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Scientific Letter

Collaboration and Trust in Ex Bold Quest 13-2

Background

1. This Letter Report summarizes the major findings of a Support to Operations request from CALWC to DRDC Toronto to assess collaboration and trust in a coalition exercise.ⁱ
2. Trust in one's comrades and leaders is the willingness to place oneself at risk, relying on them to provide important resources when needed.¹ Trust is often based on assessments of another's competence (skills and abilities), integrity (adhering to a valued set of ethics/principles), benevolence (genuine, unselfish concern for others) and predictability.
3. Trust is considered to be particularly important in situations characterized by high levels of interdependence, collaboration, risk and, ambiguity² – all hallmarks of military operations. Indeed, trust has been termed a critical enabler of the profession of arms.^{3,4,5}
4. Despite its fundamental nature, systematic knowledge concerning the role and the effects of trust within military contexts has been limited. Importantly, however, at least one prior study conducted in Iraq revealed that half of the U.S. soldiers surveyed reported that they had reassessed the attributes of their leaders prior to leaving on a combat mission, with 35% reporting a drop in trust levels.⁶ Decreases in trust were largely based on re-evaluations of a leader's military skills (competence), but a lack of experience in combat, an inability to handle stress, as well as deficits associated with integrity and benevolence also played a role in the soldiers' trust assessments. Canadian research⁷ has demonstrated a tendency for trust in unit leaders and colleagues to vary over a deployment, often increasing at the mid-deployment point and decreasing in the months after redeployment from an overseas military mission.

ⁱ 3350-1 (CALWC) CANADIAN ARMY – EXPERIMENTATION BOLD QUEST 2013



5. Investigations of trust in a coalition context are even more limited and have been largely focused on technical or system interoperability⁸ or on commander reflections on the role of trust in coalition operations at the strategic level.^{9, 10} It has been noted, however, that it is as often the “organizational, doctrinal and cultural aspects which are barriers”.¹¹
6. Empirical investigations of trust in coalition contexts are virtually non-existent, save for one recent study of trust in a NATO bi-national coalition headquarters exercise.¹² That research demonstrated that the military personnel reported moderate levels of trust in coalition partners. Higher coalition-level trust was associated with reports of higher cohesion and perceived coalition effectiveness.
7. The study summarized below replicates and extends this prior empirical study of trust in a bilateral headquarters exercise to investigate collaboration and trust at the tactical level in a multinational coalition exercise. Survey responses track the development of collaboration and trust across the exercise. We also use After Action Reviews (AAR) and observational methods to more closely examine collaboration and trust during a higher-complexity mission scenario.

Methodology

1. Collaboration and trust were investigated within the larger objectives of Exercise Bold Quest 13-2, a US-led, complex, high-intensity two-week multinational coalition exercise and technology demonstration activity held at the Muscatatuck Urban Training Center (MUTC), Indiana, September 6 – 21, 2013. Eleven countries contributed personnel, equipment and/or materiel to the exercise. The Canadian Army and the Indiana National Guard provided the ground troops units in all mission scenarios.
2. Twenty eight members of a Canadian Army infantry platoon from the Royal 22e Régiment (R22eR) (average age: 28, average length of service: eight years, rank range: Pte - WO, most of them (about two thirds) being Cpl) were tasked to participate in EX BQ 13-2. Twenty-five had previously deployed at least once to Afghanistan, and on average had spent ten months on deployment.
3. The CA soldiers were asked to provide collaboration and trust assessments concerning: 1) the CA platoon at BQ 13-2, 2) the National Guard (NG) unit, and 3) the other coalition forces at three time points: prior to the commencement of the exercise (Pre-Ex), at the Ex mid-point (Mid-Ex), and at the end of the exercise (End-Ex).ⁱⁱ

Statement of Results

1. Objective I: Assess Capacity to Collaborate in Coalition Activities: (*e.g., readiness to share information and resources, an awareness of the capabilities of other countries, and an understanding of how the activities fit together in a coalition*). The CA soldiers rated themselves, the NG and Other Coalition Forces as having a moderately high capacity to

ⁱⁱ Although CA personnel were tasked to attend EX BQ 13-2, completion of the Collaboration and Trust Surveys was voluntary. All procedures and survey items were reviewed and approved by the DRDC Human Research Ethics Committee.



collaborate, a result that was largely consistent across the Pre-, Mid-, and Post-Ex assessments. However, the Pre-Ex assessment, CA soldiers' ratings of the CA and the Other Coalition Forces were significantly higher than the assessments of the NG; ratings of the NG had increased by the Mid-Ex assessment and were equal to those of the CA and Other Coalition Forces and all groups remained equal at the Post-Ex assessment.

2. Objective II: Identify Barriers to Collaboration and Trust: (e.g., *lack of experience in coalition missions; incompatible requirements; incompatible technologies, equipment and systems; disparity of mission goals; cultural differences; language differences; differences in training and education; a lack of reliability of military personnel*). These factors were rated as having a minimal effect on collaboration and trust levels in Ex BQ 13-2. However, at the Pre-Ex assessment between 30 – 40% of the Canadians indicated that cultural differences, as well as differences in education and training and incompatible equipment and systems were most likely to be barriers to collaboration and trust; differences that had decreased or disappeared by the Mid- and End-Ex assessments. Perhaps not surprisingly considering that the first language of the CA ground troops was French, language rated as a barrier across the course of the Ex by a majority of the Canadians, and a lack of experience in coalition missions was similarly rated as a barrier across the Ex.
3. Objective III: Assess CA soldier perceptions of CA Coalition-level Capability: (e.g., *the Canadian Army is capable of participating as a full partner in a coalition; other coalition forces value and respect the capability of the Canadian Army; the training and professionalism of the CA is at least equal to that of other countries in EX BQ 13*). Across the three assessment points, 70% of CA agreed or strongly agreed that the training and professionalism of the CA is at least equal to that of other countries in EX BQ 13 and that other coalition forces value and respect the capability of the Canadian Army. Similarly, over 40% agreed or strongly agreed that the Canadian Army is capable of participating as a full partner in coalition operations, and this remained constant across the EX.
4. Objective IV: Assess Trust Levels Across EX BQ 13-2: (e.g., *members of CA/NG/Other Coalition Forces: ... are highly, skilled; ... have a strong sense of professionalism; ... would be there in a dangerous situation; ... are predictable*). Analyses revealed that moderate levels of trust in the CA forces were apparent for the Canadians across the course of the EX. This pattern of results was similar for the four dimensions of trust: Benevolence, Predictability, Integrity, and Competence. CA trust in NG and Other Forces generally followed the same positive pattern of results. However, while the average level of CA trust in the NG and Other Coalition Forces were similar to each other, these ratings were statistically significantly lower than trust in CA at all three survey assessment points.
5. Consistent with previous research studies, our results also revealed that trust was significantly and positively associated with a greater perceived capacity to collaborateⁱⁱⁱ, and perceived future team effectiveness^{iv} at the Pre-Ex assessment point. This pattern persisted and indeed was stronger at the end of the mission.^v At the end of the mission, higher trust

ⁱⁱⁱ i.e., willingness to share information, resources, ($r = .42, p = .05$)

^{iv} ($r = .47, p < .01$)

^v (perceived capacity to collaborate $r = .76, p < .001$; perceived future team effectiveness ($r = .79, p < .001$))



was also associated with higher perceived complexity of the mission^{vi} and to lower perceived mission risk.^{vii}

6. Objective V: Examine Collaboration and Trust in a Higher-Complexity Mission Scenario: The mid-Ex mission scenario involved the assault and clearing of a prison in order to capture two high-value targets. This was the only instance in BQ 13-2 in which CA and NG ground troops worked on the same scenario objective at the same time. More preparation and training occurred than was the case for any prior mission scenario, including a joint mission brief, mission rehearsals, and two live iterations of the mission that occurred the following day.
- a. Mission Brief: CA and NG personnel were together for the mission brief. During the AAR an observer-controller indicated that having the mission brief together facilitated collaboration. However, several of the Canadians indicated to the DRDC analyst that there was a significant language barrier as the brief was given in English. Indeed, several of the CA soldiers required explanations afterwards because they could not completely understand the mission brief, likely limiting the positive impact that the observer-controller mentioned.
 - b. Mission Rehearsal: The assault/clearing components of the mission were rehearsed a few times the night before the live mission; however, the CA and NG personnel rehearsed separately. According to observer-controllers and commanders, rehearsing, even separately, facilitated overall performance the next day.
 - c. First Mission Iteration: The first mission iteration was conducted jointly by CA and NG troops, attacking the same objective from different directions; however the platoons functioned as separate units. There was some confusion with regards to situation awareness, made worse by comms problems. Some code words did not reach everyone at the time of exfiltration and roll-out away from the prison (e.g., some Canadians were still dismounted when the order was given to the vehicles to roll out and leave).
 - d. There were also some concerns about fratricide during the first iteration. The US Platoon Leader mentioned that it would have been less of a concern if it had been two platoons that had worked together a lot. This speaks to the importance of working together and being in a better position to predict each other's behaviour and have a sense of the level of skill and ability of the other group, i.e., the Predictability and Competence dimensions of trust. Nonetheless, overall performance on the first mission iteration was good.
 - e. Second Mission Iteration: There was more explicit task coordination and interdependence during the second iteration; at least once ground troops called on each other to combine manpower to adjust to the situation. According to the observer, there was very good C2, cross talk and coordination (e.g., calling on each other when needed, using hand signs to cross talk and make sure the language

^{vi} ($r=.44, p = .03$)

^{vii} ($r=-.52, p = .01$)



barrier did not create problems). In his opinion, the groups worked together in a controlled way, especially considering it was the first time working together on a mission. The fact that the mission occurred at the mid-point of Ex BQ 13-2 likely helped as well, although the contact between CA and NG personnel during work time and more informally was limited prior to the mission. Nonetheless, they built on the first iteration and improved their coordination, their knowledge of each other's ways, cross-talk and situation awareness sharing. Everyone knew their tasks and executed them.

Summary and Recommendations

1. Overall, results indicated that CA soldiers reported moderate levels of collaboration and trust in CA, NG and Other Coalition Forces. Moreover, the effects of traditional barriers to coalition collaboration and trust were perceived to be minimal. However, of these, language and a lack of experience in coalition missions received the highest barrier ratings before, during, and at End Ex. CA soldiers also rated the coalition capability of the CA as quite high. AAR and observational assessments of the higher-complexity mid-Ex mission scenario revealed that CA and NG troops developed collaboration and trust across two mission iterations, chiefly by establishing common non-verbal communications and by joint task rehearsal.
2. Moderate levels of collaboration and trust were found, despite the low levels of actual and reported task interdependence with, and knowledge of NG and Other Coalition Forces in EX BQ. Moreover, CA soldier perceptions of risk and complexity were relatively low throughout the Ex. Therefore, the current findings represent baseline levels, yet still speak to the relevance of collaboration and trust in a coalition context.
3. While no exercise can replicate the intensity and risk of operations, research conducted in lower fidelity settings such as these does allow for some greater control of variables of interest and thus adds to our understanding of collaboration and trust in coalition missions. It is recommended that a replication of this work be conducted under conditions of at least moderate task interdependence between coalition partners and within higher risk and complexity missions.

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