

Risk-Taking Attitudes in the Norwegian Population

Implications for Recruitment into the Armed Forces

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The aim of this article is to examine risk-taking attitudes in the Norwegian population and to discuss potential implications for military recruitment. Risk and risk-taking are predominately associated with danger and negative consequences of behaviour, i.e. something that should be avoided or at least minimized.¹ Correspondingly, risk and risk-taking have a negative connotation in military contexts, often associated with unwanted outcomes such as damage to equipment and injuries, not to mention the loss of soldiers' lives.² Nevertheless, the presence of risk is a crucial and unavoidable feature of many military contexts. Although technological innovations have introduced new battlefields such as drone and cyber warfare where direct contact with enemy forces is absent, soldier involvement on the ground is still a necessity. Assignments to Iraq and Afghanistan during the last couple of decades have shown that soldiers encounter situations with strenuous requirements and everyday exposure to risk.³ From a training and skill development perspective, it is essential to develop soldiers that are both willing and able not only to encounter risk and uncertainty, but also to master them.⁴ Studies have shown that willingness to take risks is an important factor in combat leadership,⁵ among decorated soldiers,⁶ and in soldiers' well-being after deployment.⁷ In other words, risk and risk-taking attitudes are important factors that should be recognized by the military in recruitment and skill acquisition.

The military system is part of the society at large where the dominant cultural and social norms and values set limits and provide frames for how the military system should operate. Both attitudes towards risks among young soldiers and the normative frames and conditions for the military system are thus influenced by the general values and norms in the society. This is particularly the case in the Norwegian context since Norway is one of the few NATO countries left with compulsory military service. Knowledge about attitudes towards risk

¹ Yates & Stone, 1992.

² Glicksohn, Ben-Shalom, & Lazar, 2004 ; Knighton, 2004; Van der Meulen, & Soeters, 2005 ; Soeters, Van den Berg, Varoglu & Sigri, 2007; Kilgore *et al.*, 2008 ; Trewin, Ojiako & Johnson, 2010 ; Ben-Shalom & Glicksohn, 2013.

³ Van den Berg & Soeters, 2007 ; Scott, McCone & Mastroianni, 2009; Van Den Berg & Soeters, 2009 ; Dechesne, Scott, McCone, Jackson, Sayegh & Looney, 2013 ; Braender, 2016.

⁴ Sookermany, 2011; 2012; King, 2013.

⁵ Frost, Fiedler & Anderson, 1983 ; Knighton, 2004.

⁶ Neria, Soloman, Ginzburg, & Dekel, 2000 ; Wansink, Payne & Van Ittersum, 2008.

⁷ Parmak, Mylle & Euwema, 2014.

and risk-taking in the population, especially among younger people, is therefore relevant to the military. Furthermore, Norway is the only NATO member and one of the few countries in the world with female conscription. Gender is thus an important inclusion in such analyses, especially since women are perceived as not having what it takes to be in military environments where willingness to take risks, to achieve and to take bold decisions in leadership are highly valued.⁸ Based on this introduction, the objective of this article is twofold : (1) to present results from a study of risk-taking attitudes in the Norwegian population, and (2) to discuss potential implications of these results for recruitment into the Armed Forces.

The Concept of Risk

A common understanding of the concept of “risk” is that it involves the possibility of loss of some kind,⁹ and that losses can be related to financial, material, social, personal, physical and/or mental factors.¹⁰ Risk is thus associated with what is perilous, dangerous, threatening, hazardous, uncertain or unsafe. But some scholars argue that risks may also have a positive potential with the possibility of gains,¹¹ and can be connected to attitudes such as courage, robustness, boldness, etc.¹² Risk is thus not a neutral concept but is culturally and normatively loaded.¹³ What is considered risky and whether risk has positive or negative connotations vary with culture and environment. The above-mentioned more positive view of risk gets support from evolutionary perspectives, since humans have survived by taking risks and by being willing to adapt to shifting environments, where the combination of exploration and willingness to take chances was crucial.¹⁴ This means that nature, culture and context are important factors for describing, understanding and explaining human attitudes and behaviours towards risk. Lastly, it is important to acknowledge that risk is not solely about physical characteristics. Although it has a strong physical connotation, especially with respect to the military, it is evident that risk appears in different dimensions and should be treated accordingly.¹⁵ Financial risk has been broadly investigated,¹⁶ whereas other less clear examples are intellectual risk,¹⁷ ethical risk,¹⁸ and performance-related risk.¹⁹

⁸ Boldry, Wood & Kashy, 2001 ; Morgan, 2004 ; Archer, 2013 ; Sand & Fasting, 2016.

⁹ Yates & Stone, 1992.

¹⁰ Breivik, 1999.

¹¹ Adams, 1995 ; Bernstein, 1996.

¹² Shaffer, 1947 ; Walton, 1986 ; Rachman, 1990.

¹³ Douglas & Wildavsky, 1982 ; Douglas, 1992.

¹⁴ Buss, 1988 ; Staski & Marks, 1992 ; Breivik, 2007.

¹⁵ Breivik, 1996 ; Weber, Blais & Betz, 2002.

¹⁶ E.g. Harrison, Lau & Rutström, 2007 ; Noussair, Trautmann & Van de Kuilen, 2014.

¹⁷ E.g. Sjoberg, 2005 ; Beghetto, 2009.

¹⁸ E.g. Gailliot, Gitter, Baker & Baumeister, 2012 ; Zimmerman, Shalvi & Bereby-Meyer, 2014.

¹⁹ E.g. Rauch & Frese, 2000 ; Colquitt, Scott & LePine, 2007.

Research on Risk and Risk-Taking Attitudes

Scholars have investigated people's risk attitudes and willingness to take risks for several decades, but there are few studies that provide knowledge about different types of risk and risk-taking at population level. First of all, the vast majority of representative population studies or large-sample studies have had a one-dimensional characterization of risk, i.e. they have, for instance, measured financial risk.²⁰ There are some general trends in these studies, e.g. men are more willing to take risks than women and older people are more risk-averse than young people, but the application to other non-financial risks is limited.

The need for more nuanced approaches to individuals' risk-taking attitudes has been recognized by some scholars with the "Domain-Specific Risk-Taking Scale" (DOSPERT) as the most prominent example.²¹ Here risk-taking attitudes are measured in five different domains: financial, health/safety, recreational, ethical, and social. The DOSPERT scale has been revised²² and both the original and DOSPERT+ have been used in several studies that among others have measured differences with respect to personality, gender, and countries.²³ Other examples of methods investigating multiple risks are the "Evolutionary Domain Risk Behaviour Scale"²⁴ and the "Passive Risk-Taking Scale".²⁵ However, the studies mentioned above were carried out in relatively small and homogenous samples (university students), and therefore have obvious limitations with respect to generalizability.²⁶

One of the few larger-sample studies investigating multiple risks was conducted by Weller, Ceschi and Randolph (2015) among Italian community residents ($n = 804$, 58% females, mean age = 35) using the original DOSPERT scale.²⁷ The study revealed that risk-taking attitudes differed among the five domains. Rolison, Hanoch, Wood and Liu (2013) found that risk-taking attitudes varied significantly across domains in their study among 523 US citizens (70% females, mean age = 43.1) using the DOSPERT+. The study discovered noticeable differences in attitudes towards risk across the lifespan. Recreational, health, ethical and financial risk-taking were reduced in older age, but to a varying degree, whereas social risk-taking increased from youth to middle age, before it declined sharply in later life. With respect to gender, while women were more risk-averse than men, differences narrowed with age in most domains. Similar findings were reported in another large-sample study carried out

²⁰ Donkers, Melenberg & Soest, 2001 ; Guiso, Jappelli & Pistaferri, 2002 ; Hartog, Ferrer-i-Carbonell & Jonker, 2002 ; Diaz-Serrano & O'Neill, 2004 ; Guiso & Paiella, 2004 ; Noussair *et al.*, 2014.

²¹ Weber *et al.*, 2002.

²² Blais & Weber, 2006a.

²³ Johnson, Wilke & Weber, 2004 ; Blais & Weber, 2006b ; Harris, Jenkins & Glaser, 2006 ; Stenstrom, Saad, Nepomuceno & Mendenhall, 2011; Weller & Tikir, 2011.

²⁴ Kruger, Wang & Wilke, 2007 ; 2009.

²⁵ Keinan & Bereby-Meyer, 2012 ; Riva, Gorini, Cutica, Mazzocco & Pravettoni, 2015.

²⁶ Henrich, Heine & Norenzayan, 2010.

²⁷ Weber *et al.*, 2002.

by Nicholson, Soane, Fenton-O’Creevy and Willman (2005) in the UK ($n = 2,151$, 20% females, mean age = 32.5). The study used the “Risk-Taking Index” and found that men indicated higher willingness with respect to recreational, health, financial and safety risk, whereas women were higher in career and social risk. They also found that risk was a typical young male phenomenon. Risk-taking decreased with older age, first and foremost among men.

To our knowledge, a German study ($n = 22,019$) by Dohmen, Falk, Huffman, Sunde, Schupp and Wagner (2005; 2011) is the only research that has investigated multiple attitudes towards risk-taking in a representative population sample. Their findings are in line with the studies mentioned above; risk-taking attitudes varied across the six types of risks that were measured (in general, car driving, financial matters, leisure and sports, career, and health). Similar to the studies mentioned above, Dohmen and co-authors found that risk-taking attitudes were negatively associated with older age and being female.

Regarding the Norwegian context, research findings follow the international trend, since most studies have had a one-dimensional view on risk, and women and older people are found to be more risk-averse than their counterparts.²⁸ An exception is a study among Norwegian adolescents (15-16 years, $n = 523$) that did not find any differences between girls and boys in risk preferences.²⁹ The authors explained their findings by the relatively long history of gender equality in Norway.

To summarize the research presented above, there seems to be a trend that women are more risk-averse than men, and that risk aversion increases with age. However, the studies of Almås *et al.* (2012), Nicholson *et al.* (2005) and Rolison *et al.* (2013) indicate that the picture is more blurred with respect to gender, since women seem to be equal to men or even more willing than men to take risks in financial, social and career issues.³⁰

Methodology

The present study is part of a larger research program – “Learning under Risk” (LuR). LuR was launched with the overall aim to describe, understand and explain the risk dimension in soldiers’ learning before, during and after participation in military operations. By increasing the knowledge about risk and risk-taking, the programme can be used to improve military organizations’ training and performance culture, and potentially increase their operational capability. The LuR programme is structured in three phases: an initial phase aiming to conceptualize the programme; an explorative phase with empirical testing of hypotheses; and an elaborative phase looking to the greater picture. The conceptualizing phase has focused so

²⁸ Ulleberg & Rundmo, 2002; Aarbu & Schroyen, 2009; Dalen, 2010; Dalen, Brekke & Bakke, 2014; Iversen & Rundmo, 2004.

²⁹ Almås, Cappelen, Salvanes, Sørensen & Tungodden, 2012.

³⁰ Almås *et al.*, 2012; Nicholson *et al.*, 2005; Rolison *et al.*, 2013.

far on defining the framework of the programme; national and international networking ; and identifying published research addressing risk and risk-taking in military contexts.³¹ The final part of the conceptualizing phase is publication of the findings from the study of risk and risk-taking attitudes in the Norwegian population, carried out to establish a reference for later studies in the military community. This article constitutes a partial fulfilment of the latter.

The study was conducted by telephone interviews with a representative sample from the Norwegian population ($n = 1,000$) based on gender, age and place of residence. Structured interview guidelines were developed by the authors in cooperation with representatives from Ipsos MMI, the market research company that carried out the telephone interviews on behalf of the Norwegian School of Sport Sciences, Defence Institute. Prior to data gathering, the interview guidelines were tested and validated among a diverse group of respondents with regard to gender, age and place of residence.

Table 1 : Statements Addressing Eight Dimensions of Risk

Domain	Statement
Ethical	Some people think it is appropriate to violate ethical rules to achieve what they want, while others are concerned about doing what is morally right.
Existential	Some people prefer safety and control in their own life-project, while others are willing to take great chances to achieve what they want.
Financial	Some people are willing to invest money in uncertain projects with the potential of high yield, while others prefer safe economical solutions like saving accounts.
Intellectual	Some people prefer long-established and safe truths, while others are prepared for fresh thoughts and go for new and untried ideas and solutions.
Performance	Some people place the bar low when they are going to perform in contexts like school, work life or sports, while others place the bar high and take the risk of not succeeding.
Physical	Some people prefer sports and physical activities that are safe and secure, while others are willing to take part in activities where you can be seriously injured or even die, like climbing, skydiving or steep off-piste skiing.
Political	Some people think that one in political contexts should be open to considerable changes to create a good society, while others prefer safe and stable circumstances with only small adjustments.
Social	Some people are concerned with not standing out in social contexts, while others are willing to stand out in what they say, how they dress, or what they do.

Attitudes towards risks were measured through eight questions developed from a prior study by Breivik (1996; 2007) with respect to risk-taking among Everest climbers. Each question

³¹ Sookermany, Sand & Breivik, 2015.

addressed a specific risk dimension: ethical, existential, financial, intellectual, performance-related, physical, political, and social. Since the items described risks related to different action possibilities, we use dimension rather than domain, as the DOSPERT scale does, to characterize the possible risky options. The questions do not measure risk perception but focus on the overall willingness to act, to take risks, inside a given action dimension. In contrast to the DOSPERT scale, for example, which measures each domain with a sub-scale that includes several items, each of the eight risk-taking attitudes in the present study was measured by a single question. The respondents received a short statement (Table 1) for each dimension and were subsequently asked to indicate how they would characterize themselves on a 7-point Likert scale. Two of the questions (ethical and financial) were reversed to secure valid responses. While most measurements used in psychological testing have several items for each facet they measure, research shows that short or single-item measurements have their benefits and represent a valid measure with respect to subjective issues.³² Furthermore, the present study's measurement of risk-taking attitudes was included in a relatively long questionnaire that contained several other issues besides. It was therefore important to keep the list of items reasonably short to reduce the risk of respondent fatigue.³³

Analysis

Data coding and analysis were conducted by means of IBM SPSS Statistics 21. Descriptive statistics and a bivariate correlation test were used to examine differences between the eight risk dimensions. A two-way MANOVA was conducted to examine the effects of gender and age (independent variables) on the eight risk dimensions (dependent variables). Previous research has indicated that social background predicts willingness to take risk and so a two-way MANCOVA was conducted with social class (low, middle, high) and residence during childhood (urban, village, rural) as covariates. "Social class" was constructed on the basis of the following variables: household income, mother's education, father's education, own education. Comparison between groups was conducted by examining confidence intervals of the mean scores. Significance level of 0.01 was applied in all variance tests due to some examples of significant results in Levene's test of equality of error variances.³⁴

Results

The correlation matrix (Table 2, next page) for the eight risk dimensions shows that there were significant ($p \leq 0.01$) positive relationships between the dimensions, except for ethical risk vs. performance-related risk. This means that willingness to take risk in one dimension was positively associated with willingness to take risk in another; however, the correlation coefficients were modest. The latter support the idea that although there may be a

³² E.g. Robins, Hendin & Trzesniewski, 2001; Hoepfner, Kelly, Urbanoski & Slaymaker, 2011.

³³ Ben-Nun, 2008.

³⁴ Pallant, 2013.

core, underlying trait of risk-taking in people, the risk-taking attitudes are multifaceted, dependent on dimensions, and should not be examined through a single measurement. The differences between the risk dimensions are distinct, as shown by the mean scores and confidence intervals in Table 3 (below). It should be recognized that the proportion that could be considered as “risk-willing” (scoring 6 or 7 on the 7-point scale) was relatively small for most of the eight risk dimensions. Four dimensions (ethical, existential, financial, physical) had less than 10% indicating they were “risk-willing”. Performance (17.5%) followed by intellectual (16.7%) were the dimensions with the highest proportions of “risk-willing”.

Table 2 : Correlation Matrix for the Eight Dimensions of Risk

	Ethical	Existential	Financial	Intellectual	Performance	Physical	Political	Social
Ethical	1							
Existential	.242*	1						
Financial	.215*	.277*	1					
Intellectual	.121*	.388*	.118*	1				
Performance	.044	.344*	.107*	.282*	1			
Physical	.154*	.444*	.207*	.279*	.271*	1		
Political	.145*	.363*	.162*	.368*	.236*	.204*	1	
Social	.086*	.314*	.099*	.352*	.259*	.264*	.262*	1

*p≤0.01

Table 3 : Mean Scores of Responses across Eight Dimensions of Risk

Risk Dimension	Mean Score (SD)	95% Confidence Interval
Performance	4.40 (1.27)	4.33 – 4.48
Intellectual	4.24 (1.39)	4.15 – 4.32
Political	3.90 (1.38)	3.81 – 3.99
Social	3.85 (1.52)	3.75 – 3.94
Existential	3.26 (1.46)	3.17 – 3.35
Physical	3.02 (1.63)	2.92 – 3.13
Financial	2.74 (1.69)	2.64 – 2.85
Ethical	2.70 (1.48)	2.61 – 2.71

The two-way MANOVA revealed no interactional effect for gender and age ; however, there were significant main effects for both gender ($F(8, 926) = 15.324, p \leq .01$; Wilk's $\Lambda = 0.883$, partial $\eta^2 = .117$) and age ($F(16, 1852) = 13.576, p \leq .01$; Wilk's $\Lambda = 0.801$, partial $\eta^2 = .105$). Examination of confidence intervals indicates that males seemed to be more risk-willing than females in the financial, performance-related, physical and ethical dimensions (Table 4, below). With respect to age, older age indicates risk aversion and differences were revealed in six out of the eight dimensions : social, financial, performance-related, physical, ethical, and existential (Table 4). The most noticeable differences were found in the existential and physical dimensions where all four age-groups differed from each other. In the performance-related dimension the youngest age group differed from the three others, whereas the oldest differed from their three younger counterparts in the financial and social dimensions. Lastly, the ethical dimension was divided between the two youngest and the two oldest age groups.

Table 4 : Confidence Intervals of Mean Scores of Responses across Eight Dimensions of Risk among the Norwegian Population

Risk dimension	Women (n=475)	Men (n=525)	15-24 years (n=130)	25-39 years (n=268)	40-59 years (n=331)	≥60 years (n=271)	Class - Low (n=308)	Class - Middle (n=440)	Class - High (n=227)	All (n=1.000)
Performance	4.09 - 4.32	4.48 - 4.69	4.79 - 5.24	4.37 - 4.68	4.17 - 4.41	3.97 - 4.28	3.99 - 4.29	4.36 - 4.59	4.50 - 4.79	4.33 - 4.48
Intellectual	4.02 - 4.28	4.20 - 4.43	4.18 - 4.67	4.16 - 4.50	3.99 - 4.27	4.01 - 4.37	3.88 - 4.24	4.15 - 4.39	4.27 - 4.60	4.15 - 4.32
Political	3.79 - 4.03	3.77 - 4.01	3.90 - 4.40	3.84 - 4.18	3.66 - 3.94	3.62 - 3.97	3.56 - 3.90	3.79 - 4.04	3.92 - 4.26	3.81 - 3.99
Social	3.75 - 4.03	3.68 - 3.94	3.94 - 4.49	3.88 - 4.23	3.65 - 3.98	3.33 - 3.69	3.36 - 3.74	3.83 - 4.10	3.89 - 4.25	3.75 - 3.94
Existential	3.02 - 3.28	3.24 - 3.49	3.92 - 4.43	3.35 - 3.69	3.00 - 3.28	2.56 - 2.90	2.71 - 3.07	3.19 - 3.45	3.46 - 3.78	3.17 - 3.35
Physical	2.51 - 2.79	3.23 - 3.51	3.82 - 4.39	3.32 - 3.71	2.65 - 2.98	2.11 - 2.42	2.35 - 2.70	3.07 - 3.37	3.06 - 3.47	2.92 - 3.13
Financial	2.16 - 2.45	3.00 - 3.29	2.82 - 3.45	2.85 - 3.27	2.54 - 2.89	2.10 - 2.49	2.13 - 2.49	2.69 - 3.01	2.91 - 3.35	2.64 - 2.85
Ethical	2.41 - 2.67	2.71 - 2.98	2.84 - 3.36	2.79 - 3.15	2.45 - 2.76	2.19 - 2.54	2.30 - 2.64	2.71 - 2.99	2.53 - 2.91	2.61 - 2.71

The two-way MANCOVA showed that the significant main effect of gender was more or less unaffected ($F(8, 902) = 13.607, p \leq .01$; Wilk's $\Lambda = 0.892$, partial $\eta^2 = .118$) by the covariates, whereas the significant main effect of age was moderately reduced ($F(24, 2616) = 9.362, p \leq .01$; Wilk's $\Lambda = 0.787$, partial $\eta^2 = .077$). The reduced age effect can be explained by the significant, however small, main effect of social class ($F(8, 902) = 4.436, p \leq .01$; Wilk's $\Lambda = 0.962$, partial $\eta^2 = .038$). Residence during childhood had no significant effect on attitudes towards risks ($F(8, 902) = 1.638, p > .01$; Wilk's $\Lambda = 0.986$, partial $\eta^2 = .014$). Follow-up investigation of confidence intervals revealed that lower social class predicted risk aversion (Table 4). Differences were revealed between all three groups in the existential and social dimensions. Furthermore, low social class differed from the two others in the ethical, financial, performance-related and physical dimensions, whereas high social class was more risk-willing in the intellectual and political dimensions. The small main effect of social class

can be explained by the fact that the differences in confidence intervals were revealed only in the two oldest age groups, i.e. 15-24 and 25-39 year-olds' risk attitudes were unaffected by social class.

An investigation of the confidence intervals of the mean scores of the young women and men (15-24 year-olds) revealed that they largely overlapped in seven out of eight dimensions (Table 5). The exception was the financial dimension where the mean score confidence interval of the young men was higher than the young women, with only a marginal overlap.

Table 5 : Confidence Intervals of Mean Scores of Responses across Eight Dimensions of Risk among 15-24 year-old Norwegians

Risk Dimension	15-24 year-old Females (n=60)	15-24 year-old Males (n=70)
Performance	4.51 - 5.16	4.85 - 5.49
Intellectual	4.05 - 4.70	4.10 - 4.84
Political	3.72 - 4.38	3.87 - 4.60
Social	3.98 - 4.74	3.70 - 4.50
Existential	3.86 - 4.55	3.77 - 4.52
Physical	3.60 - 4.40	3.79 - 4.61
Financial	2.32 - 3.06	3.04 - 3.99
Ethical	2.63 - 3.27	2.82 - 3.64

Discussion and Conclusion

As underscored in the introduction, the presence of risk is a crucial and unavoidable feature of many military contexts. There are explicit characteristics associated with military service which imply that many soldiers need to be willing and able to handle risk and uncertainty.³⁵ The operational theatres in Iraq and Afghanistan during the last couple of decades have shown that soldiers have to face dangerous environments with high degrees of riskiness.³⁶ Hence, the soldiers' performance at the individual level as well as the functioning of the Armed Forces at the organizational level premise the ability and willingness to handle physical risk, performance-related risks and, last but not least, existential risks. However, soldiers' fitness and performance should not be seen only as a matter of physiological capacity and boldness in dangerous situations. Michael Mullen, former US Chairman of the Joint Chiefs

³⁵ Frost *et al.*, 1983; Neria *et al.*, 2000 ; Knighton, 2004 ; Wansink *et al.*, 2008 ; King, 2013; Parmak *et al.*, 2014; Sookermany, 2011; 2012; 2017.

³⁶ Dechesne *et al.*, 2007 ; Van den Berg & Soeters, 2009 ; Scott *et al.*, 2009 ; 2013 ; Braender, 2016.

of Staff, claimed that “*fitness is not just something that is merely physical ; it is holistic*” (Mullen, 2010, p.1) ; Dees and colleagues (2013) emphasize that a holistic approach which includes moral, cognitive and physical dimensions is needed when soldiers’ performance is considered. These reflections are in line with the *Total Force Fitness* paradigm, where both mind (spiritual, psychological, behavioural, social) and body (physical, nutritional, medical, environmental) are included to better understand the fitness requirements of today’s soldiers.³⁷ Examples could be the ability for novel and creative thinking, e.g. in mission solutions (intellectual risk) ; willingness to complete strategic operations at a senior level (political risk); or to challenge the traditional “truths”, dare to embarrass oneself, seek new situations and environments, etc. (social risk). Hence, the Armed Forces need personnel who are willing and able to master risks in several dimensions.

Our results show that Norwegians seem to be relatively risk-averse, which is similar to findings in studies from other countries.³⁸ This may be interpreted positively if we take into account the typical normative connotations of “risk” as something negative and unwanted. However, as noted in the introduction and elaborated above, there are obvious reasons to include a more positive view of risk and risk-taking, especially with respect to the needs of the Armed Forces. Thus, a relatively risk-averse population may be of major concern from a recruitment perspective. Although we found a negative age effect for risk-taking attitudes, i.e. young people were more risk-willing than their older counterparts, the majority of young women and men have a risk-averse profile on most risk dimensions. This means that the recruitment base is somehow limited. The negative age effect also seems problematic when taking into account the Armed Forces’ need for personnel who are willing to take risks at different levels throughout a military career. And the significant main effect of gender, i.e. that women are more risk-averse than men, may represent a challenge taking into account the introduction of female conscription. A closer look at our results, however, shows that these concerns are not necessarily as critical as they first appear. Furthermore, we will argue that our approach where attitudes towards risk are measured in several dimensions shows its relevance and significance.

In relation to the negative age effect, the most distinct differences between the age groups were found for physical and existential risks. These two dimensions may be the most important for soldiers’ performance in combat, but we will argue that the negative age effects should be of less concern as long as those recruited have an acceptable level of willingness to take physical and existential risks. Personnel with combat exposure are dominated mainly by younger personnel, while for the majority of older personnel physical and existential risks are of less relevance. More risk-averse attitudes in older age in these two dimensions will, for the most part, concur with a position with less exposure to such risks. Furthermore, we found that

³⁷ Jonas, O’Connor, Deuster, Peck, Shake & Frost, 2010.

³⁸ Nicholson *et al.*, 2005 ; Dohmen *et al.*, 2011 ; Rolison *et al.*, 2013 ; Weller *et al.*, 2015.

intellectual and political risk, and partly social risk, seemed to be relatively unaffected by increasing age. One can argue that these three dimensions are particularly important in decision-making and strategic leadership – dimensions that in contrast to physical and existential risk are of growing importance during a military career. Since the long-term impact, i.e. age, in these dimensions seems to be limited, the key point for the Armed Forces is, in this case, to recruit personnel with the appropriate profile. People who are willing to take risks in those five dimensions (existential, physical, intellectual, political, social) are thus equally important and should be found and enrolled.

Although we found a significant main effect for gender, the differences between the young women and men were modest in most dimensions. The differences were more distinct in the older age groups, which can be interpreted as a confirmation of the general opinion that there are essential differences between women and men in general, and in this particular case with respect to risk-taking attitudes.³⁹ On the other hand, in contrast to their older female counterparts, the young women have grown up in a time where girls' and women's opportunities and rights are taken for granted. Gender equality is stressed in politics and in legislation, and Norwegian society has a broad female participation in public life. (Indeed, Norway has consistently occupied a top-three position in the World Economic Forum's annual Global Gender Gap Index).⁴⁰ Still, there are many unresolved issues in relation to gender equality in Norway, e.g. the continuing segmentation in educational and occupational choices and under-representation in corporate leadership.⁴¹ But at the same time Norwegian women outnumber men in higher education,⁴² they have almost as high a labour force participation as men,⁴³ and female representation on boards of directors is the highest in Europe.⁴⁴ The relatively egalitarian Norwegian society may thus have an influence on young women's attitudes towards taking risks, i.e. they are relatively equal to their male counterparts in their attitudes towards risks.⁴⁵

From the risk-taking point of view, our findings indicate that the negative age effect has limited significance and that the pool of risk-willing young women is more or less the same as the pool of young men. When it comes to the limited number of those willing to take risks, we would argue that changes in the Armed Forces during the last couple of decades have almost eliminated this concern. Until the late 1990s, the vast majority of male cohorts completed compulsory military service and a principal argument for compulsory military service was that there should be a strong connection between the Armed Forces and society at

³⁹ Byrnes, Miller & Schafer, 1999.

⁴⁰ World Economic Forum, 2015.

⁴¹ Reisel & Brekke, 2013 ; Halrynjo, Kitterød & Teigen, 2015.

⁴² Næss, 2013.

⁴³ Ministry of Children, Equality and Social Inclusion, 2015.

⁴⁴ De Pril & Roberts, 2016.

⁴⁵ Almås *et al.*, 2012.

large. However, the number of young Norwegian men conscripted for military service has gradually been reduced largely due to a comprehensive modernization process emphasizing the value of a smaller, professionalized, expeditionary force over a larger, conscripted, invasion-defence type of force.⁴⁶ Thus, today less than 20 percent of each cohort is enrolled. This modest need for conscripts indicates that the group of risk-willing young men together with their female counterparts, as an effect of compulsory military service for women, should be an adequate recruitment base. Accordingly, the modest proportion of young women and men willing to take risks is a matter of improving recruitment strategies more than a problem in itself.

Furthermore, it is relevant to question the old statement that conscripts should reflect the general population. The Armed Forces themselves argue, rather unsurprisingly, that those who are motivated and have the right skills should be recruited. Correspondingly, the officer candidate schools and the military academies run extensive recruitment processes with several tests and assessments. The conscripts and NCO candidates hence represent selected groups where several evaluations are already in place, and risk-taking attitudes could and should be included in the assessment of skills in order to recruit those who are best suited for military service. One may argue that the unique characteristics of the military system imply desired self-selection and, together with the existing recruitment procedures, this will assure that preferred risk-profiles are already being recruited. However, military organizations are also dominated by characteristics such as conformity, hierarchy, community and order. Although these and other characteristics are valuable and should be recognized, they may also be counterproductive to the fitness of the total force in relation to willingness to take risks in dimensions other than traditional military ones – the physical, performance-related and existential dimensions. Is it the case that military personnel avoid novel thinking and creativity? Do they reproduce the established truths just to fit in? A recent master's thesis conducted among male cadets at the Norwegian Army Academy indicates this.⁴⁷ As expected, the cadets were more willing to take physical, performance-related and existential risk compared to a representative group of civilian counterparts. The civilian men, however, were more willing to take intellectual risk. The latter needs further examination in studies of larger groups of military personnel; however, it indicates the need for including willingness to take risks in the assessment of conscripts and candidates for military education. Correspondingly, risk-taking attitudes seem to be missing in academic works related to recruitment and retention in the military. This is indicated by a recent interdisciplinary overview of scientific publications on risk-taking attitudes and behaviour among military personnel, where none of the publications emphasized recruitment and retention issues.⁴⁸

⁴⁶ Heier, 2008 ; Haaland, 2011 ; Sookermany, 2017.

⁴⁷ Nilsen, 2016.

⁴⁸ Sookermany *et al.*, 2015.

Lastly, an important caveat should be registered here. Military organizations are diverse with respect to various aspects of job requirements for the individual, notably when it comes to exposure to different risk dimensions. Accordingly, there are many positions in the military that can be considered safe and have little demand for stereotypical military characteristics such as courage and robustness. Therefore, the Armed Forces can and should recruit people with diverse backgrounds and abilities, including people with differences in willingness to take risks. The need for diversity is reflected in the increased complexity of military warfare and the need for specific and relevant expertise that military organizations have required during the last couple of decades.⁴⁹ This is also acknowledged in recent policy documents concerning the Armed Forces.⁵⁰ In other words, both risk-willing *and* risk-averse individuals could *and* should be recruited and trained accordingly.

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⁴⁹ Sookermany, 2011 ; 2012.

⁵⁰ E.g. the parliamentary bill “A Defence for Our Time”, and the White Paper “Competency for a New Era”. Cf. Ministry of Defence, 2012 ; 2013.

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