Task Uncertainty and Mission Command in a Naval Context

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Abstract

Mission command is a leadership philosophy that was designed to ensure that military

organizations could operate effectively in uncertain situations. It has become the exemplar of

military leadership (Shamir, 2011). This study explores whether an increase in task

uncertainty is positively related to appreciation of mission command by crew members of

Norwegian state-of-the-art, Nansen-class frigates ($N = 174$). The result of a simultaneous

multiple regression indicate that there is a relationship, but in the opposite direction of what

was hypothesized. The greater the task uncertainty, the more the behavior of the preferred

leader deviated from mission command. The most important predictor was perceived lack of

information, and the more the respondents felt that they lacked information when carrying

out their tasks, the more their description of preferred leader behavior deviated from mission

command.

Keywords: uncertainty, leadership, mission command, navy

Task Uncertainty and Mission Command in a Naval Context

This paper presents data on the relationship between followers and leaders in the context of Norwegian warships, the Nansen class frigates. Practicing the military profession is characterized by teamwork (Espevik, 2011; Jacobsen & Krabberød, 2012; Norwegian Defence Staff, 2007}. Researchers have found that the presence of others, like teammates, will affect a person's task performance (Passer & Smith, 2007) and it is argued that that people involved in teamwork are more vulnerable to the effect of others' decisions and actions (Edmundson, 2012). For one, in teams on different levels of maturity there will be different expectations to the leadership function (i.e. to which degree the formal leader should take care of the team's needs like nurture, commitment, productivity and innovative thinking, not to mention who are expected and allowed to act as a leader, Sjøvold, 2007). For example, will team members appreciate a leader who expects team members to take responsibility in new and uncertain situations instead of enforcing structure? Conversely, will the group accept that an ordinary team member takes initiative and present an alternative and new solution?

Researches have emphasized that it is important that the team leader sets the standards and ensures good and functional climate in the team (Edmundson, 2012; Salas, Sims, & Burke, 2005). Interestingly, Avolio (2007) claims that the followers (i.e. the team members) have been neglected in research on leadership. Avolio (2007) further claims, "leadership development theory and research has focused on changing the leader, with much less attention given to the interaction of leaders, followers and context." (p. 30).

Mission command is a leadership philosophy that enjoys near "mythical canonization" when it comes to coordinating individual efforts into teamwork in the military domain, and is formally implemented by many modern military organizations (Shamir, 2011, p. 5), including the Norwegian armed forces (Norwegian Armed Forces, 2012; Norwegian Defense Staff, 2007). It is claimed to be the historically most effective way of organizing military (land) forces to deal with their defining problem (i.e. uncertainty, van Creveld, 1985). In addition to being characterized as uncertain, today's

military operations are increasingly complex. An increase in the degree of complexity and uncertainty in the environment will put demands on how a team must function in order to be effective demands that are different from teams operating in a predictable environment (Edmundson, 2012).

The U.S. Chairman of the Joint Chiefs of Staff (U.S. Joint Chiefs of Staff, 2012) states that "training for mission command is about building teams" (p. 7). This view is shared by the Norwegian Chief of Defence, who states that the philosophy necessitates that leadership becomes a collective process (Norwegian Armed Forces, 2012). Keeping an eye on the external world, monitoring processess, and acting to excerting corrective meassures if necessary is not solely the formal leader's job. This responsibility lies on every team member (Royal Norwegian Naval Academy, 2009).

In immature teams, team members tend to stick to what they are good at and fulfill functions within their comfort zone, and it is the leader who is expected to decide whether a team needs to reorient and to initiate corrections, if the leader decides to do so. Sjøvold (2007, p. 625) describes this as "one-person-one-functional-role" groups, which can be effective when performing simple and predictable tasks. However, the rigidity of one-function restricts flexibility and due to this Sjøvold (2007) reasons that in unpredictable and complex environments, problems are best solved by mature groups. In mature teams all members, not just the formal leader, will "hunt for new ideas, critizise the 'the way things are done,' and keep an eye on external forces" (Sjøvold, 2007, p. 626). All members of mature teams are capable, and just as importantly, have the opportunity to contribute without being restricted by role expectations (Sjøvold, 2007).

In a treatise on military organization at sea, uncertainty is defined as "imperfect correspondence between information and environment" (Palmer, 2005, p. 319). For example: Where is the enemy? What will the consequences of our actions be? How much time do we have to make a decision? To van Creveld (1985), an authority on the history of military organization, certainty is the product of two factors, "the amount of information available for decision making and the nature of the task to be performed" (p. ??). Thus, when confronted with a task that involves uncertainty, a team has two basic options: It can increase its

information-processing capacity or it can design its modus operandi to enable it to operate on the basis of less information (i.e., a higher level of uncertainty, van Creveld, 1985). The problem with the first approach is that time is a limited and critical factor in military operations (Boyd, 1987), and endeavoring to achieve a higher degree of certainty by collecting more information or by sending requests for clarification up the chain of command will be time-consuming. Mission command is a philosophy that is based on the second approach, a willingness to accept greater uncertainty in order to save time (van Creveld, 1985). Decentralization is seen as the most effective means of ensuring continuous adaptation to unfolding events in a time-competitive environment. The most important objective of mission command is to reduce the need for communication in the organizational hierarchy (i.e. teams and team members must be able to act autonomously but still coordinated; Boyd, 1987; Shamir, 2011; van Creveld, 1985).

However, uncertainty implies things beyond our control, which normally generates anxiety (Schmitt & Klein, 1996). It is thus somewhat paradoxical that mission command, which is claimed to be the historically most effective means of organizing for uncertainty, is based on something people are generally expected not to like, operating with greater uncertainty. Several studies have also highlighted difficulties when it comes to implementing mission command in military organizations (e.g., Borgmann & Aronsen, 2005; Muth, 2011; Shamir, 2011;).

Moreover, there is a lack of research on the implementation and use of mission command in the naval context. Mission command is prescribed as the common leadership philosophy for all services in the Norwegian armed forces (Norwegian Defence Staff, 2007). From a contingency perspective, this makes one question whether the challenges are basically the same for an army team operating in Afghanistan and a damage control team on board a naval vessel. Researchers have claimed that if the context is changed, leadership will change

(e.g., Hannah, Uhl-Bien, Avolio, & Cavarretta, 2009; Mintzberg, 2009; Nissestad, 2007). An interesting exception is a survey (Borgmann & Aronsen,2005) that found that only 23.2% of officers from operational units in the Royal Norwegian Navy adhered to the mission command philosophy principles, instead of a more directive, micro-managing leadership style. Borgmann and Aronsen's (2005) conclusion was that a transformation is needed, not of organizational maps and formal procedures, but a transformation to "shape our minds" (p. 115).

According to Shamir (2011), institutionalizing mission command may entail a transformation of individual and organizational basic assumptions. Basic assumptions are the deeper, implicit beliefs people hold. As Schein (2004) puts it, "someone who does not hold them is viewed as a 'foreigner' or as a 'crazy' and is automatically dismissed" (p. 25). The importance of this aspect is explicitly underscored in implicit leadership theory, in which it is claimed that individuals have implicit beliefs that distinguish leaders from followers, and effective leaders from ineffective leaders (House & Ravidan, 2004). Thus, if mission command is consistent with implicitly held effective leadership theories, leaders would be expected to act in accordance with the formal mission command philosophy to be regarded as effective and appreciated in uncertain situations, in which mission command historically has proven to be the most effective leadership norm.

This study explores whether an increase in task uncertainty is positively related to increased appreciation of mission command by crew members of Norwegian state-of-the-art, Nansen-class frigates.

Mission Command

Prussia's defeat by Napoleon in the battle of Jena-Auerstedt in 1806 is said to have been the starting point for a groundbreaking reorganization of how the Prussian army fought, which led to the establishment of the mission command philosophy (Shamir, 2011). The

army went from being trained to act like a gigantic machine in which each soldier and officer played his part in the preplanned, standardized drill controlled from above, and it was recognized that the organization of military units in war was too complex to be directed by one man at the top. There were too many exceptions, too many unpredictable situations. A higher degree of agility was required than was achievable when the whole organization was micro-managed (Shamir, 2011).

A gap was to be expected between what was planned and actual events. The responsibility for filling or utilizing this gap (i.e., to judge the situation and take the initiative) according to the commanders' intention – was decentralized first to division commanders and finally became the responsibility of every soldier from the highest general to the lowliest private (Shamir, 2011). This reform led to the formation of an army, the German army, which in the Second World War had "developed fighting power to an almost awesome degree" (van Creveld, 1982, p. 4), and it is claimed that this is the only historically proven method of subordinates being given freedom to act on their own (Silva, 1989).

However, as several authors have pointed out, there are challenges in trying to copy or simply translate a foreign, historical concept (e.g., Hughes, 1986; Shamir, 2011; van Creveld, 1982). The lengthy description of the essential norm of mission command in the Norwegian Armed Forces Joint Operational Doctrine thus seems justified:

> The fundamental command philosophy of the Armed Forces is mission command. This means that commanders at different levels give direction by stating what is to be achieved and why it is to be achieved. Within this framework, subordinates are basically then given the freedom to fulfill the task as they think best. This philosophy is chosen for the reason that it allows room for *initiative* to be exercised at all levels. Because its effect is inclusive and stimulates participation at all levels in the organization, it also provides the greatest *robustness* against the frictions of combat.

Mission command is a philosophy which goes beyond the assignment of tasks and the allocation of resources. The philosophy is about having a culture of professionalism and mutual trust. (Norwegian Defence Staff, 2007, p. 163)

Mission command was formally adopted as the leadership philosophy for the Norwegian Armed Forces in 1995. As in Prussia, mission command was implemented into Norwegian doctrine in order to improve performance as a response to after action learning. In Norway's case, it was the lessons learned after a tragic accident in 1986 in which 16 soldiers died that initiated the process of implementing mission command as the official leadership doctrine (Offerdal & Jacobsen, 1993).

The Naval Context

In a classic study comparing German and U.S. army performance during the Second World War, van Creveld (1982) highlights the importance of what he calls the intrinsic qualities of a military units: those somewhat intangible qualities such as initiative, trust, cohesion and courage. These qualities are the organizational foundations, what makes a military unit fight. Van Creveld (1982) labels these intrinsic qualities as "fighting power": "Though good equipment can, up to a point, make up for deficient fighting power (the reverse is also true) an army lacking the latter is, at best, a brittle instrument" (p. 3).

When introducing the anatomy of naval battle, Reeve (2003) makes the same argument as van Creveld (i.e., that "people have always mattered most in the outcome of naval warfare," p. 4). However, while there is an abundance of research discussing fighting power in relation to armies, far less research seems to have been conducted on Fighting Power in the naval domain (Spector, 2001,; Wombacher & Felfe, 2012,).

A great disadvantage for military organizations is that they only periodically have an opportunity to practice their profession: "This is less true for navies than armies, because the former must always contend with the sea" (Murray, 2011, p. 8).[1] A vessel at sea is perhaps

the closest one can get to a delimited and what Anand and Daft (2007) call a self-contained organization, where input arrives at the gangway and, when the vessel has left the quay, almost everything needed to produce its product – fighting power – is supplied internally, thus a navy vessel must be self-reliant (Barnett, 2009). Work on a vessel at sea is a continuous task. The crew must be able at all times to survive the forces of nature and internal threats such as fire and flooding, regardless of whether the vessel is involved in warfare or not. According to Barnett (2009) "The environment is inherently hostile; teamwork is required merely to survive" (p. 13). In contrast to veterans of land warfare, who often claim that the experience of combat was unlike anything they had experienced, "sailors often say that they found themselves doing virtually the same job in combat as in peacetime drills" (Spector, 2001, p. 396). As one sailor put it in an interview after the Falklands War: "It was just like Portsmouth," which is a Royal Navy training facility (Wastell, 2003, p. 304). Consequently, it seems reasonable to expect that how a ship's organization functions in peacetime should predict how the ship will function in war.

However, prescribing mission command as the leadership doctrine for all military units (i.e., leadership is exercised in the same way on board a large navy vessel as on board a small submarine or by a coastal ranger squad in Afghanistan) would appear to be in contrast to the perspective in which leadership is context-dependent (Hannah et al., 2009). Since mission command was developed for the Prussian army more than 200 years ago, it should be fruitful to explore the relationship between task uncertainty and appreciation of mission command in the context of a state-of-the-art naval warship. Are there similarities that outweigh the differences when it comes to exercising leadership on board a large navy vessel and, for example, an army unit in Afghanistan?

One important difference that is claimed to exist between army units and naval vessels is that "in ships at sea, the men go where the leaders go" (Hughes, 2000, p. 28). There

is nowhere to run. While Hughes is most concerned with unit morale, another important aspect of that observation is that it should reduce the need for internal communication. However, on the other hand, Palmer (2005) argues that, even though there are important contextual differences between naval and land operations, uncertainty is "just as prevalent afloat as van Creveld found it to be in his study of generalship ashore" (p. 16). As a result, Palmer (2005) claims that "decentralized approaches as exemplified by Nelson are on the whole superior" (p. 16). Palmer does not explicitly refer to mission command, but it is claimed that Nelson is one of history's greatest proponents of mission command (Heyward, 2003). Thus, it would seem reasonable to expect mission command to be relevant in a naval context as well.

Uncertainty and Leadership

According to the Norwegian Joint Operational Doctrine, armed conflict is characterized by *friction*, which refers to things that happen that separate a plan on paper from its actual execution; *uncertainty and chaos,* which describe a situation in which information is lacking, incomplete or contradictory; and, finally, *danger and stress* as a result of, for example, direct threats, the dangers of the cruel sea and loneliness (Norwegian Defence Staff, 2007).

In a discussion of leadership under extreme conditions, Hannah et al. (2009) point to conflicting findings in the literature on what is perceived as effective leadership. There is research claiming that subordinates facing a threat will look to leaders who initiate structure and take decisive, authoritative action. However, Hannah et al. (2009) suggest that the focus on the team leader's task competence in critical situations may indicate that a culture for a participative leadership style has not been established prior to the critical situation. Thus, there may be a group culture that is characterized by what Sjøvold (2007) calls dependence.

In such a culture the appropriate thing to do is be passive and to await the instructions from a strong leader, like soldiers in a trench waiting for orders (Sjøvold, 2007).

On the other hand, there is research showing that leaders who displayed greater receptivity to input from followers and integrated the efforts of team members were found to be effective (Hannah et al. 2009), which could be an indication of a more mature group culture (i.e. a team where all the members are proactive and will try to influence what is happening; Sjøvold, 2007). The contrast to a team with soldiers in a trench waiting for their orders is aptly illustrated by Lupfer (1981) who describes how the German army during the First World War enhanced the effectiveness of their defense in depth. Since timing was critical the decision to start the counterattack was not centralized to the headquarters, but to the smallest units. The German doctrine actually "forbade wasting time by waiting for permission from higher headquarters" (Lupfer, 1981, p.20). The Germans fostered a culture characterized by initiative, not reactivity. Soldiers were not expected to wait passively for orders in the trenches, but to be actively looking for the right time to start the counterattack. Hannah et al. (2009) argue that it is important to explore the question of "whether followers and groups have different models or implicit theories of optimum leader prototypes for differing dimensions of extreme contexts" (p. 908)

Since mission command is the leadership philosophy that has proven historically to be the most effective means of organizing for situations characterized by uncertainty (Shamir, 2011; van Creveld, 1985), it seems reasonable to expect that the more crew members perceive their tasks as being characterized by uncertainty, the more they will appreciate mission command. On the other hand, as pointed out above, uncertainty will generally generate anxiety and instead of trying to operate with less information, as mission command describes, it is claimed that military organizations have endeavored to increase their information processing capacity (McMaster, 2011).

In a study of uncertainty in military operations, Schmitt and Klein (1993) found that many of the information requirements that were sent up the chain of command were initiated "to relieve anxiety rather than out of any actual operational need" (p. 63). One of the assumed key reasons why organizations have not succeeded in implementing mission command, is that the willingness to take responsibility by being proactive and filling gaps in situations where there is no preplanned response, may be counterintuitive and not consistent with people's implicit leadership theories (Shamir, 2011). As Schmitt and Klein (1993) underscore, "the ultimate requirement is to be able to operate effectively in spite of uncertainty" (p. 66). Thus, it would be fruitful to explore the relationship between the implicit theory of leadership (appreciation of mission command) and the degree of task uncertainty.

Hypothesis: An increase in task uncertainty will be positively related to appreciation of mission command.

Method

The participants in this study were 174 crew members from two Norwegian Nansen-class frigates and four Norwegian experts on mission command.

Measures

Leadership behavior was measured using the Systematizing the Person-Group Relationship (SPGR) instrument (Sjøvold, 2006). The SPGR questionnaire consists of 24 items that are rated on a three-point scale (*rarely*, *sometimes*, *often*). In SPGR, behavior is described along three basic dimensions labeled: Control-Nurture (C-N), Opposition – Dependence (O-D), and Withdrawal -Synergy (W-S). In this study, behavior is analyzed along 12 vectors, two for each of the basic dimensions (Sjøvold, 2006). The minimum value for each of the vectors is zero and the maximum value is nine.

Each of the crew members was asked to rate the behavior of the leader they preferred during a specified complex naval exercise. Using the same instrument, four expert raters,

who were highly familiar with both the SPGR instrument and mission command, were asked to describe how participants cooperate in an organization that operates on the basis of the mission command norm. Three of the four expert raters had a naval background. See Table 1 for descriptive statistics.

Appreciation of mission command was measured as the deviation between a respondent's description of the preferred leader and the average of the expert ratings of mission command behavior. That is, the smaller the deviation, the more the respondents appreciated a leader who behaved in accordance with the mission command norm.

Shamir (2011) remarks that mission command that it is a "complex, elusive and multifaceted concept" (p. 202), which makes it difficult to quantify. To arrive at a measure of the degree of deviation between an empirical entity and a multivariate ideal type, the following formula proposed by Doty, Glick and Huber (1993) was used:

$$D_{io} = \sqrt{(X_i - X_0)W(X_i - X_0)^T}$$

where

D_{io} = the distance between ideal type i and empirical case o,

X_i = a *1* x *j* vector that represents the value of ideal type i for attribute j,

X_o = a *1* x *j* vector that represents the value of empirical case o for attribute j

and

W = a *j* x *j* diagonal matrix that represents the theoretical importance of attribute j to ideal type i.

Thus, the smaller the value of D_{io} (i.e., the deviation), the more the best leader description resembles mission command. Doty et al. (1993) suggest using expert raters to determine the level of each construct that best represents the ideal type.

Task uncertainty. As pointed out by Schmitt and Klein (1993), uncertainty "engulfs every facet of military action" (p. 63). It covers many more aspects than gaps in information, e.g., risks, future states, complexity, time pressure and consequences. They also note that what is perceived as an uncertain situation is subjective; people have different perceptions of what is considered uncertain (Schmitt & Klein, 1993). In this study, uncertainty was subjectively measured using nine single items that were intended to cover the most intuitive and central aspects.[2] The respondents were asked to rate each of the items on a 5-point Likert scale (*strongly disagree, undecided, disagree, agree, strongly agree*). The items were: "Do you have to take many different factors into consideration?", "Do you have to take new factors into consideration?", "Do you have to make independent decisions quickly?", "Can misjudgments have severe consequences?", "Would you characterize your tasks as simple or complex?", "Is information lacking when you have to perform your tasks?", "Do you lack immediate feedback on the effect of executed tasks?", "Is it difficult to predict the effect of executed tasks?", and "Do you perform tasks according to standard procedures?".

Procedure

The study was approved by the commanding officer of the Royal Norwegian Frigate Service and the Royal Norwegian Naval Academy. Collecting data about individual crew members' perception of their workplace involves an ethical aspect, most importantly that the data can be used against the employees (Cummings & Worley, 2009). The study design was provided to the Norwegian Social Science Data Service, and ethical aspects were discussed. In order to enable the respondents to give informed consent, several briefings were held about the research project, and the researcher was on board the frigates on several occasions and

available to answer any questions. Finally, each questionnaire started with a text informing

the respondents about the project, how the data would be used, and promising anonymity.

The questionnaire also included a question requesting respondents to give or withhold

explicit consent to participate. Some crew members responded that they would not

participate, which could indicate that asking for consent had the desired effect. On one

occasion, the commanding officer of a vessel decided that no one from his crew should

participate in the study. The data were converted to SPSS and Microsoft Excel for analysis.

Results

Of the 154 participants in the study,40% of the crew members are officers, 37% are

enlisted, and 23% are conscripts (20 did not report). The crew members are divided into four

functional specializations; 34% represent the operation branch, 20% logistics, 22 % machine

engineers, and 24% weapon engineers (2 did not report). Table 1 presents the means and

standard deviations for crew ratings of best leader behavior and the expert ratings of how

crew members would cooperate according to a mission command norm along the 12 SPGR

behavior vectors, as well as the deviation between best leader behavior and mission

command. Table 2 presents the means, standard deviations, and Pearson correlations for the

independent variables (task uncertainty) and the dependent variable (deviation from mission

command). Table 3e presents the Pearson correlation for uncertainty items and the 12 SPGR

vectors. An independent samples t-test was conducted to compare the degree of appreciation

between the two crews. There was no significant difference between the two crews, t (172)

$=.29, p = . 78$, two- tailed.

In order to test the hypothesis, deviation from mission command was regressed on the

nine uncertainty items. Table 4 presents the results of a simultaneous regression.

The overall model was statistically significant, $R^2 = .12$, $F[9,164] = 2.545$, $p < .01$. Item three (lack information when performing your tasks) was the strongest contributor to the prediction of the dependent variable ($\beta = .29$, $p < 01$). Item six (have to make independent decisions quickly) was the second strongest contribution, but just exceeded the .05 significance level ($\beta = .18$, $p = .051$). However, the direction of the relationship was the opposite of what was hypothesized: The greater the task uncertainty, the more the description of the best leader deviated from mission command. Thus the hypothesis was not supported.

Discussion

This study provides new data on the appreciation of mission command in a naval context. That the two items that made the strongest contribution to predicting the deviation between description of best leader behavior and mission command behavior were "lack of information" and "make independent decisions fast" is consistent with the main rationale for mission command. That is, since certainty is a product of time and information, and time will be limited in a competitive environment, crew members have to make do with less information in order to save time (van Creveld, 1985).[3] The most notable result in this study is that the more crew members' description of their task fit a situation in which mission command should be relevant, at least according to the mission command theory, the more crew members' description of their preferred leader's behavior deviated from the mission command norm.

If context is an important predictor of what leaders do and should do, the most immediate explanation seems to be that the naval context differs from the land context, where mission command originated and consequently, mission command may not be relevant. On the other hand, it is claimed that uncertainty is as prevalent at sea as on land (Palmer, 2005). Another explanation is the finding reported by Hannah et al. (2009) that in uncertain situations many employees appreciate an authoritative and instructive style of leadership.[4]

Mission command is a leadership philosophy with the premise that employees thrive on uncertainty. But uncertainty implies a need to relate to something new, which can temporarily destabilize our cognitive and interpersonal world and which most of us do not like (Schein, 2004). An authoritative leader can function as an anxiety reducer in such situations. Consequently, if team members are not explicitly trained in mission command, a formal leader or another team member who has acted in accordance with the mission command norm might not be appreciated. Being an appreciated leader is not necessarily the same as being an effective leader, however. Becoming a mature team often implies that team members are willing and able to push their boundaries of individual comfort (Sjøvold, 2007,).

Edmundson (2012) claims that to excel in in uncertain and complex environments one needs teams that embrace uncertainty. Several authors have shown that implementing mission command is a challenging enterprise (e.g., Nissestad, 2007; Shamir, 2011; van Creveld, 1982). It is claimed that mission command is a demanding leadership philosophy which requires explicit training (van Creveld, 1985, p. 271) and is "fundamentally a learned behavior" (U.S. Chiefs of Staff, 2012, p. 6). This study has identified two aspects of uncertainty that seems to warrant attention in future team development. A notable conclusion in Shamir's (2011) study of attempts to implement mission command is that, even if a military unit has successfully implemented mission command at one time, there is no guarantee that the same unit will automatically have the same cooperative climate over a period of years. Thus, operating according to the mission command norm seems to require continuous attention.

One important limitation should be noted. It is challenging to quantify a complex social phenomenon like mission command, which has both a historical interpretation and a modern description. A list of cultural descriptions of a mission command culture will contain many characteristics that complement and even contradict each other (Shamir, 2011). Perhaps

a quantified instrument is not compatible with measuring something as complex as mission command culture Given the time-constrained training and preparation phase before a naval unit is declared operational, the enormous amounts spent on the military, and the widespread use of mission command, more attention should be devoted to establishing an instrument that can be used as a template for measuring mission command. The template used in this study is one approach.

It is worth mentioning the lack of statistical relationship between deviation from mission command and the other uncertainty items. But, as Keegan (1988) has claimed, if there is one thing the long history of war (on land) has demonstrated, it is that the moments when the "flow of information upwards and orders downwards will most nearly match the pace of events – are very, very few" (p. 327). During the most recent significant conventional naval war, the Falklands War, the commander of the British task force stated with a sigh that "the battle for information is never-ending" (Woodward & Robinson, 1992, p. 198). The fact that a perceived lack of information is the most important predictor in this study is consistent with both Keegan's lesson and Woodward's reflection. This study has indicated that lack of information is still an important factor to consider, also in the naval context. Further research may wish to devote more attention to which aspects of lacking information are most important in relation to mission command: the internal aspects (e.g., I do not know what my superiors' intentions are) or external aspects (e.g., I do not understand what the enemy is doing).

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Footnotes

[1] "Naval warfare is marked by the essentially singular interaction of professional military personnel with the 'cruel sea' . . . the sea is more powerful than war" (Reeve, 2003, p. 30).

[2] The questions are taken from a larger survey investigating the organizational context of naval leadership.

[3] The Prussian-German slogan was: "better a bad decision in time than a perfect decision taken too late" (Murray, 2011, p. 8).

[4] In the questionnaire used in this study, the respondents were asked two questions about micromanagement. They both correlated positively with the degree of deviation from mission command: the extent to which respondents appreciated being given detailed orders, $r(172) = .22$, $p < .01$); the extent to which they appreciated giving detailed orders, $r(172) = .17$, $p < .05$). According to Richards (2004), micromanagement is a sure way of undermining a mission command philosophy.

Table 1

SPGR Mean Scores (M), Standard Deviation (SD) for Crew Ratings of Best Leader and

Expert Ratings of Mission Command

		Crew		Expert raters[a]	
Variables	Typical Behavior	*M*	*SD*	*M*	*SD*
Control (C1)	Controlling, autocratic, attentive to rules and Procedures	4.74	2.38	5.06	1.13
Task-orientation (C2)	Analytical, task-oriented, conforming	6.98	2.14	9.00	0.00
Relations (N1)	Taking care of others, attentive to relations	6.34	2.25	5.06	1.13
Creativity (N2)	Creative, spontaneous	1.32	1.92	0.56	1.13
Loyalty (D1)	Obedient, conforming	6.50	2.03	4.50	1.84
Acceptance (D2)	Passive, accepting	6.72	2.24	6.19	1.13
Criticism (O1)	Critical, opposing	2.26	2.05	2.25	1.84
Assertiveness (O2)	Assertive, self-sufficient	3.34	2.38	2.81	2.15
Resignation (W1)	Sad appearance, showing lack of self-confidence	1.01	1.83	0.00	0.00
Self-sacrifice (W2)	Passive, reluctant to contribute	0.86	1.65	0.00	0.00

Engagement (S1)	Engaged, inviting others to contribute	7.38	1.83	8.44	1.13
Empathy (S2)	Showing empathy and interest in others	6.64	2.17	8.44	1.13

Note. [a] Average measures ICC =.96. ICC was calculated as two way mixed model with absolute agreement. Inter-rater correlation [.81 to .95]

Table 2

Mean Scores, Standard Deviations and Correlation Coefficients between Task Uncertainty Items and Deviation from Mission

Command

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
1. Take many different factors into consideration	2.32	1.01	--									
2. Take new factors into consideration	2.13	.90	.70**	--								
3. Lack information when you have to perform your tasks	1.39	.79	-.06	-.09	--							
4. Difficult to predict the effect of executed tasks	1.12	.81	.04	.07	.18*	--						
5. Lack immediate feedback on the effect of executed tasks	1.47	1.05	-.11	-.13	.34**	-.13	--					
6. Have to make independent decisions quickly	2.15	1.06	.51**	.50**	-.07	.06	-.15*	--				
7. Misjudgments can have severe consequences	2.28	1.19	.53**	.46**	.02	.05	-.04	.51**	--			
8. Characterize your tasks as simple or complex	2.12	.96	.56**	.44**	-.10	.06	-.07	.46**	.51**	--		
9. Perform tasks according to standard procedures	1.16	.85	.16*	.16*	.06	.03	.12	.17*	.05	.12	--	
10. Deviation from mission command	7.90	2.55	-.13	.00	.35**	-.04	.20**	.01	.05	-.10	-.01	--

Note. *p < .05. **p < .01 (2-tailed)

Table 3

Correlation Coefficients between Task Uncertainty Items and SPGR Vectors

Variables	Take many different factors into consideration	Take new factors into consideration	Lack information when you have to perform your tasks	Difficult to predict the effect of executed tasks	Lack immediate feedback on the effect of executed tasks	Have to make independent decisions quickly	Misjudgments can have severe consequences	Characterize your tasks as simple or complex	Perform tasks according to standard procedures
Control	-.09	-.16*	-.09	-.05	-.02	-.14	-.08	-.14*	-.21**
Task-orientation	.17*	.07	-.43**	-.11	-.24**	-.02	.07	.15*	-.01
Relations	.07	.06	-.27**	.02	-.29**	-.04	-.05	.08	-.10
Creativity	-.20**	-.05	.24**	-.05	.15*	.05	.06	-.24**	.06
Loyalty	.06	.07	-.28**	.03	-.17*	-.04	-.02	.06	-.04

Acceptance	.04	.07	-.22**	-.01	-.15*	-.08	-.15*	.01	-.07
Criticism	.00	.02	.07	.01	.03	.02	.12	-.10	-.03
Assertiveness	-.21**	-.10	.04	-.07	.06	-.03	.01	-.06	.02
Resignation	-.03	.07	.23**	-.16*	.15*	.05	.08	-.11	-.05
Self-sacrifice	.02	.12	.26**	-.15*	.19**	.14*	.12	-.16*	.06
Engagement	.09	.05	-.29**	.05	-.24**	.00	-.06	.05	.04
Empathy	.07	.05	-.30**	.01	-.26**	.05	-.03	.00	.09

Note. *$p < .05$. **$p < .01$ (2-tailed)

TABLE 4

Summary of Simultaneous Regression Analysis for Variables Predicting Deviation From Mission Command

Variables	Model 1		
	B	*SE*	β
1. Take many different factors into consideration	-.45	.27	-.19
2. Take new factors into consideration	.19	.29	.07
3. Lack information when you have to perform your tasks	.89	.25	.29**
4. Difficult to predict the effect of executed tasks	-.21	.24	-.07
5. Lack immediate feedback on the effect of executed tasks	.06	.19	.03
6. Have to make independent decisions quickly	.43	.22	.18
7. Misjudgments can have severe consequences	.07	.21	.03
8. Characterize your tasks as simple or complex	-.23	.25	-.09
9. Performs tasks according to standard procedures	.01	.23	.00
Constant	6.78		
R^2	.12**		

Note. *$p < .05$,. **$p < .01$; missing data were removed listwise

Bio

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