T2), 650 students received questionnaires and 432 returned completed questionnaires. After having linked T1 and T2 data sets and controlled for missing data, complete data sets remained for 238 students who formed the basis of further analyses.

Results

We performed a PCA (varimax rotation) on the NPIS version 2 (NPIS 2) data, largely replicating the factor structure identified in NPIS version 1 (NPIS 1). Cronbach's alphas were calculated for the three dimensions of military identity in the NPIS version 2 at both T1 and T2. To further examine the stability of the NPIS 2 over time, we calculated an ICC in addition to the test-retest reliability (Table 4).

Table 4. *Internal Consistency, Test-retest Reliability, and ICC for the NPIS Version 2*

	NPIS 2 (T1)		NPIS 2 (T2)		Test-retest reliability	ICC
	Cronbach's α	items	Cronbach's α	items		
Idealism	.60	11	.63	11	.48	.48
Professionalism	.82	12	.86	12	.56	.56
Individualism	.62	10	.68	10	.48	.48
Organizational commitment	.89	9	.89	9		

Note. Pearson's product-moment correlations and intraclass correlations (single measures) were calculated for subscales between T1 and T2.

Results from Study 1 supported the construct validity of professionalism and individualism. As a follow-up, we used T2 data from Study 2 to investigate the stability of this relationship. We assessed T2 to be the best point for the students to judge their own level of identity and commitment, having gained a year of military service experience and completed a year of training. Results indicated a significant and positive medium-sized correlation between OC and professionalism ($r = .41$; $p < .001$), as well as a small but significant negative correlation between OC and individualism ($r = -.14$; $p < .05$).

Discussion

Factor Analyses

We have here examined for the first time a new instrument for measuring military identity. The initial version of the questionnaire in Study 1 comprised 33 items to measure possible dimensions of military identity. PCA led to the identification of three factors (professionalism, individualism, and idealism), which explained a total of 31% of the variance. The items of the profes-

sionalism and warriorism dimensions both loaded on the same component. The cross-loadings of these items in the 3-factor solution indicated a gap between the doctrinal construct and theoretical work on military identity in two respects. Firstly, items expressing altruistic values (items 2, 21, and 30) loaded on professionalism, despite such values not being included in the doctrinal definition of the concept. This discrepancy can to some extent be explained by Moskos' (1977) I-O thesis; Moskos et al. (2000) held an institutional perspective as 1 of 4 indicators of military professionalism. The relationship between military professionalism and altruistic values is also supported by Hall (1968), who specifically linked altruistic values to professionalism. Recent researchers (Eighmey, 2006; Griffith, 2008, Jans & Frazer-Jans, 2008; Moore, 2002; Wong, 2006; Woodruff et al., 2006) have revealed a return among young military service personnel to altruistic and idealistic motives. This supports the view of altruistic values as a consistent part of military professionalism. However, the theoretical basis and empirical findings invite a questioning of the relevance and validity of the Norwegian professionalism construct.

Secondly, two items used to measure typical postmodern values also loaded on professionalism, again contradicting the doctrinal view that ignores individualistic values including self-fulfillment and self-centeredness as part of professionalism, describing them instead as unacceptable and counterproductive. These apparently contradictory findings could, however, be seen as supported by the more controversial theories of Battistelli (2000) and Bondy (2004), who claim that postmodern characteristics and qualities are perfectly suited for the complex and unpredictable characteristics of actual military operations. A strong relationship between professionalism and warriorism was also detected. These results are to some extent expected, as both dimensions are strongly related to the conduct of operations, and influenced by the fact that these are currently becoming more warlike. Our results therefore indicate that the construct of professionalism may be more complex than initially expected. The factorial structure of NPIS 2 at T2, as evaluated in Study 2, largely replicated the factor structure of NPIS 1.

Internal Consistency of the NPIS Subscales

Various authors have offered guidelines or rules of thumb regarding minimum acceptable levels of reliability coefficients. Nunnally (1967) argued that relatively low reliability coefficients (e.g., .50 or .60) are tolerable in the early stages of research, although he later adjusted this minimum level to .70 (Nunnally, 1978). Heath and Martin (1997) suggested that alpha values should be at least .60. In Study 1, two of the dimensions (idealism and individualism) were found to show alpha values at .60, which could be regarded as somewhat low but acceptable at this stage. The moderate alpha values for these two scales

may reflect the results of the factor analysis, as the initial factor solution was only replicated to some extent in Study 1. The remaining dimension, now labeled professionalism, yielded an alpha value of .83, which was regarded as sufficient. In Study 2, the three subscales were refined in an attempt to increase internal consistency. However, idealism and individualism still failed to reach a level of .70. This may indicate that these two constructs are complex and difficult to operationalize, even when they are measured using established or theory-based items. Professionalism, however, retained sufficient alpha values even after the removal of two items. As our primary objective was to establish a measurement of professionalism, these results seem promising.

The test-retest reliability of the NPIS 2 was also examined, by computing test-retest correlations and ICC. There was little difference between the test-rest correlations and ICCs, indicating low levels of systematic error. Test-retest correlation coefficients ranged from .48 to .56, indicating somewhat low test-retest reliability. This could be due to fluctuations in scores from T1 to T2, and the relatively long time interval between the two test administrations. During this 1-year period, one might expect that military training influenced the students' military identity to some extent, resulting in different scores from T1 to T2, confirming findings from previous similar studies (Franke, 1997; Guimond, 1995).

Construct Validity

To assess construct validity, we correlated the military identity dimensions with OC in both studies. The NPIS subscales correlated with OC in the expected directions, indicating stability in the relationship between OC, professionalism, and individualism, thus supporting the construct validity of the latter two.

Study 1 results indicated that professionalism predicted OC. As commitment appears to be imperative for effective performance in the military (Gade, Tiggle, & Schumm, 2003; LeBoeuf, 2002; Moskos, 1977), this finding supports the construct validity of professionalism as well as its position as the preferred identity for the Norwegian armed forces. Results also indicated a negative association between individualism and OC, supporting the idea that individualism and professionalism are mutually exclusive. This may also be seen as supporting previous findings relating high levels of individualism to negative outcomes in a military organization (Faris, 1988; Griffith, 2008).

Identity Differences

Our results in Study 1 also revealed that Army participants scored significantly higher on professionalism than did Air Force and Navy participants. These differences were large. This result is somewhat surprising, given that professionalism is currently the expected and preferred joint identity of the Armed

Forces. If this assumption is correct, members of the Army, Air Force, and Navy should report similar levels of professionalism. One explanation could be that the doctrinal construct of professionalism actually appeals more to Army than it does to Air Force and Navy members. Furthermore, the doctrinal definition also appears to emphasize the conduct of international operations, which may correspond more closely with elements of Army service. However, attention should be paid to these differences, as they may interfere with aspects of recruitment, selection, and training. Army participants also scored significantly lower on individualism than did Navy students. This result is harder to explain. In his empirical study, based on a questionnaire involving 900 Norwegian officers, Jacobsen (2005) explored the participants' motivation to choose the military as an occupation, what motivated them in their daily service, and their motivation for potential participation in overseas operations. His findings that Navy respondents reported significantly lower levels of individualist motivation than did Army respondents, directly contradict our findings. Our results thus highlight a need for further exploration of this issue. Results also indicated a small decline in professionalism with age. This could be explained by the fact that members of the Armed Forces who participate in international operations are mostly selected from the younger part of the organization. Additionally, older respondents potentially have a different life situation, including family commitments, which might challenge the demands implied by professionalism. Analyses showed no correlations between gender and the three identity dimensions.

Limitations in the Present Study

Although the present study appears to represent an important step towards the development of a psychometrically sound measure of Norwegian military professional identity, several issues have yet to be addressed. Firstly, more research is required to further validate the NPIS against other related measures. However, such measures were hard to find, especially as these should ideally be suitable for use in a Norwegian setting. Existing instruments are only focused on parts of the NPIS, making direct comparison complicated. Secondly, despite our results being based on responses from officers and soldiers representing a range of age groups, services, and branches, the structure of the NPIS should be replicated and confirmed using a larger sample of soldiers and officers in the Norwegian Armed Forces, while also embracing a wider spectrum of the functional areas. However, adopting a view of professional identity as comprising dimensions and not categories allows for the analysis of specific items and their clustering, which provides valuable information regarding the distribution or composition of different elements of military identity. The average Cronbach's alpha values for idealism and individualism indicate a need for further theoretical development of both the constructs, as well as regrouping and deleting some present items, and adding new items.

The samples sizes recruited from the Army and the Air Force were smaller than that from the Navy, and this may have influenced some of the results from this study as differences in military identities were detected among services. This probably has a greater impact on the estimation of mean scores as compared to analyses of factor structure and reliability. Future researchers should aim to recruit more participants from the two underrepresented services.

Practical and Theoretical Applications of the NPIS

The creation of the NPIS has yielded a measurement tool available to researchers – Norwegian researchers in particular. Considering that the current doctrine dictates an altered military identity for the Norwegian Armed Forces, the NPIS allows researchers to explore important cross-sectional and longitudinal aspects of identity. In addition to these practical applications, the NPIS addresses important theoretical paradoxes in the domain of military sociology. The development of the NPIS will therefore contribute to further debate, exploration, and validation of the construct of Norwegian military identity.

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Appendix: Subscales with Items in NPIS Version 20

Idealism

1. The Armed Forces should primarily be used to defend Norwegian territory.
2. My motivation to participate in international operations depends on whether or not these support Norwegian interest at large.
3. It is wrong to participate in military operations that do not explicitly promote Norwegian values and interests.
4. It is wrong to participate in war-like actions in a country which is not my own.
5. It is more important to defend one's own territory than to defend Norwegian interests in international operations.
6. I look upon work in the Armed Forces as a calling where I can serve my country.
7. A clear indication of being a good citizen is to serve in the Armed Forces to defend one's country.
8. **My motivating power to be in the Armed Forces is to serve something more important than my personal needs.**
9.* The cause I am fighting for during operations is of secondary importance.
10. **The uniform really brings forward my national pride.**
11.* Traditional ideals as Service, King, and Country are out of date and belong to the history.

Professionalism

1. My motivation is to gain operational experience by using my military skills in highly intensive operations.
2. The possibility of participating in war actions is an important motivating factor to me.
3. Self-sacrifice, courage, and fellowship in war are more important than ever.
4. I prefer service in high-intensity rather than in peacekeeping operations.
5 One of my top motivating factors is to completely develop and master my military skills.
6. When I joined the Armed Forces, I had a clear expectation of taking part in war operations.
7. Codes of honor and unit values are of the utmost importance in the Armed Forces.
8. The Government may deploy me to whichever mission as long as it does not contradict my moral convictions.
9. The most important part of the military role is to prepare for and conduct war-like operations.
10. I believe that controlled aggression will be an important element if I have to take part in war actions.
11. **The idea of fellowship in arms as the primary motivating factor to participate in operations is subordinated.**
12. **The Armed Forces should be characterized by a warrior culture.**

Individualism

1. Self-fulfillment is a very important part of my engagement in the Armed Forces.
2. I am motivated to serve in the Armed Forces due to the possibilities and challenges I am offered.
3. An important premise for participation in international operations is to be rewarded with high salaries.
4. The Armed Forces must respect my civilian life e.g., family, residential, and leisure interests.
5. I see being in the Armed Forces as an ordinary job.
6.* In the Armed Forces, duty takes priority over rights.
7. **I regard being in the Armed Forces as one of several possible job alternatives.**
8. **For me it is natural to compare advantages and disadvantages to be in the Armed Forces versus having a civilian job.**
9. **I am willing to leave the Armed Forces if I am offered a civilian job with better salary and working conditions.**
10. Good payment is one of the most important presumptions to participate in international operations abroad.

Note. * Indicates that items are reversed. Figures in **bold** indicate new items.