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**Effective U.S. Military Training  
Increases Battlefield Confidence of  
Partner Forces: A Replication Study**

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## Introduction

Training partner and allied military/police forces is a core component of U.S. foreign policy. Yet the United States (U.S.) has had mixed successes in partner force training. In the case of Afghanistan, billions of dollars and years of partner force training culminated in a quick dissolution of the partner force when they faced the Taliban without U.S. military support. On the other hand, less training and funding was needed to successfully support the Ukrainian Army during their initial defense against Russia's invasion. These recent high profile cases have brought about a fundamental question: why do some partner forces fight while others do not?<sup>1</sup> Department of Defense (DoD) and intelligence analysts have struggled with this question, potentially because there has been little empirical research focusing on (1) how to determine whether a partner force has been trained adequately to fight without U.S. military support, and (2) which factors increase the likelihood of partner force training success.

In one of the relatively few studies on this topic, the impact of U.S.-led Coalition training on partner force "battlefield participation" was assessed in Peshmerga, a Kurdish Iraqi unit that the U.S. trained and equipped during Operation Iraqi Freedom (OIF).<sup>2</sup> Battlefield participation is a construct that represents the likelihood of a soldier fleeing or hiding during combat. The findings of the study showed Peshmerga who were not trained by Coalition forces reported lower battlefield participation than Peshmerga trained by Coalition forces. This investigation provided important information about battlefield participation, but it also revealed additional questions that remain unanswered. The current study aimed to replicate the findings of the Peshmerga study in a Syrian Kurdistan trainee sample while expanding on a few key points.

The Peshmerga study examined battlefield participation as a static measure, but it is likely that battlefield participation is dependent on situational factors. For instance, it is possible that battlefield participation varies depending on whether the U.S. is militarily supporting the mission. This would explain why some partner units can fight relatively effectively alongside the U.S. but quickly fall apart when U.S. military support is withdrawn. Aim 1 of the current study was to determine whether partner force trainee "battlefield confidence" differs with and without U.S. support. Battlefield confidence, rather than participation, was used as the construct of interest so that trainees without combat experience could be surveyed. It was hypothesized that trainee battlefield confidence without U.S. military support would be significantly lower than battlefield confidence with U.S. military support.

The Peshmerga study also did not account for the extent of partner troop training. In other words, the study focused on whether *any* Coalition training (vs. no training) increased battlefield participation rather than *how much* training is necessary to increase battlefield participation. Aim 2 of the current study was to address this gap by assessing whether battlefield confidence was related to (1) the length of time training with the U.S., and (2) trainee tactical skill acquisition levels (i.e., a proxy for training effectiveness). It was hypothesized that those who were trained for

longer by the U.S. and those with higher subjective tactical skill acquisition would have higher battlefield confidence for combat without U.S. support.

Lastly, to my knowledge, no studies have assessed how cultural, religious, or language differences between U.S. trainers and partner force trainees impact training quality. Reports from the field have shown there are considerable and consequential differences between U.S. troops and foreign trainees (e.g., between the Afghan National Army and U.S. troops).<sup>3</sup> These differences may contribute to tension between the units, which could result in poor training quality. Assessing the “cultural distance” between U.S. trainers and foreign trainees—and how the distance impacts training effectiveness—has not been studied. Aim 3 will be to conduct an exploratory assessment of whether cultural, religious, and language differences between U.S. trainers and foreign trainees is related to subjective tactical skill acquisition. It was hypothesized that trainees who endorsed a higher cultural distance from U.S. trainers would report lower tactical skill acquisition.

## **Methods**

### *Participants*

Participants were from a unit in Syrian Kurdistan being trained by the U.S. Special Operations Forces (SOF). The unit is a direct action raid force whose primary mission is to conduct counter-terrorism action. Due to the active military situation in Syrian Kurdistan between the U.S., Kurdistan, ISIS, Turkey, and others, a convenience sample<sup>4</sup> of 25 participants was collected for this study.

### *Data Access*

Data collection was facilitated by the Rojava Information Center (RIC), an independent organization in Northeast Syria that provides on-the-ground support to local and international researchers and reporters. The RIC enabled information exchange with the military unit.

### *Survey*

An English-language pen-and-paper survey was created by the researcher, and the RIC created a translated Arabic-language version for participants. The RIC corresponded with a military leader who facilitated the distribution and collection of the surveys to the participants. The completed surveys were kept in a closed envelope until images of the surveys were transmitted digitally to the researcher.

In order to reduce biases from impression management, instructions on the survey notified participants that their leaders and U.S. trainers would not see their survey responses. Participants were instructed to provide honest responses that reflected their own personal experience.

There were four blocks of items on the one-page survey. The first block contained items that queried demographic information of participants, including age, gender, years in the military, and years in the unit.

Blocks 2 through 4 are listed in Table 1. Block 2 assessed soldier battlefield confidence with and without U.S. military support during combat.

Block 3 asked soldiers to rate their subjective tactical skill level for marksmanship, physical fitness training (PT), command and control (C2), medical and casualty training, and raid conduction. They were asked to rate skills twice, once representing their skill level prior to being trained by the U.S., and once representing their current skill level.

Lastly, Block 4 assessed potential subjective cultural distance between trainees and U.S. trainers. In particular, participants were asked to rate whether U.S. trainers respected the culture and religion of the soldiers, and they were asked whether language differences made it difficult to communicate. These three variables were averaged to create a “cultural distance” score.

### *Statistics*

Descriptive samples (mean  $\pm$  standard deviation) were used to identify the central tendency of demographic variables.

For Aim 1, confidence levels with and without U.S. military support were compared using paired sample *t*-tests. For Aim 2, subjective skill levels from before and after U.S. training were compared using paired sample *t*-tests. A difference score was created for each skill (current skill level minus skill level prior to U.S. training) to represent subjective skill acquisition (i.e., training effectiveness). Length of training time and training effectiveness scores were correlated with battlefield confidence using Pearson’s correlations. For Aim 3, Pearson’s correlations were conducted between training effectiveness and the cultural distance score.

## **Results**

Twenty-five soldiers participated (22 male). Participants had been in the military for  $4.96 \pm 2.44$  years and had been in the current unit (trained by the U.S.) for  $3.40 \pm 1.38$  years.

As hypothesized, trainee confidence without the U.S. was significantly lower than with the U.S. (mean of  $8.76 \pm 1.79$  and  $9.68 \pm 1.22$ , respectively;  $t(24) = -2.09$ ,  $p = .047$ ), though it was generally high in both scenarios.

Subjective tactical skill levels before and after U.S. training are shown in Table 2. Soldiers reported a significantly higher proficiency level for each skill following U.S. training (marksmanship:  $t(24) = -12.02$ ,  $p < .001$ ; PT:  $t(24) = -5.90$ ,  $p < .001$ ; C2:  $t(24) = -8.25$ ,  $p < .001$ ; Medical:  $t(24) = -8.45$ ,  $p < .001$ ; and Raids:  $t(24) = -4.05$ ,  $p < .001$ ). The trainees broadly endorsed high skill levels following U.S. training.

Correlations are presented in Table 2. Contrary to the hypothesis, there was no relationship between length of training with the U.S. and battlefield confidence. However, as predicted, troops who had a higher gain in tactical proficiency as a result of U.S. training for medical care and raid conduction reported higher battlefield confidence for missions without support from the U.S.

Generally, trainees felt positively about U.S. trainers and largely endorsed that there were no cultural, religious, or language conflicts between groups. However, there was a correlation between the cultural distance variable and medical training, such that those who believed there was a smaller cultural distance between the trainers and the trainees had a higher subjective gain in tactical proficiency for medical training (Table 2). There were no additional correlations.

## **Discussion**

The U.S. regularly supports its allies and partners through military/police train and equip missions. However, the U.S. has had mixed success with partner force training, potentially because there has been little empirical work on how to quantify whether a partner force has been trained adequately to fight without U.S. military support and which factors increase the likelihood of partner force training success. This study sought to begin investigating these topics in a small sample from a Syrian Kurdish militia that was being trained by the U.S.

Battlefield confidence was examined as a proxy of trainee “readiness” to fight. Trainees in this sample reported having significantly higher battlefield confidence with U.S. military support than without U.S. military support. To practitioners who have worked in the field, this may seem like an obvious finding, as it is common for partner force troops to fight moderately well alongside of the U.S. but then to flee or dissolve when the U.S. removes military support. However, prior to this study, to my knowledge, battlefield confidence had generally been described as a static metric<sup>2,5</sup>. The results presented here suggest that future studies on these topics, and military trainers who are seeking to gauge battlefield confidence in the future, should focus on these constructs separately.

How much training is necessary in order for trainees to feel confident during combat? In this sample, contrary to predictions, there was no correlation between U.S. training duration and battlefield confidence. However, subjective tactical skill acquisition (a potential proxy for training effectiveness) was correlated with battlefield confidence. Specifically, unit members who felt they had a higher tactical gain in medical/casualty care and raid conduction felt more confident to conduct missions without the U.S. The latter finding is particularly important, as this unit is specifically trained to conduct raids against terrorist groups in the region. Therefore, the trainees who were best trained to conduct the primary mission type for this unit felt they could do so unaccompanied by the U.S. Collectively, these findings suggest that the effectiveness of training—rather than the time spent training a unit—may influence battlefield confidence.

An exploratory assessment in this study focused on cultural, religious, and language differences between trainers and trainees. As mentioned, previous studies have shown there were large cultural

differences between U.S. trainers and Afghan trainees, and these cultural differences may have impacted training quality.<sup>3</sup> Here, unit members who reported a larger cultural distance endorsed lower medical/casualty care training skill acquisition. It is possible that differences between trainers and trainees reduced the likelihood of effective training. However, a replication of these findings with a larger sample size will be necessary in order to confirm the relationship between those two factors. If these findings are replicated, it may be necessary to enhance cultural and language education of U.S. trainers performing these duties.

These findings are a replication and expansion of a study previously conducted with Peshmerga troops in Iraq. The Peshmerga study found unit members with Coalition training were less likely to endorse hiding or fleeing during combat than Peshmerga members without Coalition training. The author of the Peshmerga study created a model to describe the factors that influence battlefield participation (Figure 2). The results here are a replication of those findings and are in support of the author's model, as trainees with better subjective skill acquisition endorsed greater battlefield confidence (the findings of the current study are highlighted in red on the model). However, the Peshmerga study did not distinguish between battlefield participation with and without U.S. combat support. The current study extends the Peshmerga findings to demonstrate that increased skill acquisition increases battlefield confidence without support from the U.S. It also extends those findings to suggest that trainees need to make tactical gains in order to have higher battlefield confidence. Put simply, training increases battlefield confidence, but the quality of the training matters.

### *Limitations*

The findings presented here must be interpreted in the context of the study limitations. Most notably, this study had a small sample size. This puts the study at risk for Type II statistical error (false negatives).<sup>6</sup> Therefore, non-significant results should be interpreted with caution. This was a convenience sample that was captured in the wake of an ongoing civil war in Syria. Capturing data from a larger sample would have been difficult and disruptive to the unit. Despite this limitation, the findings presented here replicated and expanded upon previous findings of a larger study that was conducted with a similar sample, suggesting fidelity of the findings. Still, the novel findings from the current study—particularly those on trainee/trainer cultural distance—should be considered preliminary until replicated in a larger sample size.

This study included subjective metrics that may not be fully representative of behavior in naturalistic settings. For instance, it is unknown whether high subjective ratings of battlefield confidence translate to a likelihood of holding one's ground and not fleeing/hiding during combat. As has been discussed elsewhere, it is difficult to capture an objective metric of this construct.<sup>2</sup> Nevertheless, future studies should aim to validate this subjective measure against real-world indices of confidence. Similarly, the metrics used in this study to represent tactical skill level should be compared to objective measures of performance, if possible. This study also did not use a validated measure of "cultural distance." To my knowledge, validated measures of cultural

distance are intended for individuals who visit a foreign culture.<sup>7,8</sup> Those metrics are not relevant to a military trainer-trainee relationship. Future studies on this topic should aim to create metrics that are more representative of cultural distance within a military training setting.

### *Conclusion*

Taken together, these findings provide data to support common sense notions that have been experienced by U.S. trainers in the field. These findings show that battlefield confidence of trainees is lower when the U.S. military is not providing support. Trainees who felt they had been trained better on their primary mission (raid conduction) felt more confident to operate without support of the U.S. Lastly, cultural barriers may negatively impact training quality, though these findings are preliminary. The results of this study are in support of a broader model suggesting training effectiveness influences battlefield confidence and participation.

**INSTRUCTIONS: Answer the questions on the left by drawing a circle around corresponding number on the right.**

How confident are you in your readiness for combat with support from U.S. forces? (Low) 1 2 3 4 5 6 7 8 9 10 (High)

How confident are you in your readiness for combat without support from U.S. forces? (Low) 1 2 3 4 5 6 7 8 9 10 (High)

**INSTRUCTIONS: Please indicate your knowledge/skill level for the following components before beginning U.S. training and your current level by drawing a circle around a number on the left and the right side.**

	<u>Skill/knowledge level before U.S. training</u>	<u>Current skill/knowledge level</u>
Marksmanship	(Low) 1 2 3 4 5 6 7 8 9 10 (High)	(Low) 1 2 3 4 5 6 7 8 9 10 (High)
Physical fitness training	(Low) 1 2 3 4 5 6 7 8 9 10 (High)	(Low) 1 2 3 4 5 6 7 8 9 10 (High)
Command and control	(Low) 1 2 3 4 5 6 7 8 9 10 (High)	(Low) 1 2 3 4 5 6 7 8 9 10 (High)
Medical and casualty training	(Low) 1 2 3 4 5 6 7 8 9 10 (High)	(Low) 1 2 3 4 5 6 7 8 9 10 (High)
Conducting raids	(Low) 1 2 3 4 5 6 7 8 9 10 (High)	(Low) 1 2 3 4 5 6 7 8 9 10 (High)

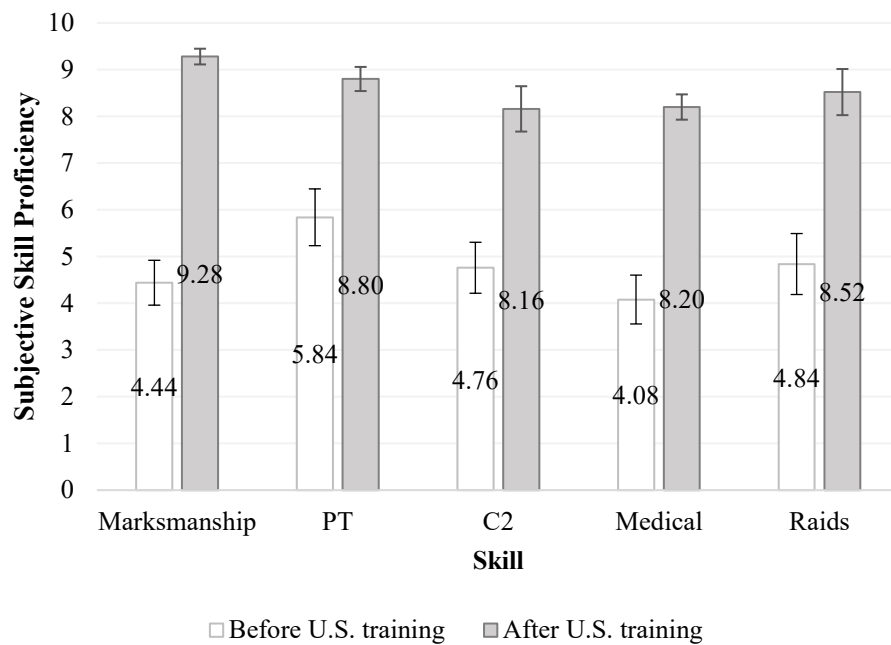
**INSTRUCTIONS: Think about the differences between you and the U.S. trainers. Read the statement on the left and circle one of the corresponding options on the right.**

U.S. trainers respect [unit] cultural practices	Strongly disagree	Slightly disagree	I'm not sure	Slightly agree	Strongly agree
U.S. trainers respect [unit] religious practices	Strongly disagree	Slightly disagree	I'm not sure	Slightly agree	Strongly agree
Language differences between [unit] and U.S. trainers did not interfere with communication	Strongly disagree	Slightly disagree	I'm not sure	Slightly agree	Strongly agree

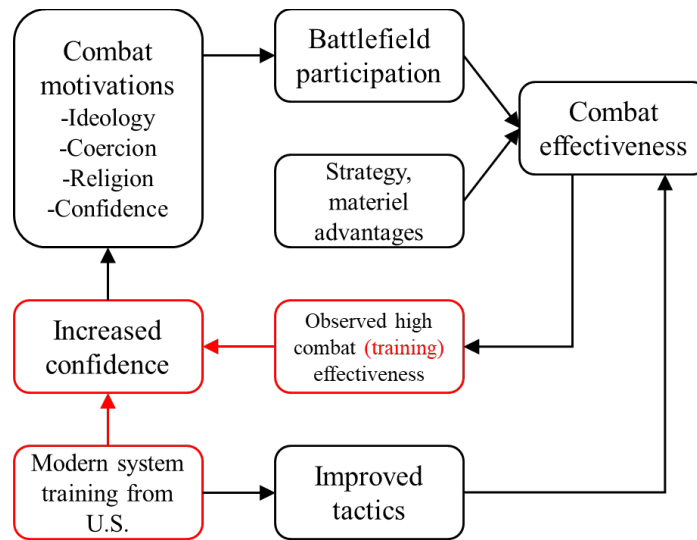
**Table 1. Survey items. For the purpose of anonymization, the unit name was replaced with "[unit]".**

	Confidence without U.S.		Training length (years)		Cultural distance	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Marksmanship	-.05	.82	.02	.91	.10	.63
PT	.13	.55	-.02	.93	.14	.50
C2	-.29	.15	.01	.99	.02	.94
Medical	<b>.44</b>	<b>.03</b>	.16	.45	<b>.58</b>	<b>.002</b>
Raids	<b>.43</b>	<b>.03</b>	.30	.15	-.11	.62

**Table 2. Correlations between skill acquisition, confidence of missions without the U.S., training length, and cultural distance. Bold indicates statistical significance.**



**Figure 1. Subjective skill proficiency before and after U.S. training.**



**Figure 2. A model of the relationship between combat motivations, confidence, combat effectiveness, and other relevant factors, adapted from Cancian 2022.<sup>2</sup> Red outlines/text indicate components of the model supported by the current study.**

## References:

1. A. Mackinnon, "Will They Fight? Washington Wants to Know," *Foreign Policy*, August 17, 2022.
2. M. Cancian, "The Impact of Modern-System Training on Battlefield Participation by Kurdish Soldiers," *Journal of Conflict Resolution*, 2022;66(7-8): 1449–1480. <https://doi.org/10.1177/00220027221078332>.
3. J. Bordin, "Crisis of Trust and Cultural Incompatibility: A Red Team Study of Mutual Perceptions of Afghan National Security Force Personnel and US Soldiers in Understanding and Mitigating the Phenomena of ANSF-Committed Fratricide-Murders." Paper presented at: United States, Department of the Army 2011.
4. I. Etikan, SA Musa, and RS Alkassim, "Comparison of Convenience Sampling and Purposive Sampling," *American Journal of Theoretical and Applied Statistics*, 2016;5(1): 1–4.
5. T. Kolditz, L. Wong, R. Millen, and T. Potter, *Why They Fight: Combat Motivation in the Iraq War*. Strategic Studies Institute (U.S. Army War College Press, 2003).
6. P. Sedgwick, "Pitfalls of Statistical Hypothesis Testing: Type I and Type II Errors," *BMJ*, 2014;349.
7. T. Greene, J. Buckman, C. Dandeker, and N. Greenberg, "The Impact of Culture Clash on Deployed Troops," *Military Medicine*, 2010;175(12): 958–963.
8. KA Demes, and N. Geeraert, "Measures Matter: Scales for Adaptation, Cultural Distance, and Acculturation Orientation Revisited," *Journal of Cross-Cultural Psychology*, 2014;45(1): 91–109.



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