

RESEARCH ARTICLE

Exploring Morale in an Active Warzone: A Study of the Predictors of Morale During Deployment to Afghanistan

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Soldiers' morale is an important determinant for the success of military operations. However, the military morale literature lacks studies that rely on a theoretical background, use comparative data from pre-deployment periods, or specify the factors that affect morale during deployment. This article aims to provide a theoretically-informed analysis of aspects understood to influence the morale of Danish soldiers during deployment in an active warzone. We use an explorative approach to investigate the main determinants of morale in a deployed unit using the following eight factors: cohesion, esprit de corps, leadership, shared purpose/common goal, resilience, preparedness and training, discipline and working conditions. The theoretical background provided by van 't Wout and van Dyk provides a multidimensional focus on morale, focusing on cohesion, leadership, discipline, purpose, and work environment. The data were obtained from questionnaires given to the soldiers in the Danish battlegroup prior to and during deployment in the southern part of Afghanistan in 2007; 423 were included in the study. Our results indicate that leadership, cohesion and common purpose are the three most important determinants of forming the perception of morale.

Keywords: Morale; Military; Leadership; Cohesion; Purpose; Esprit de corps; discipline

Introduction

Morale is a key determinant for the success of military operations. In the words of General George C. Marshall, Chief of Staff of the United States Army between 1939 and 1945: "It is not enough to fight. It is the spirit which we bring to the fight that decides the issue. It is morale that wins the victory" (Marshall, 1981, p. 2). As such, units with high morale seem to have a clear advantage in the successful execution of military assignments (Britt & Dickinson, 2006; Childs, 2016; Weakliem & Frenkel, 2006). This has been long been recognised by military leaders, who have routinely stated its importance to victory in battle (Bramall & Seldon, 2017; Marshall, 1981; Moran, 1945). There has been increased interest in the nature of this advantage in recent years, especially in extreme environments such as international missions (Britt & Dickinson, 2006; Gal & Manning, 1987; Holenweger *et al.*, 2017): the battlefield has changed in modern military operations and units are often sent abroad on international operations (Fils, 2006; Russell *et al.*, 2016; van Boxmeer *et al.*, 2010). The environment and the type of operations provide new challenges to soldiers, which may affect their morale in new ways. Understanding of the determinants of morale in such settings may be key to leverage it usefully and to benefit from the advantages it confers in modern operations.

Aim

The purpose of this article is to empirically extend our understanding of morale in extreme military settings through the application of theoretical method. The data give a unique insight into morale in an active warzone. Further, while studies on morale among soldiers have been previously conducted in Afghanistan, among other places (Adler *et al.*, 2011; Britt *et al.*, 2007; van Boxmeer *et al.*, 2010), none have been con-

ducted in an active warzone context based on the theoretical framework of van 't Wout and van Dyk (2015). By adopting this approach, we seek to demonstrate how an explorative study on the predictors of morale can be conceptualised in terms of definition, assessments, predictors, and consequences.

Context

From January to August 2009, Danish soldiers from the International Security Assistance Force (ISAF) team 7 were deployed in the southern province of Helmand in Afghanistan. The scope was to develop society and to create a safe and secure environment (NATO, 2009a). The southern part of Afghanistan, then the area of the country witnessing the greatest violence, was an unpopular location for deployment; indeed, Robert Gates, secretary of defence of the United States, made the unusual request to NATO members for them to join the fighting in the south (Spiegel, 2008). There was rising public criticism of the mission and it was questioned whether it was possible to win the war (Burns, 2009). Danish forces, headquartered in the Helmand province of southern Afghanistan, suffered many casualties; of the country's 750 deployed soldiers, 3 were killed and 51 were repatriated (Karstoft et al., 2014). The mission involved patrols, many of which were conducted on foot. Threats came from IEDs, suicide bombers and small arms fire. Soldiers were required to execute military tasks in a harsh environment.

Framing the History and Etymology of Morale Within the Military Context

The term *morale* originates from the Latin "moralis" and arrives to us from the French "morale", originally meaning good conduct (Peterson et al., 2008). Childs (2016, p. 43) describes how morale has been connected to a military context since the fourth century; in his *Anabasis*, Socrates's student Xenophon writes: "In action, the sustaining of morale was an imperative". In the 17th century, the term began to be commonly used in military units, referring then to confidence (Peterson et al., 2008).

Manning (1991, p. 455) defines morale as "the enthusiasm and persistence with which a member of a group engages in the prescribed activities of that group". The individual is held to be part of a group with prescribed activities, while morale itself comprises individual and collective aspect of morale; Manning, for whom "determinants of morale include both individual and group factors" (1991, p. 467), understands morale as "a streamlined version of that provided by Baynes (1967), applicable in both wartime and peacetime, emphasising membership in a group and willing participation in the group's work" (Manning, 1991, p. 455).

Newer Research on Morale in Recent Military Missions

Military deployments in international operations have prompted a great deal of studies into the effect of the mission environment on soldiers' morale. What the soldiers in these studies have in common is a time-limited deployment in a given context such as Afghanistan, Iraq or the former Yugoslavia; the research itself typically follows the method of quantitative study, based on questionnaires for the collection of responses from large populations, perhaps across multiple teams. Such interest in the specific situations experienced by soldiers in the course of deployment has many different research goals. Some studies have the aim of minimising the psychological distress of the soldier through action research (that is, research conducted in the moment, for the immediate execution of findings), thus giving the leader some concrete advice for the management of morale. Others draw on factor-based research to identify how morale is affected in the given context or situation. While morale was also on the agenda during the Iraq and Afghanistan wars, interest was mainly focused on avoiding psychological distress – PTSD, for example. The conditions in these missions with safe havens (camps) have made it possible to carry out large-scale studies and thereby examine the correlation between psychological distress and a number of different factors (Jones et al., 2012). Jones and his colleagues (2012) describe how contemporary deployments in battalion battlegroups in a multicultural context have seen the arrival of a concept they call *swift trust*. Platoons, companies and battalions, they write, are deployed to reinforce others or replace other units, at a high and unfamiliar pace, with negative consequences for the building of trust over time and the establishment of esprit de corps beyond the battalion level (Jones et al., 2012).

The Belgian, Dutch and American militaries have examined new, scientific, methods of investigating morale in these new conflict zones, measuring the morale of units through questionnaire surveys conducted in the course of missions (Britt & Dickinson, 2006; Fils, 2006; van Boxmeer et al., 2010). These studies have given new insights into the dynamic of morale in new contexts.

Van Boxmeer and colleagues (2010), for example, aim to give military commanders live, localised information and advice to the benefit of the fighting morale of their soldiers. Based on questionnaire measurements of deployed units with psychologists embedded in the mission area, their study, including over 3,000 Dutch soldier respondents from the ISAF mission from 2007–2010, has resulted in an extensive number of articles

and works (see, for example, van Boxmeer et al., 2007; 2011; 2010). The results have shown that it is possible to understand and to measure psychological affects at play during an insertion, and that, in close interaction with psychologists in the conflict zone, it is possible to influence human factors and to create increased efficiency for individuals and the unit (van Boxmeer et al., 2010). Thus their interest is to both investigate and to increase the effectiveness of the individual and the unit, and to create a healthy climate so as to avoid the psychological distress that can negatively influence morale.

In one study, Britt and Dickinson (2006) examined approximately 1,500 soldiers deployed to Kosovo by the United States. Examining how stress and morale were linked in a positive psychological study, they concluded that morale should be separated from psychological distress; it can best be predicted through the observation of both commitment to meaningful work and confidence in the effectiveness of unity and leadership, and not through psychological distress, such as depression (Britt & Dickinson, 2006).

Historically, the focus on the concept of morale has changed due to developments in research methods, interest in human behaviour, new contexts, and so on. The focus has primarily been on psychological conditions and the demoralised soldier and how these can be prevented from affecting the overall morale of the unit, so that 'full and healthy' units can fight and come home healthy. While different initiatives for the building of morale have dominated different periods, the crucial factors for creating entities with high morale have not yet been found (Britt & Dickinson, 2006). Over time, morale has come to be understood as increasingly conceptually complex, while attention has been directed to increasingly diverse areas on account of historical experience and conceptual changes in conflict and warfare types.

Context and the activities prescribed vary from deployment to deployment. In modern operations, contexts usually share similarities: soldiers are sent to a theatre of operations abroad, they are sent for a known period, they are appended to a new organisation (a coalition, perhaps, or under the auspices of NATO), and they operate from bases that work as a safe haven, among other things. Indeed, over the past 20 years, research into morale has shifted from primarily considering morale in the context of war to the context of international operations (Adler et al., 2011; Britt et al., 2007; Fils, 2006; van Boxmeer et al., 2010). Britt and Dickinson (2006) conclude there is a clear need for a conceptual integration of the definition, assessment, predictors and consequences of morale. One of their main points is that morale has to be examined at an individual level and compared to a specific context (Britt et al., 2007; Britt & Dickinson, 2006).

The predominant focus of recent morale research has, however, focussed on the correlation between morale and psychological distress or mental health. Indeed, several studies have linked the positive effects of morale and mental health (Jones et al., 2012; Kanesarajah et al., 2016; van Boxmeer et al., 2010), showing that good or effective leadership, cohesion and morale may have positive impacts on mental health during and after deployment. The focus on mental health as a consequence of morale shifts the discussion on the importance of morale in military units from the avoidance of psychological trauma to the effective solution of military tasks. Tackling issues of mental health requires a deeper knowledge of the factors that may alter and predict the levels of morale in extreme settings.

Predictors of Morale

In their review of the literature on predictors of morale, van 't Wout and van Dyk (2015) sorted through more than 200 identified factors involving soldiers' morale to identify 8 aspects isolated and validated in other studies as relating to morale in an extreme context. These are *cohesion*; *esprit de corps*; *leadership*; *shared purpose/common goal*; *resilience*; *preparedness and training*; *discipline*; and *working conditions* (van 't Wout & van Dyk, 2015).

Cohesion is defined by Becker (2005, p. 39) as "the binding of the group as an entity into a sense of 'wenness' (a group identity), producing a sense of affiliation. It is an indicator of a positive group experience". The focus on cohesion is a main finding after the First World War and changed the way military units are trained. Cohesion was built up for small ('primary') groups, as opposed to larger secondary groups (Langkamer & Ervin, 2008; Wessely, 2006). Although the literature on cohesion also mentions buddy systems (King, 2015), the group is commonly understood to be the most elemental formation. There are different distinctions in cohesion, among them vertical and horizontal (Bester & Stanz, 2007), and task and social cohesion (King, 2015; MacCoun & Hix, 2010). These distinctions are useful in describing what determines the binding of a group and how the group functions in its context.

Esprit de corps is defined by van 't Wout and van Dyk (2015, p. 132) with reference to Rush (1991) as "the bonding between soldiers and their secondary groups – beyond primary group bonding. Esprit de corps relates the soldier to the institution or the unit". Esprit de corps is also a term referring to interpersonal bonds in sense similar to that of cohesion, denoting a more active form of team spirit. Manning (1991, p. 458) describes it as "a higher order concept, paralleling cohesion at the primary group level, implying above

all pride in and devotion to the reputation of a formal organisation, necessary for sustained effective performance of soldiers in combat”.

Van 't Wout and van Dyk (2015) describe leadership with reference to Brooks (2012), Kott (2008) and Mastroianni et al. (2011), among others, suggesting that the leader has a special function in the organisation, with the responsibility and legitimacy to motivate, work with discipline, and maintain the morale in the military unit. It is important to note the difference between ‘leadership’ and ‘leader’. Van 't Wout and van Dyk (2015) seem to use the two words interchangeably. The leaders of primary groups are naturally directly linked to all of van 't Wout and van Dyk's (2015) factors, as figures with designated roles able to adjust and to create actions to promote high morale. According to the Danish military leadership guidelines (Forsvarskommando, 2008), however, leadership can be handled by all members in the organisation. This perspective is closely linked to leadership theories such as shared leadership.

A shared purpose and common goal can be seen as the glue binding a unit together (van 't Wout & van Dyk, 2015, p. 133). Van 't Wout and van Dyk link this understanding of the terms to task cohesion (King, 2015). In the literature, the importance of purpose and goal is commonly assumed as relating to different levels in the military organisation (Mastroianni et al., 2011; Peterson et al., 2008; van 't Wout & van Dyk, 2015). While a small unit has its own purpose or goal in a specific task or mission, this small unit is part of a larger military organisation with an overall purpose. If the primary group falls, the soldiers still have the purpose of the larger organisation. Van 't Wout and van Dyk (2015) do not mention political goals and purposes, however, focusing on the military organisation itself. The field of positive psychology, especially, notes the importance of a shared and common goal or purpose (Britt & Dickinson, 2006; Peterson et al., 2008).

Resilience is a relatively new term in research on morale (Britt & Oliver, 2013; Carr et al., 2013; Wagnild, 2009). Van 't Wout and van Dyk (2015, p. 133) define it as “the ability to recover from or adjust easily to misfortune or change”. Due to the high-risk environments in which soldiers operate during missions such as that of Afghanistan, it is likely that soldiers experience difficulties or changes from which they need to recover. Light resilience is connected to persistence in the definition of morale.

Van 't Wout and van Dyk (2015, p. 135) describe the role of discipline in the military unit as both the intrapersonal ability to build up self-respect and self-confidence and the interpersonal ability to give trust among soldiers. Manning (1991) describes the consequential link between low discipline and disciplinary issues in military units. There is significant research on the relationship between morale and discipline, but it primarily refers to the two World Wars; there is little research on the discipline related to contemporary international missions (Taw et al., 1998; Zelenkov, 2001).

Preparedness and training denote far more than just good shooting skills and the productive repetition of basic drills. Research indicates they refer to a general strengthening of the mind, body, emotions, character and spirit (Shay, 2002); as such, preparedness and training relate to confidence in oneself and others (van 't Wout & van Dyk, 2015). This confidence is built through military training such as drills, marching, physical training and exercises, which provoke some level of stress in the course of mission-specific training.

The working environment of soldiers in times of conflict and war can be characterised by challenging conditions. Several studies show the positive effect of giving soldiers respite from the battlefield, bases, climate, dust, weather issues, lack of privacy, food, water and sleep, among others (Britt et al., 2007; van Dyk, 2009; Wessely, 2006). The working environment is linked to the term *battle fatigue*, where prolonged periods in adverse conditions can negatively affect the morale of the unit and soldiers (van 't Wout & van Dyk, 2015).

Method

Participants and Procedure

Approximately six weeks before deployment and half-way through their six-month deployment with ISAF in 2009, the participants (N = 743) were asked to fill out questionnaires containing information on background, morale, and their perception of organisational factors.

We included personnel from all military ranks and excluded civilians or those who could not be identified as soldiers (n = 140). Participants were further excluded from the analysis if they had missing data on any of the items used (n = 173) or if they did not sign informed consent for the data points used in this study (n = 7). This left a sample of 423 soldiers.

Measurements

Within the context of the current study, we were able to recreate five of the eight factors suggested by van 't Wout and van Dyk (2015): cohesion, leadership, shared purpose/common goal, work environment, and discipline. We could not match items in the data corresponding to the concepts of resilience, esprit de corps,

and preparedness and training as it was not possible to create valid data on these from the 2009 questionnaires.

We included the pre-deployment perceptions of morale, cohesion, common unit purpose, individual discipline and perceptions of leadership to understand their relation to perceptions of morale during deployment. Degrees of exposure to the work environment and trauma were sampled concurrently with morale during deployment.

Morale was measured during deployment by responses to the two questions “How do you rate the level of your unit’s sense of duty right now?” and “How do you rate the level of morale/ commitment in your unit right now?”, each measured on a five-point Likert scale ranging from 1 (very low) to 5 (very high). Given the explorative nature of this study, no cut-off indicating higher or lower levels of morale was defined. The level of morale was thus dichotomised from the resulting scale into high versus low based on the group mean scores.

Cohesion was measured before deployment using two items on the unit level – unity/sense of community and pride in membership of the unit. The scale ranged from 0 to 8, with higher scores indicating a more positive perception of cohesion.

A sense of common purpose in the unit was measured before deployment using two items asking whether time and energy were spent on the right activities and if activities were appropriately proportional. The scale for these items ranged from 0 to 6, with higher scores indicating a more positive perception of cohesion.

Individual discipline (Cronbach’s $\alpha = 0.86$) was measured before deployment using the 10 last items from the military hardiness scale (Dolan & Adler, 2006), denoting the discipline and engagement of the soldier. The scale ranged from 0 to 40, with higher scores indicating higher levels of discipline.

The work environment (Cronbach’s $\alpha = 0.61$) were measured during deployment using four items: having a high workload, performing pointless tasks, insecurity on how to handle tasks, and strains from the climate (heat, dust, and so on). Intensity scores denoted the frequency of the experience in the work environment from 0 = never to 4 = almost daily and were totalled into a scale ranging from 0 to 20.

Perceptions of leadership were measured before deployment with two single questions on satisfaction with the immediate superior and the unit leadership. The items were measured with scores from 0 to 3, with higher scores indicating higher satisfaction. They were introduced separately.

Trauma exposure was measured during deployment using the Exposure to Danger and Combat Scale, or EDCS (Cronbach’s $\alpha = 0.76$) and Witnessing the Consequences of War Scale, or WCWS (Cronbach’s $\alpha = 0.70$). The scales have been validated in the literature and shown to capture different aspects of exposure (Karstoft et al., 2018).

Finally, an item identifying if soldiers possessed a leadership role was introduced, together with the demographic variables of gender and age.

Statistical Procedure

First, the descriptive statistics for the variables included in the regressions were calculated.

To test the relationship between the predictors and our binary outcome (lower vs. higher morale), we used logistic regression models. These models are characterised by providing a relation between the binary outcome variable and an explanatory variable of interest (the predictor variable), with all other variables held constant. The odds are the probability of “success” (higher morale) divided by the probability of “no success” (lower morale); the odds change when the predictor variable changes. The odds ratio is a fraction between two odds values. In the denominator we have the odds calculated at the base level of the predictor variable (X) and in the numerator we have the odds when the level of the predictor variable has changed by 1 (X+1).

We can interpret an odds ratio >1 as an increased probability of having higher morale, and an odds ratio <1 as a decreased probability of having higher morale. In logistic regression models we are working with the logarithm of the odds ratio, so the above relation corresponds to a log odds ratio >0 is increasing the probability of having a higher morale, and a log odds ratio <0 is decreasing this probability. Thus, if the model shows that a change of +1 in the predictor variable is significantly related (at the $p < 0.05$ level) to the (log) odds ratio, we can be reasonably sure that this pattern indicates a real signal in our data.

Given the explorative nature of the study and the great number of factors to be tested, logistic regression models with the inclusion of only a single predictor were initially used to carry out a forward selection procedure for each of the predictors (cohesion, common purpose, individual discipline, aspects of the work environment and the two items on perception of leadership from immediate superior and from the unit). This was done to identify any statistically significant relationships between each of the theoretically identified factors and the higher versus lower morale measure, so that these might subsequently be included while excluding explored factors that did not have a relationship. Factors found to have a statistically significant relationship were included in the multiple predictor model.

Results

Statistics relating to soldiers having an average or lower perception of morale versus those with a higher than average perception of the variables of interest are shown in **Table 1**. A correlation matrix between all variables is included in the supplementary materials.

Table 1: Descriptive statistics and variables in the logistic regression models EDCS = Exposure to Danger and Combat Scale; WCWS = Witnessing the Consequences of War Scale.

Main study variables based on the morale outcome ^a	Lower morale (n = 174)	Higher morale (n = 249)
Selected predictor variables		
Cohesion	5.72 (1.80)	6.61 (1.39)
Common unit purpose	2.56 (1.33)	3.45 (1.18)
Own discipline	31.21 (4.53)	32.89 (4.42)
Aspects of the work environment	8.20 (2.51)	7.38 (2.38)
Perception of leadership, immediate superior	1.92 (1.07)	2.21 (0.84)
Perception of leadership, unit	1.57 (0.86)	2.15 (0.77)
Background variables		
Age	25.53 (6.38)	26.57 (7.48)
Female	8.62%	4.42%
EDCS	5.99 (3.19)	5.90 (3.05)
WCWS	3.03 (2.11)	3.15 (1.99)
Having a leadership role	21.26%	28.51%

^aAverage and standard deviation (SD) of subgroups, unless percentage is indicated (%).

Selection of Predictors

In the forward selection procedure, each of the variables – cohesion, common purpose, individual discipline, aspects of the work environment and the items on perceptions of leadership – were included in a logistic regression to test their relationship to a higher or lower level of morale when no other variables were included. If they had a statistically significant relationship at the $p < 0.05$ level they were included in the full multiple predictor model. The results are shown in **Table 2**.

Table 2: Relation with morale during deployment using logistic regression models with a single and with multiple predictor variables.

Model description	Single predictor models	Multiple predictor model
	OR (95% CI)	OR (95% CI)
Selected predictor variables		
Cohesion	1.42 (1.25–1.62)**	1.19 (1.02–1.39)*
Common unit purpose	1.75 (1.48–2.08)**	1.32 (1.08–1.63)**
Own discipline	1.09 (1.04–1.14)**	1.05 (0.99–1.10)
Aspects of the work environment	0.87 (0.80–0.94)**	0.92 (0.83–1.01)
Perception of leadership, immediate superior	1.40 (1.13–1.74)**	0.92 (0.71–1.19)
Perception of leadership, unit	2.36 (1.83–3.03)**	1.66 (1.18–2.37)**
Background variables		
Age		1.01 (0.98–1.05)
Female		0.52 (0.21–1.28)
EDCS		1.00 (0.91–1.10)
WCWS		1.03 (0.91–1.18)
Having a leadership role		1.17 (0.69–2.01)

OR = Odds ratio; CI = Confidence Intervals; EDCS = Exposure to Danger and Combat Scale; WCWS = Witnessing the Consequences of War Scale.

* $P < 0.05$, ** $P < 0.01$.

Results of the full multiple predictor model that included the measures of cohesion, common purpose, discipline, aspects of the work environment and the items on perceptions of leadership, together with exposure and the demographic variables, are also shown in **Table 2**. The results of this model showed that only the perception of cohesion (Odds Ratio (OR) = 1.19, 95% CI = 1.02–1.39), common purpose (OR = 1.32, 95% CI = 1.08–1.63), and perception of leadership at the unit level (OR = 1.66, 95% CI = 1.18–2.37) were related significantly at the $p < 0.05$ level with having a higher versus a lower level of morale when all variables were mutually controlled for in the full model.

Discussion

To the best of our knowledge, this is the first study looking into the theoretically defined predictors of morale in relation to military deployments in an active war zone. Such data are not easily obtainable, and even though the study has several limitations related to its explorative nature, we believe it to be of importance to military leaders preparing for or deployed in an active warzone. Our results show that three factors specifically – general leadership in the unit, common purpose/shared goal and cohesion – are related to morale; military leaders deployed to active warzones, we can infer, are able to influence the morale of their units and soldiers, and this study provides evidence, precisely, where attention should be focussed.

The results of the models with one predictor suggest that all of the theoretically proposed factors related to the perception of morale in the unit indicate a higher or a lower level. However, the factors can be considered closely related in reflecting the aspects of the overall work environment or the “non-dangerous” aspects of military deployments; this is why we needed to test them together in a single model. When introducing them in the full model and conducting a mutual control, cohesion, common unit purpose, and perception of leadership at the unit level were still significantly related to the perceptions of morale. Based on the literature review, we believe cohesion and common unit purpose to be closely related with the outcome of morale.

When looking at cohesion in isolation, it could be directed towards both social and task cohesion (MacCoun & Hix, 2010). However, as common unit purpose is also one of the three main determinants, and is related to task cohesion, as discussed in the theoretical outline, it is likely that task cohesion is a primary determinant as well. While this does not mean that social cohesion can be rejected, of the two terms, task cohesion – as King (2015) indicates – is likely to have a more significant impact.

The relationship with ‘perception of leadership at the unit level’ must be investigated further, given that the possibility exists for leaders to intervene in this factor. It cannot be assumed that a focus on one’s immediate superior will lead to identical effects on morale as a focus on the overall leadership of the unit. When looking at the direct relationships, both leadership factors affect perceptions of morale. After conducting controls for the mutual effect, however, the relationship with the leadership of immediate superiors is no longer present. This could, in part, stem from a trickle-down effect, where the top leadership partly affects the leadership of the immediate superior, in addition to other leadership-related effects, which in turn affects the morale of subordinates. The military tradition in both Danish and NATO doctrine (Hærkommandoen, 2020; NATO, 2009b) holds the commander to be a central figure in the unit. This dynamic could be magnified by the structure of the military profession, where mechanisms of chain of command and unity of command regulate lower leaders’ responsibility and decision space. The commander’s role in managing and affecting morale could be an area for further research, as could connections between the unit’s morale and the relationship between subordinates and the commander. Such mediation analysis is not, however, within the scope of this exploratory study.

Creating working conditions in a battlegroup that promote both cohesion and a shared purpose and goal, general leadership is a central factor. Naturally, leadership is closely linked to both cohesion and to setting purposes and goals for the unit. In regard to cohesion, the leadership dimension is referred to as vertical cohesion (Britt et al., 2007; Britt & Dickinson, 2006; Gal & Manning, 1987; Kümmel, 1999; Manning, 1991; NATO, 2007; Peterson et al., 2008); in regard to setting purposes and goals, it is described as working with meaning (Britt et al., 2007) – that is, work on morale should begin during pre-deployment training.

Esprit de corps

As previously mentioned, morale was measured both prior to deployment, where the Danish battlegroup was under command of the Danish Division, and during deployment, when the Danish battlegroup was embedded into a UK task force within the overall mission of the ISAF. Therefore, it is no surprise that, due to the shift in command, esprit de corps did not turn out to be one of the primary factors when measuring

morale prior to and during deployment. 'Swift trust' (Ben-Shalom et al., 2005; Curnin et al., 2015) is a term used in military research to explain the phenomenon of a unit demonstrating trust between its members, notwithstanding the unit's temporary nature. As such, is it possible to build a 'swift esprit de corps'? While this explorative study does not seek to offer proof, it is worthwhile noting that the achievement of a swift esprit de corps might serve to strengthen morale prior to and during deployment.

Britt and Dickenson (2006) call for studies that conceptually integrate the definition, assessment, predictors and consequences of morale and have an individual focus. This explorative study uses the definition given by Manning (1991), drawing on self-assessments from questionnaires that directly link the five identified predictors and show the consequences on individual morale. This conceptual integration provides a possible solution to Britt and Dickenson's (2006) call. Hitherto, few studies have used the same conceptual framework (Jones et al., 2012; van Boxmeer et al., 2010), as there exists the tendency to focus on mental health; none have used van 't Wout and van Dyk's (2015) study as a theoretical framework.

Of the two background variables, neither EDCS (OR = 0.99, 95% CI = 0.93–1.05) nor the WCWS (OR = 1.03, 95% CI = 0.94–1.14) related significantly to a higher or lower level of morale. The relation between morale and trauma exposure has previously focussed on the protective effects of morale, and how morale may serve to insulate soldiers from the negative consequences of combat stressors, and on the negative outcomes of trauma exposure (Britt et al., 2013; Britt & Oliver, 2013). However, based on our results, the experience of being exposed to trauma in an active warzone does not predict the level of morale.

Practical Implications

This study indicates that the military leaders of high-risk missions have a two-fold duty regarding the morale of the unit. First, the leader has to lead the unit with a purpose in mind, the pursuit of which will create a bond between soldiers; second, the leader has to influence the general leadership environment in that unit. Task cohesion may have the most significant impact on morale due to the double effect of affecting cohesion and the creation of a common purpose/shared goal. The purpose and goal may both relate to the smaller unit and the larger organisation to give soldiers a comprehensive operational framework. This action would strengthen the *vertical* bond with the operation's general purpose. Based on our results, we suggest that the specific influence of the top unit leadership may have a stronger effect on the unit's perception of morale than that of the immediate superiors.

By focusing on morale and integrating the definition, assessment, predictors and consequences in a specific context, we propose what Britt et al. (2007) calls a way to conceptually integrate morale in military units. This focus allows us to contribute insights to research on military morale regarding how the periods prior to and during deployment affects soldiers' morale; more, we show how a theoretical framework can be used in the investigation of morale in a military context.

Strengths and Limitations

One of this study's major strengths is that it samples data gained during deployment into an active warzone. The pre-deployment sampling of the majority of the predictive factors allowed us to assess the prospective influence on morale, as perceived during the mission.

Several limitations must be acknowledged, however. First, while the use of pre-deployment assessments of several determinants allowed for a prospective setup, sampling was done in a different environment (in the garrisons throughout the last preparations for the deployment). As such, we cannot ensure the stability of these perceptions when transitioning into the deployment environment and continuing into the period of deployment itself – but given the difficulties of sampling in a deployed military environment, this is a problem the current study shares with most research in the field.

Second, the explorative nature of the study, based on secondary analyses of previously collected data, did not allow us to select validated items or scales that perfectly reflect the concepts at stake. Therefore we believe the results needs further confirmation using more strictly validated scales if the value they appear to offer is to be confirmed.

Third, while the study population allowed us to make inferences regarding gender in the perception of morale, we found no evidence of this being a factor. We believe that the data sample of female respondents (approximately 6% of the 423 soldiers) was too small for us to be able to make secure conclusions about these differences, and we hope future studies will be able to address this issue further.

Further, while the forward selection procedure may not be an optimal strategy (Harrell, 2015), this procedure was chosen given the number of concepts being tested in the same model and the close relationships between the concepts being tested (between cohesion and common unit purpose, for example).

Other Findings

As part of the method, leaders and subordinates were measured separately. While one could thus think that leaders were in a special position or enjoyed a higher degree of morale to their subordinates, they were closer to and could properly influence the general leadership in the unit by holding roles able to affect van 't Wout and van Dyk's (2015) eight central factors and had been specifically recruited for these special positions. Leaders did not, however, enjoy greater morale. This finding leads to several questions that our study cannot answer, including the matter of how leaders can boost morale if they do not enjoy higher morale themselves, and the modes and processes of leadership training that might affect morale; further studies are needed to address these, and other, questions.

Conclusions

This explorative study looked into the possible effects of five specific aspects of deployment-related factors previously related, theoretically, to perceptions of morale during military operations on a population of soldiers deployed into an active warzone. While each factor was found to relate to the perception of levels of morale when not controlling for the mutual effect of other factors, only the factors of cohesion, common unit purpose and perception of leadership (at the unit level) before deployment related to morale during deployment after mutual control. These results suggest that the pre-deployment modifications aiming at cohesion, common unit purpose and perception of leadership at the unit level may increase the level of perceived morale during deployments into an active extreme environment such as a warzone.

Competing Interests

The authors have no competing interests to declare.

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Appendix

Supplementary Table: Zero-order Spearman correlations between variables for the population in the primary model (n = 423).

	Outcome, Morale	Predictors, Theoretically defined	Cohesion	Common unit purpose	Own discipline	Aspects of the work environment	Perception of leadership, immediate superior	Perception of leadership, unit	Predictors, Background factors	Age	Female	EDCS	WCWS
Predictors, Theoretically defined													
Cohesion	0.26**												
Common unit purpose	0.34**	0.35**											
Own discipline	0.18**	0.31**	0.2**										
Aspects of the work environment	0.18**	-0.1*	-0.24**	-0.01									
Perception of leadership, immediate superior	0.14**	0.30**	0.28**	0.20**	-0.17**								
Perception of leadership, unit	0.34**	0.43**	0.58**	0.18**	-0.20**	0.49**							
Predictors, Background factors													
Age	0.03	-0.09	0.07	0.19*	-0.13**	0.01	-0.04						
Female	-0.09	-0.03	-0.03	-0.01	-0.06	-0.01	-0.04	-0.05					
EDCS	-0.02	0.08	-0.12*	0.07	0.35**	-0.01	0.00	-0.23**	-0.12*				
WCWS	0.05	0.09	-0.01	0.17**	0.18**	0.06	0.05	-0.03	-0.05	0.55**			
Having a leadership role	0.08	0.01	0.08	0.23**	0.02	-0.01	0.00	0.37**	-0.08	0.00	0.04		

EDCS = Exposure to Danger and Combat Scale; WCWS = Witnessing the Consequences of War Scale.

*P < 0.05, **P < 0.01.

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