

# A Principal Component Analysis of Swedish Conscripts' Values and Attitudes towards their Military Education

Megan Weber & Johan Österberg

Much like the rest of continental European military establishments, the Swedish Armed Forces (SAF) had a long history of having a conscript-based military. As the military's needs declined after the end of the Cold War, the issue of burden-sharing fairness – who had to serve and who did not – became significant, thereby producing a lot of pressure to abolish conscription throughout Europe. In Austria, Germany, Norway, and Sweden, it was able to last longer than in other countries due to a high level of public acceptance, in spite of the system's degree of inequality (Szvircsev Tresch & Haltiner, 2006).

Social change throughout Europe has been another cause for the decline of draft systems. “*Functions that traditionally had been attributed to conscription, such as the creation of national identity and of feeling democratic responsibility towards the collective have lost considerably in importance*” (*ibid.*). In many countries throughout Europe it has not been abolished in the strict sense, just suspended (*ibid.*). In these countries conscription is still considered legal, but as a last resort.

In rare “hard-core conscription” countries such as Switzerland, universal draft systems in which all young men are liable for military service still tend to prevail. According to Svzircsev Tresch and Haltiner (2006), Switzerland was debating the idea of compulsory *national* service, which would allow young men to choose between military service and some type of social work. The authors stated that one of the main reasons for this debate was that “*the European Convention on Human Rights, Article 4, prohibits any obligation to perform forced or compulsory labour*” unless related to national defence needs – thus raising problems when it comes to civilian national or community service.

In 2006 Sweden had what was called a pseudo-conscript force, in which conscripts accounted for only a minority of personnel within the SAF. A new law had just been passed which set a 16% ceiling for the number of conscripts (*ibid.*). In 2010, conscription in Sweden was suspended.

A report published by the Swedish National Defence College (Försvarshögskolan) regarding the 2012 recruitment process, the second year in which recruitment was entirely voluntary, stated that of the 13,809 applicants that year, only 2,823 had the qualifications required by the SAF. These 2,823 candidates were offered positions in the basic military training programme, leaving 8% of the open positions vacant. In other words, only 20% of voluntary applicants were deemed eligible to participate in the programme. Some applicants turned down the slots offered to them as failing to match their expectations

(Jonsson & Carlstedt, 2012). For example, training focused on homeland security was less popular, thus leaving recruitment gaps in that department of activity. Another problem was that the number of applicants with high or elite skills earmarking them for higher positions was less than the number of slots needing to be filled in those occupational specialities (Jonsson & Carlstedt, 2012).

Szvircev Tresch (2008) has investigated military recruitment problems throughout Europe by having 59 experts from 27 countries fill in a questionnaire on military recruitment and retention. This study exemplified that the main problem throughout Europe is in recruitment of enlisted soldiers and retention of mid-level officers, especially in areas requiring special skills such as computers and technology. It concluded that the main obstacles to recruitment are the generally low current unemployment rate in Europe, the fact that the armed forces cannot compete economically with the private sector, and changing social values amongst young people. Szvircev Tresch notes that “*conscript forces seem to have less difficulty in recruiting enlisted personnel than all-volunteer forces as the conscripted soldiers form a natural reservoir for recruiting*” (*ibid.*).

According to a 2005 Försvarshögskolan report (Österberg, Carlstedt & Carlstedt, 2005), the options “definitely” or “maybe” favoured by conscripts concerned positions relating to traditional peace support (42%), conventional military action as part of newly-formed battle-groups (45%), and those slated for UN or NATO missions (38%). This would indicate that having a conscript-based military, or at least mandatory military education, provides a good base for volunteer recruitment, which is consistent with Szvircev Tresch’s 2008 findings (*op.cit.*). With such high interest among conscripts in furthering their military training and making the military their career, Sweden should not have such a problem with recruitment. However, 25 % of conscripts who reported interest in applying for peace support positions did not qualify because they did not receive high enough grades while undergoing their basic military education period.

## **Generational Differences and Recruitment**

In western societies, there is an assumption that four generations currently coexist, which include Veterans, Baby Boomers, Generation X, and Generation Y (Parry & Urwin, 2011). The definition of these groups, in terms of the years in which they were born, varies depending on which researcher is asked and which study is read. “*However, in each case the grouping of individuals within these four generations is motivated by the belief that they each share a different set of values and attitudes, as a result of shared events and experiences*” (*ibid.*).

In the 1950s, Karl Mannheim began researching generational differences. He defined a generation as sharing a range of birth years, causing each generation to “*have a common location in the historical dimension of the social process*” (Parry & Urwin, 2011). This definition implies that each generation is limited to a specific range of potential experiences, which predisposes it to a certain mode of thought and attitude. Mannheim (cited in *ibid.*) states that “*individuals cannot be members of the same generation simply*

*because they share a year of birth. They must definitely be in a position to participate in certain common experiences so that a concrete bond is created between members of a generation and so that they share 'an identity of responses, a certain affinity in the way in which all move with and are formed by their common experiences'".* Modern-day sociologists have broadened their definition of a generation from the consideration of the impact of historical events to allow for inclusion of cultural elements such as music or other types of popular culture.

There are two problems with researching generational differences, age and cohort effects. Age effects assume that younger adults mature, thereby becoming more like older adults. Age effects are often confused with cohort effects, also called generational effects, which assume that attitudes and the differences between age-cohorts are to remain relatively stable throughout the years, thus supporting generational theory. The complication of age effects, which can easily be explained by human development, makes methodology especially important in generational research.

Parry and Urwin (2011) conducted a review of several studies investigating generational differences. In five of the studies they examined, significant differences were discovered, which can be summed up as follows:

- Baby Boomers valued personal growth more than either Generation X or Generation Y.
- Generation X valued openness to change more and conservation less than the other three generations. They felt more strongly that hard work indicates worth and less strongly that work should be the most important aspect of one's life. Generation X was less motivated by power and had a stronger desire to be promoted quickly than the Baby Boomers. Generation X was found to be more "me" oriented and less loyal to their employers.
- Generation Y did not differ significantly from Veterans or Baby Boomers with regard to openness to change or conservation. They valued personal growth less and economic returns more. Generation Y valued freedom and their work environment more than either Baby Boomers or Generation X. They valued an affiliated workplace and are less motivated by power than Generation X.
- Both of the younger generations, X and Y, valued status, progression, and self-enhancement more than Baby Boomers or Veterans.

### **Sweden's Current Debate on Reinstating a Conscript-Based Military**

A new poll conducted by Sifo, a non-partisan governmental institute that performs consumer research and testing, shows that 48% of Swedish citizens support and 40% oppose reinstating conscription. The remaining 22 % were not sure how they felt about the issue. In 2009, as conscription was being scaled back and shut down, this same poll indicated that 63% of the population was in favour of keeping conscription. According to this poll, older men and women are most supportive while only about 1/3 of people aged 15-29 concurred (Åkerman, 2014).

In October 2013, the Swedish newspaper *Dagens Nyheter* reported that Sweden's Social Democratic Party would like to have a mandatory online enrolment test for all Swedish citizens aged 18 and up, from which 20% would then be called for a mandatory muster. The idea is to get more youth in contact with the military and to spark a broader interest in military careers (Delin, 2013). This same political party was in favour of scaling down the military just 10 years ago. It cites the rise in military activity in other countries, such as Russia, as a main reason to start mandatory mustering (*ibid.*).

According to a motion presented to Parliament on September 19, 2013, Sweden's Left Party (Vänster Partiet) agreed with the Social Democrats that there should be a mandatory muster via the Internet (Sjöstedt *et al.*, 2013). In this motion, the Left Party stated that national defence is everyone's responsibility. They proposed to put in place a gender-equal system opening possibilities for mandatory military as well as civilian service (Sjöstedt *et al.*, 2013).

This is not a new idea in the debate regarding mandatory military service. Dr. Björn Ekengren submitted a debate article to *Läkartidningen* in 2008 where he presented a proposal for replacing mandatory military service with mandatory civic service for all youth in either defence or community service – for instance, maintenance of roads or utilities, assisting at schools, day-care centres, or care facilities for the elderly. Youth would have some say in what area they preferred to serve and would thereby learn new skills and gain work experience (Ekengren, 2008). The unemployment rate for young adults in Sweden between the ages of 15 and 25 was 25.8% as of February 2014. This means that 1 in 4 young adults who want to work cannot find a job. The unemployment rate of young adults in Sweden has been consistently high since 2000. This is partially caused by the fact that it is hard to get a job without work experience and the tradition of last hired, first fired impairs youth's ability to build up an employment history (Ekonomifakta, 2014). Mandatory civilian or military service could help with this problem by providing youth with work experience.

According to Ekengren, the fact that people today live longer is putting a strain on social service agencies. He believes that all citizens need to share the responsibility of ensuring that social services are provided for everyone. He also notes that mandatory civilian service will raise the feeling of inclusion in society, as youth that do not participate in military training, whether they wanted to or not, become outsiders, are made to feel as though they are not good enough, and miss out on the feeling of contributing to the greater good. He also points out that the lack of compulsory military training for women has held back the advancement of gender equality (Ekengren, 2008).

## **Theory**

Kegan's theory of psychosocial development emphasizes the underlying universal mental structures that determine how people construct their understanding of the external world in relation to themselves. Kegan also emphasizes the important influence of experience, specifically social experience, in prompting people to progress to new

developmental levels (Bartone *et al.*, 2007). This emphasis on social interaction as an antecedent to development is in keeping with Larsson *et al.*'s finding that social interactions with both peers and superiors lead to the development of leadership skills, which is often an important part of military education (Larsson *et al.*, 2006). Kegan's developmental theory is comprised of six developmental stages (0-5), beginning with birth and continuing through stage five, achieved sometime in adulthood. According to Kegan, not everyone reaches stage five. He suggests that most high-level management and leadership roles require a stage four perspective in order to be successful (Bartone *et al.*, 2007).

While examining two samples of West Point cadets over time, Bartone *et al.* "*found that the cadets fit very well with Kegan's stage descriptions, that developmental change does occur, and that these changes are sequential and qualitative in nature*". Bartone *et al.*'s 2007 findings also suggest that the transition into stage 3 functioning occurs during college years, which is later than previously expected. It was until then supposed that most individuals transition into stage 4 while at college. Stage 3 is the Interpersonal Level of functioning. In this stage...

True mutuality in social relations becomes possible for the individual. In the earlier stage 2 (Imperious), other people are viewed as either blockers or helpers for satisfying one's impulses. At stage 3, others take on a very different kind of reality for the individual. The stage 3 person now perceives others as separate entities with their own feelings and needs that might or might not accord with his own. With this new awareness, the individual is now able to consider his own needs in relation to those of others, which is the basis for empathic understanding and reciprocal obligation (Bartone *et al.*, 2007).

Forty-seven percent of the West Point cadets followed in Bartone *et al.* (2007) study showed a significant increase in developmental level across two time points mainly involving the transition from stage two to stage three. Few cadets in their sample showed any evidence of stage four "autonomous thinking".

Stage 4 (Institutional) involves a new separation or objectification of the views of others from how one sees oneself. "While for the stage 3 person others' views are essentially confounded with how he thinks about himself, the stage 4 person can distance himself from others' views and formulate a more independent or autonomous perspective on himself and the surrounding world. This broader stage 4 perspective makes it possible to independently decide on values and make choices, even in the absence of positive social feedback" (Bartone *et al.*, 2007).

This conclusion is supported by a study examining Kegan's developmental levels in a sample of college freshmen from a large State (non-military) university. "*As with cadets, most of these civilian college students were found to be at stage 2, or in the stage 2 to stage 3 transition zone*" (Bartone *et al.*, 2007). That being said, individual growth and maturity, which are often considered to be by-products of military training, may in fact simply be due to growing up and experiencing new things.

Bartone *et al.* also found that higher levels of psychosocial development were positively associated with supervisor performance ratings as leaders, and that positive change or growth in developmental level was associated with higher peer and supervisor ratings of leader effectiveness as an upper class West Point cadet (Bartone *et al.* 2007). “*If individuals who are more psychologically mature in Kegan’s terms are also more effective in managing interpersonal relationships, understanding multiple perspectives as well as their own in the overall context of organizational missions and goals, it makes sense that peers and subordinates would also perceive them as more effective leaders*” (*ibid.*). Such findings clearly show that a higher level of psychosocial maturity contributes to effective leadership, or at least a perception of more effective leadership.

Interdependence theory is based on Morton Deutsch’s theory of cooperation and competition (Deutsch, 1949). According to Deutsch’s original theory, social interaction often takes one of two forms of interdependence : promotive or contrient. Promotive interdependence occurs when individuals only can achieve their goals if all others involved also achieve theirs. Contrient interdependence occurs when individuals only can achieve their goals if some or all of the other group members do not achieve their goals (DeOrtentiis, Summers, Ammeter, Douglas & Ferris 2013). “*Interdependence influences effectiveness by affecting the behaviors of individuals subjected to interdependence. Promotive interdependence results in a greater increase in teamwork, because individuals will be more likely to work together in order to achieve their goals*” (DeOrtentiis *et al.*, 2013).

There is a spectrum of interdependence within teams or groups. The low end of this spectrum represents the minimum amount of interdependence required to maintain a team. In interdependence theory, the constructs of trust, cohesion, and satisfaction are considered important as they are all necessary for individuals to work together in order to achieve shared goals (*ibid.*). In group-based reward structures, group members are gratified by the team’s overall level of effectiveness. This promotes positive interdependence (*ibid.*). “*The presence of positive interdependence results in interactions where individuals encourage, help, and are willing to work with each other to achieve their goals*” (*ibid.*). Based on this theory, components related to the willingness and ability of individuals to work together for a common goal should lead to a more effective team. These components include, but are not limited to, trust between team members, cohesion within a team, and an individual’s satisfaction within the team.

The better members of a group are able to do their jobs (soldier task support), the more likely an individual is able to perform his or her job tasks (individual performance), and the more likely all members can perform tasks (group performance). This is likely the case in the military units where many tasks rely on interdependencies among soldiers. Performing one’s job well and working cooperatively and effectively with others likely provides a sense of meaning and purpose to one’s job (well-being) and functionally ties the individual to the larger group (identification and solidarity) [Griffith, 2002].

## Aim and Objective

The aim of this study is to identify and examine conscripts' values and attitudes towards their mandatory military education between 2002 and 2010. For the purpose at hand, values are defined as “*Principles or standards of behaviour ; one’s judgment of what is important in life*” (Oxford Dictionary, 2014b) and attitudes as a “*settled way of thinking or feeling about something*” (Oxford Dictionary, 2014a) The study’s objective is to analyze the components important to conscripts in the Swedish military in order to determine what components should be included or emphasized in future military education programmes, thereby making the military a more attractive employment option for current and future generations.

By identifying components relevant to conscripts’ success in and positive attitudes towards the military, we may be able to solve the military recruitment crisis not only in Sweden, but in several other European countries as well. The military is not only important in times of war but also in terms of national security, disaster relief, defence and continued independence of a nation, humanitarian efforts, and protection of politicians and other esteemed or endangered individuals.

Military education is usually associated with personal development, leadership, teamwork, and learning new skills associated with being a soldier. It can be hypothesized that these will be components of interest or importance to conscripts.

## Method

### Participants

Participants included 55,239 Swedish conscripts participating in military education programmes of between 3 and 18 months’ duration between 2002 and 2010. They were mostly males aged 18 and older (with about 95% in the 18-19 age bracket). The breakdown of participant numbers per year is as follows :

2002-2005	2006	2007	2008	2009	2010
n = 29,436	n = 7,063	n = 7,060	n = 1,745	n = 7,607	n = 2,328

### Design

This study has a cross-sectional design. For the purpose at hand, the variable of interest is year of conscription. The shared characteristic is having been a conscript that year.

### Materials

#### *Course Evaluation Questionnaire*

The questionnaire was approximately 10 pages long and did not include any information that could be used to identify participants. The evaluation questionnaire evolved from year to year, so that some questions were only asked one year while others

were asked every year. While the questions were not identical from year to year, the same themes are present each year. These themes include : educational components, leadership components, experience of the conscript during military training, and his attitude regarding military service and training in general.

The study's focus is on the subscale related to Education. Whereas the other three subscales proved much less reliable due to the fact that questions on them varied greatly from year to year, the Education subscale had a high rate of reliability as most questions on it remained almost identical from year to year.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to determine that all variables provided an adequate sample. That being said, not all KMO items had a value over the acceptable limit of .5. In those cases, the questions that had a KMO value below .5 were excluded, and principal component analysis was run again for that year without those questions being included. Furthermore, not all questions loaded onto a component and questions loaded differently from year to year.

## **Procedure**

Data was collected by the Swedish military (Försvarsmakten) between 2002 and 2010 using an anonymous 10-page self-report inventory. Responses to these questionnaires were used to conduct a principal component analysis in order to identify variables contributing to, or defining the conscripts' perception of and attitudes towards their military training, as well as to examine the relationships between these variables. Oblique rotation was used to allow for correlation between the components and to estimate the amount of correlation between components.

A separate principal component analysis was conducted for each year. This was done in part because of the large amount of data, but also to examine differences over time. Försvarshögskolan had already combined the data from 2002-2005 into one file. As the questionnaires from these years were for the most part the same, the combined data from these years served as a good reference to compare against the other years.

## **Reliability and Validity**

Reliability and internal consistency was calculated for the education subscale of each year's questionnaire using Chronbach's alpha. This analysis showed that the education subscale had high internal consistency and reliability :

2002-2005	2006	2007	2008	2009	2010
$\alpha = .891$	$\alpha = .893$	$\alpha = .896$	$\alpha = .889$	$\alpha = .884$	$\alpha = .889$

Chronbach's alpha was also calculated for each component that was extracted in order to test for internal consistency. The alpha values of each component are reported in the corresponding tables for each year's analysis.

### Participation Rates

All conscripts between 2002 and 2010 were asked to complete the course evaluation upon completion of their military training. The response rate for each year is as follows :

2002-03	2003-04	2005	2006	2007	2008	2009	2010
*	89%	74%	77%	87%	95%	92%	**

\* Data from 2002-2005 had been combined before the response rate for this year was calculated.

\*\* The response rate for 2010 could not be calculated because conscription ended in July. When conscription ended, conscripts were given the choice to complete their education or return home.

### Results

A principal component analysis was conducted on the 16 items for each year (except for 2008, when only 10 items were taken into account) with oblique rotation (direct oblmin). An initial analysis was run to obtain eigenvalues for each component in the data. Because components were correlated, the sum of square loadings could not be added to obtain total variance after rotation.

### Education 2002-2005

The Kaiser-Meyer-Olkin measure (KMO = .934) verified the sampling adequacy for the analysis, and all KMO items were greater than the acceptable limit of 0.5 with the lowest item being 0.917. Three components had eigenvalues over Kaiser’s criterion of 1 and in combination explained 52.63% of the variance before rotation. Table 1 shows the component loadings after rotation. The items that cluster on the same component suggest that component 1 represents competence or sense of readiness, component 2 represents trust and group cohesion, and component 3 represents individual growth and development.

**Table 1** : EDU 2002-2005

Items	Component 1	Component 2	Component 3
	Competence/ State of Readiness	Group Cohesion	Individual Development
I have enough skills to handle my duties in a “critical situation”	.726		
I have confidence in the team’s skills to handle our duties in a “real situation”	.720		
I would be prepared to go into battle and do what I trained to do	.625		
I have confidence in the equipment and weapons we have	.593		
The education feels realistic and I’ve got a good idea of how the battle environment can be	.530		
I have a clear picture of the overall goal of my training	.487		
Human equality characterizes the working atmosphere in my platoon/ ship		.727	

Items	Component 1	Component 2	Component 3
During training, we have a natural way to discuss ethical and moral standpoints		.676	
I trust the members of my team		.603	
I have confidence in my nearest commanding officer		.545	
I feel confident that current safety regulations are always followed		.475	
I feel that training gives me the space to take responsibility			-.781
The task I trained for feels meaningful and important			-.699
The training has positively contributed to my development as a human being			-.669
Follow-up has been used continuously to develop education			-.531
I think I am reasonably able to influence how training is conducted			-.525
Initial Eigenvalues	6.135	1.203	1.083
Initial % of Variance	38.35	7.52	6.77
<b>α</b>	.781	.728	.812

Note: Rotated Component Loadings for 2002-2005.  
Component loadings under .4 have been omitted

### Education 2006

The Kaiser-Meyer-Olkin measure (KMO = .928) verified the sampling adequacy for the analysis, and all KMO items were greater than the acceptable limit of 0.5 with the lowest item being 0.892. Three components had eigenvalues over Kaiser’s criterion of 1 and in combination explained 52.98% of the variance before rotation. The scree plot showed a point of inflexion after the third component. Three components were retained because of the large sample size and convergence of the scree plot and Kaiser’s criterion on this value. Table 2 shows the component loadings after rotation. The items that cluster on the same component suggest that component 1 represents individual growth and development, component 2 represents trust and group cohesion, and component 3 represents competence or sense of readiness.

**Table 2 : EDU 2006**

Items	Component 1	Component 2	Component 3
	Individual Development	Group Cohesion	Competence/ State of Readiness
I feel that training gives me the space to take responsibility	.762		
The task I trained for feels meaningful and important	.693		
The training has positively contributed to my development as a human being	.673		
Follow-up has been used continuously to develop education	.518		
I think I am reasonably able to influence how training is conducted	.462	.425	
Human equality characterizes the working atmosphere at my platoon / ship		.746	

Items	Component 1	Component 2	Component 3
During training, we have a natural way to discuss ethical and moral standpoints		.708	
I feel confident that current safety regulations are always followed		.590	
I trust the members of my team		.568	
I have confidence in my nearest commanding officer		.535	
I have enough skills to handle my duties in a "critical situation"			.761
I have confidence in the team's skills to handle our duties in a "real situation"			.688
I would be prepared to go into battle and do what I trained to do			.679
I have confidence in the equipment and weapons, we have			.527
The education feels realistic and I've got a good idea of how the battle environment can be			.521
I have a clear picture of the overall goal of my training			.438
Initial Eigenvalues	6.124	1.325	1.028
Initial % of Variance	38.27	8.28	6.42
<b><math>\alpha</math></b>	.806	.772	.790

Note: Rotated Component Loadings for 2006.  
Component loadings under .4 have been omitted

### Education 2007

The Kaiser-Meyer-Olkin measure (KMO=.931) verified the sampling adequacy for the analysis, and all KMO items were greater than the acceptable floor of 0.5 with the lowest item being 0.896. Three components had eigenvalues over Kaiser's criterion of 1 and in combination explained 53.43% of the variance before rotation. The scree plot showed a point of inflexion after the third component. Three components were retained because of the large sample size and convergence of the scree plot and Kaiser's criterion on this value. Table 3 shows the component loadings after rotation. The items that cluster on the same component suggest that component 1 represents individual growth and development, component 2 represents trust and group cohesion, and component 3 represents competence or state of readiness.

Table 3 : EDU 2007

Items	Component 1	Component 2	Component 3
	Individual development	Group Cohesion	Competence/ State of Readiness
I feel that training gives me the space to take responsibility	.788		
The training has positively contributed to my development as a human being	.719		
The task I trained for feels meaningful and important	.719		
Follow-up has been used continuously to develop education	.552		
Human equality characterizes the working atmosphere in my platoon/ ship		.790	
During training, we have a natural way to discuss ethical and moral standpoints		.735	

Items	Component 1	Component 2	Component 3
I feel confident that current safety regulations are always followed		.592	
I trust the members of my team		.541	
I have confidence in my nearest commanding officer		.521	
I think I am reasonably able to influence how training is conducted		.469	
I have enough skills to handle my duties in a “critical situation”			.791
I would be prepared to go into battle and do what I trained to do			.736
I have confidence in the team’s skills to handle our duties in a “real situation”			.670
The education feels realistic and I've got a good idea of how the battle environment can be			.451
I have a clear picture of the overall goal of my training			.435
I have confidence in the equipment and weapons we have		.405	.434
<b>Initial Eigenvalues</b>	6.229	1.239	1.081
<b>Initial % of Variance</b>	38.92	7.74	6.75
<b>α</b>	.799	.784	.788

Note: Rotated Component Loadings for 2007.  
Component loadings under .4 have been omitted

### Education 2008

The Kaiser-Meyer-Olkin measure (KMO = .869) verified the sampling adequacy for the analysis, and all KMO items were greater than the acceptable limit of 0.5 with the lowest item being 0.818. Two components had eigenvalues over Kaiser’s criterion of 1 and in combination explained 54.62% of the variance before rotation. The scree plot showed a point of inflexion after the second component. Two components were retained because of the large sample size and convergence of the scree plot and Kaiser’s criterion on this value. Table 4 shows the component loadings after rotation. The items that cluster on the same component suggest that component 1 represents both individual growth/ development and competence/ state of readiness, component 2 represents safety, trust, and group cohesion.

Table 4 : EDU 2008

Items	Component 1	Component 2
	Individual Development Competence/ State of Readiness	Safety/ Trust Group Cohesion
The task I trained for feels meaningful and important	.805	
The training has positively contributed to my development as a human being	.758	
I feel that training gives me the space to take responsibility	.716	
I have enough skills to handle my duties in a “critical situation”	.708	
I would be prepared to go into battle and do what I trained to do	.700	
Follow-up has been used continuously to develop education	.599	
Human equality characterizes the working atmosphere in my platoon/ ship		.877

Items	Component 1	Component 2
During training, we have a natural way to discuss ethical and moral standpoints		.861
I feel confident that current safety regulations are always followed		.525
I think I am reasonably able to influence how training is conducted		.511
Initial Eigenvalues	4.284	1.178
Initial % of Variance	42.84	11.78
<b>α</b>	.821	.720

Note: Rotated Component Loadings for 2008.  
Component loadings under .4 have been omitted

### Education 2009

The Kaiser-Meyer-Olkin measure (KMO = .922) verified the sampling adequacy for the analysis, and all KMO items were greater than the acceptable limit of 0.5 with the lowest item being 0.886. Three components had eigenvalues over Kaiser’s criterion of 1 and in combination explained 52.13% of the variance before rotation. The scree plot showed a minor point of inflexion after the third component. Three components were retained because of the large sample size and convergence of the scree plot and Kaiser’s criterion on this value. Table 5 shows the component loadings after rotation. The items that cluster on the same component suggest that component 1 represents individual growth and development, component 2 represents trust and group cohesion, and component 3 represents competence and state of readiness.

Table 5 : EDU 2009

Items	Component 1	Component 2	Component 3
	Individual Development	Group Cohesion	Competence/ State of Readiness
I feel that training gives me the space to take responsibility	.794		
The task I trained for feels meaningful and important	.755		
The training has positively contributed to my development as a human being	.676		
Follow-up has been used continuously to develop education	.509		
Human equality characterizes the working atmosphere in my platoon/ ship		.792	
During training, we have a natural way to discuss ethical and moral standpoints		.725	
I trust the members of my team		.595	
I feel confident that current safety regulations are always followed		.557	
I have confidence in my nearest commanding officer		.479	
I think I am reasonably able to influence how training is conducted		.431	
I have enough skills to handle my duties in a “critical situation”			.800
I have confidence in the team’s skills to handle our duties in a “real situation”			.727

<b>Item</b>	<b>Component 1</b>	<b>Component 2</b>	<b>Component 3</b>
I would be prepared to go into battle and do what I trained to do			.701
The education feels realistic and I've got a good idea of how the battle environment can be			.528
I have confidence in the equipment and weapons we have			.450
I have a clear picture of the overall goal of my training			.447
Initial Eigenvalues	5.940	1.342	1.060
Initial % of Variance	37.12	8.38	6.62
$\alpha$	.783	.756	.782

Note: Rotated Component Loadings for 2009.  
Component loadings under .4 have been omitted

### Education 2010

The Kaiser-Meyer-Olkin measure (KMO = .921) verified the sampling adequacy for the analysis, and all KMO items were greater than the acceptable limit of 0.5 with the lowest item being 0.881. Three components had eigenvalues over Kaiser’s criterion of 1 and in combination explained 52.96% of the variance before rotation. The scree plot showed a point of inflexion after the third component. Three components were retained because of the large sample size and convergence of the scree plot and Kaiser’s criterion on this value. Table 6 shows the component loadings after rotation. The items that cluster on the same component suggest that component 1 represents individual development, component 2 represents group cohesion, and component 3 represents competence and state of readiness.

**Table 6 : EDU 2010**

<b>Items</b>	<b>Component 1</b>	<b>Component 2</b>	<b>Component 3</b>
	<b>Individual Development</b>	<b>Group Cohesion</b>	<b>Competence/ State of Readiness</b>
The task I trained for feels meaningful and important	.851		
I feel that training gives me the space to take responsibility	.809		
The training has positively contributed to my development as a human being	.659		
I think I am reasonably able to influence how training is conducted	.605		
Follow-up has been used continuously to develop education	.596		
The education feels realistic and I've got a good idea of how the battle environment can be	5.35		
I have a clear picture of the overall goal of my training	.505		
Human equality characterizes the working atmosphere in my platoon / ship		.783	
During training, we have a natural way to discuss ethical and moral standpoints.		.673	
I trust the members of my team		.641	

Items	Component 1	Component 2	Component 3
I feel confident that current safety regulations are always followed		.540	
I have confidence in my nearest commanding officer		.458	
I have enough skills to handle my duties in a “critical situation”			.806
I would be prepared to go into battle and do what I trained to do			.799
I have confidence in the team’s skills to handle our duties in a “real situation”			.667
I have confidence in the equipment and weapons we have			.493
Initial Eigenvalues	6.115	1.257	1.102
Initial % of Variance	38.22	7.85	6.89
<b><math>\alpha</math></b>	.845	.728	.726

Note: Rotated Component Loadings for 2010.  
Component loadings under .4 have been omitted

## Discussion

Three components were extracted for education for each year – except 2008, which resulted in only two components being extracted. This may be due to the smaller sample size for the 2008 data. Chronbach’s alpha for all of these components was over .700 every year, indicating that there is a high level of internal consistency. This can be interpreted to mean that these components are in fact measuring common characteristics each year. These common characteristics have been labelled individual development, group cohesion, and competence or state of readiness. It is quite logical that these three components have been extracted as earlier research using interdependence theory shows that they strongly influence one another.

### Individual Development

Individual development was extracted as the first component every year after 2005 and was extracted as the third component for the combined data from 2002-2005. This is somewhat consistent with Parry and Urwin’s findings, which stated that the younger generations, to which the participants in this study belong, value self-enhancement (Parry & Urwin, 2011). These results are similar to those of Dar and Kimhi who conducted a study on self-perceived maturation related to service in the Israeli army. They found that “*respondents attributed to their military service increasing independence, self-confidence, self-control, efficacy, self-awareness, social sensitivity, and ability to form intimate relationships*” (Dar & Kimhi 2000).

While the order varied from year to year, three questions loaded highest each year:

- The task I trained for feels meaningful and important.
- I feel that training gives me the space to take responsibility.
- The training has positively contributed to my development as a human being.

The high loading of these three questions implies that conscripts value a meaningful experience that leads to their own development as human beings and allows them to take responsibility for themselves, their education, and other group members.

Larsson (2006) found that processes involving everyday social interaction between the young officer, his or her peers, and superiors were a critical part of leadership development. We can assume that conscripts who participated in this study engaged in social interaction with both peers and superiors during their military education, which according to Larsson leads to the development of leadership skills (Larsson *et al.*, 2006).

Using Kegan's theory of psycho-social development, it can be assumed that most of the participants in this study would be in the same stage 2 to stage 3 transition that was observed in the study conducted by Bartone *et al.* (2007). If that was the case, then conscripts may be responding to their changed developmental stage, which may simply be caused by getting older and having new experiences, rather than to the specific effect that their conscription had on their self-development. It is also possible that conscription speeds up the process of individual development. This study does not measure the actual effects of conscription on personal development compared with the personal development of civilians of the same age.

### **Group Cohesion**

Group cohesion was extracted as the second component every year. Two questions loaded highest on this component every year. The highest loading question was always "Human equality characterizes the working atmosphere in my platoon/ship", followed by "During training, we have a natural way to discuss ethical and moral standpoints". Interestingly, the question related to trusting group members loaded third or fourth each year. This would imply that conscripts were more concerned with fairness, equality, and ethical or moral dilemmas, possibly related to how they themselves were being treated. This is also consistent with Parry and Urwin's findings to the effect that the younger generations value their status, in this case being treated as an equal member of the group (Parry & Urwin, 2011).

Recent research on this topic shows that group cohesion is important for many reasons. "*Cohesion's value stems from its presumed and demonstrated relation to individual and group performance in social psychology and in relation to combat effectiveness and performance in the military*" (Griffith, 2002). Griffith summarizes group cohesion as providing a sense of enjoyment and belonging, satisfying personal needs, helping in the attainment of personal goals and providing self-identity and social support that enhances individual well-being, health and individual performance. On the group level, according to Griffith, cohesion affects group processes such as members' communication, sharing information and social approval, interpersonal attraction, cooperative interactions, decision-making, and group performance (*ibid.*).

According to interdependence theory, groups with higher levels of interdependence will have a higher level of group cohesion (DeOrtentiis *et al.*, 2013). The idea that everyone is focused on achieving the same goal and that no one is deliberately trying to sabotage the attainment of said goal, logically would lead to a stronger feeling of group involvement and cohesion.

### **Competence and State of Readiness**

Competence/ state of readiness was extracted as the third component each year except for the 2002-05 combined data (where it was extracted as the first component) and in 2008 (where it was combined with individual development and was extracted as the first component). Three questions loaded highest each year. These questions were:

- I have enough skills to handle my duties in a “critical situation”.
- I have confidence in the team’s skills to handle our duties in a “real situation”.
- I would be prepared to go into battle and do what I trained to do.

For each year the question related to the individual’s skills and abilities to handle a critical situation loaded highest. This seems to be in keeping with the younger generation’s focus on themselves (Parry & Urwin, 2011). For 2002-05 and 2006, the question bearing on the team’s skills and ability to handle their duties loaded second highest, and the question relating to the individual being prepared to go into battle loaded third highest. Starting in 2007, but not in 2009, the second and third questions switch so that the two questions related to individual abilities become the two highest loading questions, whereas the question bearing on group abilities becomes the third highest. This could represent a trend towards greater focus on individual achievement and the self, which seems counter-intuitive in a military setting, but in keeping with the younger generation’s values as defined by Parry and Urwin. This would also support Szvircsev Tresch’s (2008) argument that military recruitment problems are linked to the changing values of society, and especially the values of the younger generations.

When examining research on competence in the military, most researchers considered it to be related to group cohesion. Griffith (2002) found that “*the notion that soldiers’ experience of supportive unit leadership and cooperative peer relations, both individually and as a group, build their identification with the unit, lessen the likelihood of their leaving the unit and the Army, and enhance their perceptions of combat readiness*”.

According to Griffith (*ibid.*), competence, or perceived competence leads to increased group cohesion, which in turn leads to a more effective military unit, or higher state of readiness. This is in agreement with DeOrtentiis *et al.* (2013) who state that when team members trust one another, their propensity to perceive their team as a cohesive unit that will aid them in achieving their goals increases (*ibid.*). “*This perception of cohesion represents individuals’ beliefs in the ability of the team to work together, which is a necessary criterion in order to obtain interdependent goals*” (*ibid.*).

*“Perceptions of soldier task competencies were also especially associated with perceived individual and group combat readiness at the individual level and perceived group combat readiness at the group level”* (Griffith, 2002). In other words, how group members perceive each other’s competence affects the group as well as the individual sense of combat readiness that is experienced by group members.

If we combine the findings of Griffith (2002) and DeOrtentiis (2013), we see that trust and competence are antecedents to group cohesion and that group cohesion leads to more goals being achieved. We can then conclude that as the group achieves more goals, the feelings of competence and trust would increase thereby reinforcing the feelings of group cohesion. In other words, improving group cohesion should lead to more competent military personnel, which would in turn improve soldier performance. Improved performance would lead to more successful missions, or completed goals, thus reinforcing group cohesion and further improving the soldiers’ competence.

## **Conclusions**

It is quite clear that volunteer military recruitment at rank and file level has become a problem since conscription was abolished in Sweden in 2010. Issues such as burden sharing and equality in the recruitment process become less important when a country is left without enough volunteers to make up a competent military. The increase in international conflict makes having a military absolutely necessary, even if its only task is to provide soldiers for UN and NATO missions. On the other hand, the military may be a less attractive career path for youth who do not want to be sent abroad on UN or NATO missions. These difficulties with military recruitment have led to the current debate in Sweden on whether or not conscription should be reinstated.

This study has found that the values and attitudes of conscripts who participated in it are much more in line with the values of the younger generation as defined by Perry and Urwin (2011). This is important if Sweden is to reinstate conscription or improve military education in general. By focusing on the three components found in this study, individual development, group cohesion, and competence, the Swedish Armed Forces may be able to make a career in the military a more attractive option for today’s youth, thereby solving military recruitment problems in Sweden.

## **Limitations and Areas for Future Study**

This research was limited in that it relied on self-reported data. Participants may or may not have taken the course evaluation questionnaire seriously. This limitation can be overcome by the large sample size and the fact that the data from 2002-2005 was used as a base to compare data from later years using systematic replication. The fact that results for each year were so similar provides good evidence for the conclusions offered.

This study did not examine the difference between military experiences entirely based in Sweden, for example service in homeland security, compared with overseas

positions or positions that could result in overseas placement. There may be a difference in values and attitudes of soldiers or military recruits who choose to participate in UN or NATO missions compared with recruits or soldiers who wish to serve at home. As the data for this study is taken from conscripts whose military service took place solely in Sweden, we may be able to conclude that its findings are more applicable to recruitment for homeland security positions. However, more research is needed to determine if there is in fact a difference in values and attitudes of soldiers in these two types of employment groups.

Another area for future study is the actual effect of a military education on individual development compared to a civilian education. This study has used earlier research to postulate the developmental stages of participants and how that development may take place during a military education. However, there is little research specifically showing that a military education, rather than an education at a non-military college, leads to increased or faster individual development.

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