

**Technical Report 1137**

# **Lessons Learned on Collective Efficacy in Multinational Teams**

**Angela I. Karrasch**  
U.S. Army Research Institute

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# **Technical Report 1137**

## **LESSONS LEARNED ON COLLECTIVE EFFICACY IN MULTINATIONAL TEAMS**

**Angela I. Karrasch**  
U.S. Army Research Institute for the  
Behavioral and Social Sciences

**Leader Development Research Unit**  
**Stanley M. Halpin, Chief**

U.S. Army Research Institute for the Behavioral and Social Sciences  
5001 Eisenhower Avenue, Alexandria, Virginia 22333-5600

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## FOREWORD

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It has become increasingly clear that the United States Army will not be conducting global operations alone. The Army will work with military allies from countries we have never worked with before, we will coordinate with governmental and non-governmental agencies that many of us have never heard of before, and we will work as a team. The importance of understanding the dynamics of multinational teams cannot be overstated.

LTG John J. Sylvester, commander of the Multinational Division - North, Stabilization Force in Bosnia-Herzegovina approved the research request from the Human Research and Engineering Division - Army Research Laboratory (HRED-ARL) in return for a product that would enhance the Stabilization Force's ability to work more efficiently as a team. Once approval was obtained HRED-ARL turned to the Leader Development Research Unit of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) to request additional support. In January of 2002, ARI began collaborating with the HRED -ARL to determine methods and products that would enhance team performance.

This report documents a part of the overall project, specifically - ARI's effort to understand collective efficacy, a critical aspect of team performance. The immediate results of this effort were briefed to LTG Sylvester in June 2002. Additional work on communication training followed, and documentation of that effort will be published in a separate ARI Technical Report.

  
KATHLEEN A. QUINKERT  
Acting Technical Director

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This research took a considerable amount of coordination and cooperation from all involved. Dr. Linda Pierce of the Human Research and Engineering Division - Army Research Laboratory, began coordination with the help of LTG (R) Frederic J. Brown, PhD, and LTG John Sylvester. The participants from the Stabilization Force Headquarters graciously shared their time, insights, and expertise with the research team. In completing the project, two retired Colonels were key advisors and liaisons for our research team, thus appreciation also goes to COLs (R) Greg Fontenot and Mike Sullivan.



# LESSONS LEARNED ON COLLECTIVE EFFICACY IN MULTINATIONAL TEAMS

## EXECUTIVE SUMMARY

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### Research Requirement:

The leaders of the United States Army face a future where they must lead troops from many nations, and they must team with military and civilian allies from other countries to conduct military operations other than war, as well as wage war. Understanding how to successfully “team” cross-culturally is still very much an unknown. There is a lack of theory and meager research available to guide development of training multi-cultural teams.

### Procedure:

The research team traveled to the Stabilization Force Headquarters (SFOR HQ), Multinational Division –North in Bosnia. As part of a larger project, data on team efficacy was collected from military officers representing the North Atlantic Treaty Organization (NATO) and non-NATO staff members of the SFOR HQ. Sixty-eight staff officers provided background information related to their position and experiences and responded to a scale used to assess their perception of the SFOR’s capability to perform as a team. These data were analyzed and are reported here. A separate report on the larger effort is forthcoming.

### Findings:

The team members are confident that the SFOR can coordinate as a team in tasks such as problem solving, planning, monitoring activities, and developing recommendations. Collective efficacy is stronger for primary teams (e.g., intelligence team or public affairs team) as compared to the organizational level team (i.e., SFOR as a whole). There was less variance in responses at the primary team level, indicating a more *shared* sense of efficacy, as compared to the more heterogeneous responses at the SFOR level. Finally, the indicators of experience that were used to test hypotheses are in need of revision. Rank and number of months of multinational experience are probably not adequate indicators in a multinational environment without additional information to supplement their meaning.

### Utilization of Findings:

This research has implications for the development of efficacy measures as well as for understanding the antecedents of the construct itself. Training developers and researchers can use this information to better understand team performance and team training. There are lessons learned from studying this multinational team that apply to any cross-cultural study of military teams, thus this report is an addition to the limited body of knowledge in an area of critical importance to the U.S. military.



# LESSONS LEARNED ON COLLECTIVE EFFICACY IN MULTINATIONAL TEAMS

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# LESSONS LEARNED ON COLLECTIVE EFFICACY IN MULTINATIONAL TEAMS

## Introduction

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) in collaboration with the Army Research Laboratory recently had the opportunity to examine teamwork with a multinational military force in Bosnia-Herzegovina. This opportunity came in the form of a request from the Commander of the Stabilization Force (COMSFOR) at Camp Butmir, near Sarajevo. The total number of troops in the Stabilization Force at that time was about 15,000. Five hundred of those troops were stationed at Headquarters of the Stabilization Force (HQ SFOR). The COMSFOR was interested in methods or products that could help the SFOR teams work more efficiently. The primary ARI product developed for this project was a communication training program and it will be described in full detail in a forthcoming ARI report. This report documents an exploration of a variable considered to be critical to future team training and team performance, specifically – collective efficacy.

Previous research on team training suggests the importance of a team's beliefs about their capacity to work as a team, referred to here as collective efficacy (Zaccaro, Blair, Peterson, Zazanis, 1995). According to a recent review of research on collective efficacy beliefs (Bandura, 2001), stronger perceived collective efficacy is associated with higher group aspirations and motivational investment in a group's tasks, stronger staying power in the face of impediments and setbacks, higher morale and resilience to stressors, and greater performance accomplishments. Meta-analyses have also shown support for the influential role of efficacy beliefs (Stajkovic & Luthans, 1998). However, the literature is not complete and certainly when we try to understand the development of *collective* efficacy amongst cross-cultural teams, we find a lack of research and theory for measurement, for understanding its development and for understanding its influence on training.

### *Intent of Report*

Until very recently, there has been a lack of theory building in training research in general (Salas, 2001). Additionally, a lack of control or assessment of important individual and situational variables that impact training effectiveness is evident in training research. Training may not be evaluated at all, or when training outcomes are evaluated, there often is no way of knowing for certain what situational, individual or team factors facilitated or impeded the success of the training. Campbell (1988) has argued at the individual level that differences such as self-efficacy and situational influences such as socialization and group processes should be incorporated into training effectiveness studies. This same argument should be applied to multinational team training, where the need for theory building is even greater. This report is an attempt to look at a group level variable, collective efficacy, and determine if some of the individual team members' demographic information influences its development.

### *Review and Definition of Collective Efficacy Research*

Some of what is established about self-efficacy probably generalizes well to the collective level. For instance, Bandura (1986) defined self-efficacy as "people's judgments of

their capabilities to organize and execute courses of action required in attaining designated types of performances" (p.391). He emphasized that efficacy is concerned not with the cognitive, social and behavioral skills one has, but with judgments of what one can do, with whatever skills one possesses. Bandura has argued that perceived collective efficacy is an emergent group-level property, not simply the sum of the efficacy beliefs of individual members.

Collective efficacy beliefs are considered to serve functions similar to those of personal efficacy beliefs and operate through similar processes. According to Gist & Mitchell (1992), there are three important characteristics of self-efficacy. First, efficacy involves a comprehensive summary or judgment of perceived capability for performing a specific task. Second, efficacy involves a motivational component. Finally, efficacy is a dynamic construct that changes over time and in response to new experiences and information. Previous research also indicates that self-efficacy is an important predictor variable in training effectiveness (Gist, Schwoerer, & Rosen, 1989; Gist, Stevens, & Bavetta, 1991; Latham & Frayne, 1989; Mathieu, Martineau & Tannenbaum, 1993; Stevens, Bavetta, & Gist, 1993; Saks, 1995).

Zacarro et al., (1995) have highlighted differences in the definition and measurement of the concept of collective efficacy. These various definitions of collective efficacy include: 1) people's perceptions of the group's efficacy to effect change, 2) group potency – the collective belief of a group that it can be effective 3) group members' perceptions of what performance level the group could attain and the certainty they felt in reaching that level, 4) the perceived probability that collective effort will result in collective accomplishments, and 5) an individual's judgment of how well the group can execute actions required to perform the task.

Zacarro suggests that the most useful approach is to consider both judgments of members' abilities and perceptions of how well group members work together in achieving collective outcomes. Thus, he defines collective efficacy as "a sense of collective competence shared among individuals when allocating, coordinating, and integrating their resources in a successful, concerted response to specific situational demands" (p. 309) – this definition has several key elements: a) collective efficacy as shared beliefs, b) perceptions of competence in a collective's coordination activities, c) consideration of other members' resources and d) the situational and behavioral or task specificity of collective efficacy.

Initial success has a positive impact on efficacy beliefs (Bandura, 1977). The history of the SFOR has proven it to be a successful team. The Implementation Force (fore-runner to the SFOR) carried out its mission successfully, and the SFOR is currently meeting its milestones (SFOR Informer, 2002). The SFOR commander perceives the organization to be an effective one. Published personal interviews (Murray & Gordon, 1996) indicate participants feel that their work is making a difference in Bosnia (although they do acknowledge that Bosnia may not be able to maintain the peace for long, once the SFOR no longer has a presence there), and there is also a sense that SFOR gets things done, and done quickly. Thus, higher reports of SFOR efficacy in general were expected. Second, once new members of the SFOR become familiar with its history and culture, a strong sense of team efficacy should develop. Although the amount of information soldiers arrive with is uncertain, it was generally expected that as individuals became more familiar with SFOR, their personal judgments of the SFOR team capability would increase. Thus, time at SFOR was expected to be positively related to SFOR collective efficacy.

This would support the assertion that time within a team is an important influence on collective efficacy beliefs.

Collective efficacy is a group level dynamic, however, it is possible that individual level variables can shape or influence the development of this team construct. One potential individual level variable examined was experience. Because more military experience might indicate a better initial understanding of how SFOR works, and less apparent chaos to a newcomer (Saks, 1995), we expected more experience (as indicated by rank and by previous NATO work) to be positively associated with collective efficacy.

### *Overview of the current research*

The environment in which data was collected was the SFOR HQ. This HQ is an international, professional military climate. The work to be accomplished is staff work such as planning, coordinating, monitoring, and decision-making. There are NATO (Belgium, Canada, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, Netherlands, Norway, Poland, Portugal, Spain, Turkey, United Kingdom and United States) and Non-NATO (Albania, Argentina, Austria, Bulgaria, Estonia, Ireland, Finland, Latvia, Lithuania, Slovakia, Morocco, Romania, Russia, Slovenia, and Sweden) countries working as part of the SFOR and many of those nations are represented at HQ. Australia and New Zealand also contribute through a special arrangement with the United Kingdom. We were briefed about the complexities associated with establishing any type of cohesiveness or trust in a multinational environment such as this. Cohesiveness and trust are typically associated with high performing teams, but we were also satisfied that those attributes are not always necessary in order to accomplish team work. We were asked to deliver a product or products that would enable this multinational team to work more efficiently. The focus of the broader project was to study cultural differences in cognition and develop a team training system that would enable cross-cultural team awareness, and enhanced multinational team skills (See Appendix A for a definition of project success). A second effort was to develop communication training for the team. This report documents a study of data focused on team efficacy.

The mission of the SFOR is to deter hostilities and stabilize the peace, contribute to a secure environment by providing a continued military presence in the Area of Responsibility (AOR), target and coordinate SFOR support to key areas including primary civil implementation organizations, and support progress towards a lasting consolidation of peace, without further need for NATO – led forces in Bosnia and Herzegovina. This mission statement is consistent with the Dayton Peace Agreement or the General Framework Agreement for Peace (GFAP) which contains the goals: 1) to provide a safe and secure environment, 2) to establish a unified, democratic Bosnia and Herzegovina, 3) to rebuild the economy, and 4) to allow the return of displaced persons and refugees to their prewar homes.

### *Method*

*Procedures and Measures.* There were two data collection periods for collective efficacy research. The first data collection occurred in April of 2002. Forty SFOR team members were asked to complete a paper and pencil version of the collective efficacy scale in English. They

also completed some background questions, personality assessments and participated in either interviews or focus groups intended to assess beliefs about multinational teamwork. In June of 2002, our research team was provided access to twenty-eight more SFOR team members, and they were asked to complete the same collective efficacy measure by paper and pencil in English and then they were asked to participate in a pilot run of a communication training program that the Army Research Institute had developed. The pilot study and the communication training materials will be described in a forthcoming ARI report.

A 15-item scale was developed to assess the collective efficacy of the primary teams within the SFOR and to assess the team members' efficacy regarding the HQ as a team. In accordance with recommendations by Bandura and Adams (1977), the items were tailored to capture the essence of the team tasks. Specifically, the intent was to capture beliefs about the 1) specific tasks that are performed as a HQ staff, 2) the complexities associated with the multinational / multicultural nature of this team and 3) the nature of military constraints associated with team performance.

Participants were instructed to rate the extent to which they felt confident that the SFOR HQ could perform each of 15 tasks. They were also asked to rate their primary team (e.g., intelligence team, public affairs team) on the same 15 items. Typical items include: Integrate new team members; Coordinate efficiently, Use different perspectives to solve problems (See Appendix B for all 15 items). Responses are indicated on a Likert scale ranging from 1 (Not at all confident) to 5 (Extremely confident). The inter-item reliability for this scale was .93. This indicates that the individual items appear to be assessing one construct. Whether that construct is collective efficacy cannot be determined with the data we have available (i.e., no construct validity data available). However, the items at least have enough face validity to make a good assumption that they are a valid indicator of collective efficacy.

*Participants.* All of the data to be reported in this report are based on a sample of 68 male soldiers. The majority of team members at SFOR HQ were of field grade rank or higher. Specifically, our sample included 3% Colonels, 32% Lieutenant Colonels, 37% Majors, 20% Captains, 5% Lieutenants and 3% were Senior NCOs. The majority of our participants were officers from the United States (n=13); the next largest representation came from France (n=9) and the United Kingdom (n=7). Some countries were represented by only one officer in our sample, thus no major statistical analyses were conducted based on nationality. For some, the SFOR HQ assignment was their first multinational experience. Our sample ranged from 1 month to 50 months of international experience and the average was 14 months. The amount of time working within the SFOR ranged from 1 month to 24 months, with an average of 6 months.

## Results

The average SFOR team efficacy score was 3.45 on a 1 (Not at all confident) to 5 (extremely confident) scale. Twenty-five percent of our sample indicated that they were either very confident or extremely confident that the SFOR HQ could coordinate as a team to complete their staff work. There was another 25% of the sample that indicated on average that they were



“somewhat confident” or “slightly confident” or “not at all confident” in the ability of the SFOR HQ. The remaining 50% of responses fell between “somewhat confident” and “very confident.” See Appendix C for graphical representation of these data.

It was expected that there would be a positive relation between SFOR team efficacy and the amount of time worked as an SFOR member (i.e., the more time in SFOR, the more efficacious). In fact, we found the correlation between these variables did not approach significance levels. This indicates that perceptions of the SFOR team’s ability to complete multinational staff work is not linearly related to the number of months worked within that team.

It was also expected that experience would be related to reports of collective efficacy. The results indicate that rank (a proposed indicator of experience) was only marginally related ( $r = -.22, p < .09$ ) to collective efficacy of the SFOR team. Surprisingly, the direction of the correlation indicates that higher rank is associated with less efficacious beliefs. Results regarding the other indicator of experience, previous NATO assignments, indicated only a marginal relationship ( $r = .21, p < .10$ ) with SFOR team efficacy.

Incidentally, we also looked at the relation between SFOR team efficacy and primary team efficacy. They were positively and moderately correlated ( $r = .58, p < .000$ ), indicating that more primary team efficacy is associated with more SFOR level efficacy. Additionally a paired sample t-test ( $t = 6.39, df = 64, p < .000$ ) indicates that the mean for SFOR team efficacy ( $x = 3.45, sd = .61$ ) is significantly lower than the primary team efficacy ( $x = 3.87, sd = .56$ ). Additionally, the distribution of scores for SFOR indicates more heterogeneity in responses as compared to the more homogenous responses of primary team members. At a larger/organizational level of teamwork, one could expect a less shared sense of efficacy, so the comparatively more dispersion in the responses at that level would be expected. (See Appendix C for a graphical representation of data).

## Discussion

One of the first things a leader will do upon taking command of troops is to assess or “size up” the capabilities, strengths and weaknesses of his unit as a whole. This “sizing up” contributes to efficacy beliefs that are on target, or accurate, and that allows the commander to use the team appropriately. Newly forming teams also need to make those assessments of their team members and of their ability to coordinate their individual abilities. However, the nature of multinational teams (e.g., language problems, differing work styles and attitudes, differing experience levels and training requirements, etc.) could automatically impede one’s ability to understand other team members’ capabilities and probably make it difficult to coordinate a team effort. Without firmly established shared beliefs about team capability (collective efficacy), teams may have shaky or ambivalent motivation, limited perseverance, and limited team performance.

The level of collective efficacy for the SFOR team appears to be fairly strong. Most participants felt either somewhat or very confident that the SFOR can produce a coordinated effort from a multinational team to make good decisions, solve problems, plan missions, monitor

activities and the like. It is hard to say, how accurate those judgments are without performance data linked to those responses. However, these data indicate that it is possible to get variance in responses on this construct. The fear in measuring collective efficacy with a military sample was that the stereotypical "can do" military attitude would preclude accurate measurement. However, since there was not an overwhelmingly positive response to these questions, it appears that this type of response bias is not necessarily a measurement problem. It is also possible that when there is complete agreement among members on the degree of group competence, we simply have a very cohesive group with a shared sense of capability. Unfortunately, too few studies have examined collective efficacy to understand what the conceptual and measurement implications would be. The scale developed for this project demonstrated inter-item reliability and face validity, so it may be a good first step for collective efficacy measurement.

On a different level, situational influences may also interact with the individual level variables because collective efficacy is dynamic and responsive to direct specific performance feedback. Thus, a recently bungled mission could impact efficacy during one's stay, such that efficacy is high when a soldier comes in, but when a planned operation doesn't work and the world hears about it, then collective efficacy might take a dip. The impact of recent events (which was not measured in this study) may dominate efficacy beliefs so much as to override any type of influence that "team time" might have played. It is very difficult to disentangle the influences without a more focused examination of this construct.

We also examined the impact of rank and previous NATO experience as antecedents to the development of efficacy beliefs. Both of these findings were marginal and thus should not be over-interpreted. However, in thinking about these findings, it was determined that there may be a need to re-examine whether they pass the cross-cultural measures test. In other words, it is possible that the antecedent variables hypothesized to impact the development of team efficacy simply are not reliable variables in a multinational environment. For instance, rank *structure* may be similar across many nations, and may be reliable within nations, however the experience level and competency associated with rank may vary considerably between countries. If this is so, then rank is not a reliable variable for the purpose of multinational research. As an example, a Captain from the German Army may go through a stringent selection process in order to be assigned to the SFOR HQ, however that same rank from the United States may be seemingly, arbitrarily assigned, with or without joint professional military training.

Similarly, a Lieutenant Colonel from the UK may have been deployed with a multinational team for the same amount of time as an American officer, but the American officer hasn't been trained with the same NATO culture that the UK officer experiences. Additionally, the type of multinational military operation would influence the skills attained during that time, and may or may not match the skills needed for the current operation. So, the "number of months in a multinational team" are not equal experiences. Some U.S. soldiers indicated that a six-month rotation at SFOR is just enough time to get "up to speed" on how NATO operates. A UK officer comes into his first month at SFOR already understanding NATO operating procedures, so he could potentially get much more development from the next five months than the American officer. This indicates that the multinational experience variable may not be adequate either. Rank and multinational or joint deployments are good indicators of experience when we are working within our own national system. So, it is not that those variables should be

discounted entirely, quite the opposite. Future research efforts should consider the complexity beforehand and account for it. Potential solutions involve multiple indicators of experience and a more in depth analysis of variables that are considered important.

Theorizing and research concerning influences on training effectiveness must move beyond a simple training program and adopt a more global or systems perspective. Collective efficacy should probably be integrated into that systems perspective of training. Additionally, in attempting to understand collective efficacy, we come away with lessons learned about multinational research. This research simply highlights what many cross-cultural researchers have suspected for quite some time – a shared profession (military culture) cannot override or substitute entirely for a lack of shared culture and norms. We must work to understand how multinational teams can reconcile simple differences that may have a big impact. Strategies used for improving communication about work to be accomplished are an excellent “first” step in training multinational teams. Additional team training for multinational teams can build on that basis, and on the lessons learned in attempting to understand how multi-nationalism impacts all the training constructs with which we will be working.



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## Appendix A

### Defining Training Success

This was a simple exercise intended to help us make our overarching goals explicit. The project scientists were asked to think about and answer the question, "What will make this project a success?" Additionally, we asked ourselves, "What would cause us to think of this work as a failed project?" The answers provided below seemed to be a good starting place for any research team developing training for a multinational team.

#### Success

- A successful methodology for developing highly performing teams is the outcome.
- A successful training to prepare leaders of multinational teams is the outcome.
- A successful preparation for new team members is the outcome.
- The training developed must be self-sustaining, obviously relevant (face validity), and have growth capability (i.e., a plan for expansion to include moving from awareness to skills based training, and then to tools/technology that aid training).
- The training needs to be scientifically grounded and theory oriented.
- The training should be tailorable to mission and locale.
- The training should have evaluation embedded to make sure it is on task.
- The training should be exportable.

#### Failure

- Underestimating or misunderstanding our requirements would lead to failure.
- Offending other national groups, because of cultural insensitivity or misunderstanding would lead to failure.
- Delivering something that just doesn't work would be considered failure.
- Making promises that we realistically can't keep because of timeline (1 year) is considered a failure.
- Good products come out of this, but it gets shelved because no funding or champion exists would be considered failing to a certain extent.
- If our evaluation finds no changes in behavior or awareness, or we can't gauge significant differences, and don't know why there were no changes, then we haven't learned or trained.
- If the developed training works for SFOR HQ, but won't transfer, that might be considered a failure.
- If we don't seek and monitor "buy in" during project, and there is no feedback mechanism to provide a "check" on how our project is being perceived, then we have failed.
- If we create suspicions among other national team members, or reinforce view of American arrogance and do more harm than good, that would be a failure.
- No control group, and no way to rule out rival hypothesis might lead to a failed project.
- If the cultural dimensions/awareness doesn't link to team performance as we suspected and we don't learn why, that would be a failure.
- If the interviews don't produce evidence of cultural dimensions that is understandable, then development of training scenarios could be hindered.





## Appendix B Collective Efficacy Scale

We are interested in your perception of the primary team to which you are assigned (CJ1, CJ2, etc.), and your perception of the Headquarters as a whole. For each question, please provide a response based on your confidence level that the SFOR Headquarters can perform each task, and then indicate your confidence level in the ability of your primary team's ability to perform the same task.

Please use the following scale to respond to the items.

Not at all Confident	Slightly Confident	Somewhat Confident	Very Confident	Extremely Confident
1	2	3	4	5

**How much confidence do you have that the current multinational SFOR HQ, and your primary team can...**

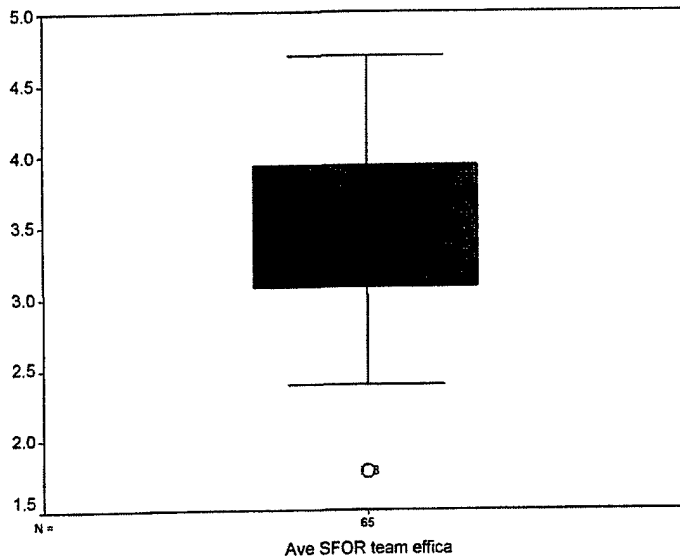
	SFOR HQ	Primary team
1. Integrate new team members	1 2 3 4 5	1 2 3 4 5
2. Develop understanding of new team member capabilities	1 2 3 4 5	1 2 3 4 5
3. Overcome language barriers	1 2 3 4 5	1 2 3 4 5
4. Use different perspectives to solve problems	1 2 3 4 5	1 2 3 4 5
5. Overcome cultural differences in work practices	1 2 3 4 5	1 2 3 4 5
6. Use valuable resources (expertise) effectively	1 2 3 4 5	1 2 3 4 5
7. Identify and resolve conflicts within teams	1 2 3 4 5	1 2 3 4 5
8. Plan missions with a multinational team	1 2 3 4 5	1 2 3 4 5
9. Engage in successful problem solving	1 2 3 4 5	1 2 3 4 5
10. Coordinate efficiently	1 2 3 4 5	1 2 3 4 5
11. Communicate effectively	1 2 3 4 5	1 2 3 4 5
12. Make good decisions	1 2 3 4 5	1 2 3 4 5
13. Develop appropriate recommendations	1 2 3 4 5	1 2 3 4 5
14. Respond flexibly to many types of problems	1 2 3 4 5	1 2 3 4 5
15. Monitor activities in their area of operations	1 2 3 4 5	1 2 3 4 5



## Appendix C

### Visual Representation of SFOR and Primary Team Collective Efficacy

Box Plot Graphic of the Average SFOR Team Efficacy Response

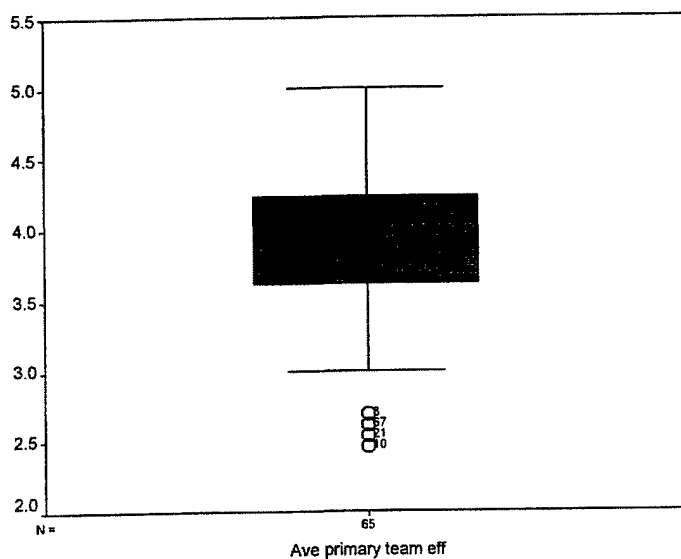


Range of Scale: 1-5

Range of responses: 1.77 - 4.69

Percentiles: 25% - 3.04; 50 % - 3.39; 75% - 3.92

Box Plot Graphic of the Average Primary Team Efficacy Response



Range of Scale: 1-5

Range of responses: 2.46 - 5.0

Percentiles: 25% - 3.62; 50 % - 3.92; 75% - 4.23

