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How a Multidimensional View of Perceived Organizational Support Impacts Self-efficacy and task Understanding during Training for Boundary Spanning Tasks

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HOW A MULTIDIMENSIONAL VIEW OF PERCEIVED ORGANIZATIONAL SUPPORT IMPACTS SELF-EFFICACY AND TASK UNDERSTANDING DURING TRAINING FOR BOUNDARY SPANNING TASKS

THESIS

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Abstract

Perceived organizational support (POS), or how much an employee feels the organization they work for cares for them and assists them in their needs, has been traditionally characterized in a single dimension. The implications of a multidimensional view of POS were examined in this study. POS was separated into three different dimensions based on the organizational level from which support can be viewed to originate: corporate headquarters, the home office, and the training environment. These dimensions of POS were tested to discover their effect on self-efficacy and task understanding of individuals training for boundary-spanning tasks. Such tasks are those that place the employee in an environment, culture, and/or duties outside of their organization. For this study the perceptions of United States Air Force Airmen deploying overseas to serve in Army duties were researched. Results of the study showed that Office POS had a direct positive effect on both self-efficacy and task understanding on these boundary-spanning individuals.

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R. Scott Wallace

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HOW A MULTIDIMENSIONAL VIEW OF PERCEIVED ORGANIZATIONAL SUPPORT IMPACTS SELF-EFFICACY AND TASK UNDERSTANDING DURING TRAINING FOR BOUNDARY SPANNING TASKS

I. Introduction

Background

The purpose of this paper is to research the area of perceived organizational support and the influence it has on self-efficacy and task understanding as it applies to the training that organizational members receive before being assigned duties that lay outside their normal job description and environment. Economic instability, movement of jobs overseas, emerging markets, and political unrest throughout the world give rise to many situations in which organizations must move competent personnel to new positions within new environments in order to keep up with demand. Additionally many organizations view that acquiring or merging with other organizations of varying sizes will help improve efficiency. The individuals within the organizations involved in this drastic change must possibly now adapt to new organizational cultures and duties. How the organizations set up support and training to help their employees span boundaries, adapt to these changes, gain confidence in their ability, and understand the new task required of them could drastically affect the success of the outcome.

An example of organizational changes that might demonstrate how perceived organizational support (POS) affects the confidence and task understanding of employees can be found in the current situation of support personnel within the United States Air

Force (USAF). Current deployments to operations overseas place many Airmen at greater risk of direct combat operations than they have faced in the past (May, 2005). With the onsets of Operation Enduring Freedom (OEF) in 2001 and Operation Iraqi Freedom (OIF) in 2003, the role of many Airmen, especially those from support career fields, began to change. Typically in the past, the majority of USAF personnel were further removed from the front lines than the average soldier. The protection of high valued assets and the ability to strike from long distances allowed bases to be located far from dangerous regions. With the current threat of insurgent and terrorist activity increasing drastically, the safety regions around USAF installations have shrunk dramatically. The role of Airmen has also begun to shift towards a more combat and defensive posture. Airmen are asked daily to perform the duties typically reserved for the United States Army (USA). Supply convoy security, field engineering, post-war reconstruction, and other USA duties are being tasked to USAF personnel. Because of the historical removal from imminent threat, the training provided to most USAF personnel is very limited in combat reactions and only slightly greater for personal protection.

These changes in regards to duties and cultural environment that Airmen face when tasked to serve with the Army can be directly compared to employees of organizations that go through departmental restructuring, corporate mergers, job retraining, or expatriate assignments. Likewise the training, support functions, and interventions that the USAF put in place to prepare their Airmen for the transition are

examples of the support that organizations provide to their employees who participate in the above mentioned work place changes.

Research Focus

The focus of this study centered on how POS influences the self-efficacy and task understanding that individuals receive after completing training targeted to enhance their ability to perform boundary-spanning tasks. And because support can be perceived to come from different parts of an organization this study focused on how the support perceived by the corporate levels of the organization (Corporate POS), the perceived support by the division or office in which the individual works (Office POS), and the support the training organization provides during training (Training POS) ultimately affects the individual's self-efficacy to accomplish new tasks and task understanding.

Problem Statement

In large organizations, individuals are subject to varying levels of organizational support. Corporate level support may come in the form of incentive or training programs institutionalized throughout the organization to help move departments and/or individuals towards a specific goal. Support may also come directly from the office or division that individual belongs to. Any assistance received from the office in which the individual works that benefits or detracts from the necessary changes of behavior needed to accomplish the goal can affect the confidence gained by the individual toward his/her ability. Furthermore, support can come from the organization set up to train individuals. In this study, Training POS is defined as the administrative and resource support offered

by the training organization and is not a reflection of the actual training material or effectiveness.

This research determined to what level POS influenced the self-efficacy and task understanding of the individuals participating in the studied training regimens. The study also attempted to discover to what degree POS varies from one level of the organization to another. And finally, different demographic and situational moderators were tested to understand the degree of influence they had on the connections between POS, self-efficacy, and task understanding.

Implications

In the face of a shrinking Air Force and the additional needs of the other armed services, the requirement of the Airmen to span boundaries and perform duties that do not follow their core training will continue to increase. The same can be said when viewing organizations within the corporate arena. Increased competition from a growing world-wide marketplace forces organizations to rethink processes, business structure, and resource possibilities. In the military arena new enemy tactics are conceived and introduced into the battlefield each day. While the weapons may not be as lethal in the commercial world, the continual increase of knowledge and technology allow for ever changing corporate tactics. Adaptability within the organization is critical for success. And just as the military continually changes training and support programs to prepare troops to the best of their ability, like measures are taken in the economic arena to do the same. Given this, it is essential that a basic understanding of factors that influence the effectiveness of the individual to learn new concepts, retain the training, and change

behavior be developed. This will enable trainers to concentrate on proven methods, focusing on individual factors, while adapting to new situations. This study hopes to show that the degree of support that each level of the organization provides to the training of individuals is an important factor leading to training confidence and improved performance.

Preview

The first chapter of this thesis is set aside as an initial introduction to the study, the dependent and independent variables involved, the hypotheses in question, reasons behind the study, and implications for the results. The second chapter will be an in-depth literature review of the main variables of perceived organizational support and self-efficacy and task understanding. Literature concerning training effectiveness, boundary-spanning roles, and statistical methodology will also be reviewed. The third chapter will define the methods used in the study to test the hypotheses and the measures used to gather the data. The fourth chapter will discuss the results of the study while the fifth chapter will discuss conclusions and any view on further research in the subject.

II. Literature Review

Chapter Overview

This chapter provides an overview of recent studies and research on theory and application of self-efficacy, task understanding, and perceived organizational support. The literature review begins by examining job performance in the context of self-efficacy. Self efficacy is defined and divided into several dimensions. Information on how an individual's self-efficacy can be affected by social and environmental factors as well as effective training is also presented. Studies are also reviewed that show the importance of task learning and understanding to training evaluation and effectiveness as well as to job performance. The review then concludes by defining perceived organization support from the literature and how it has been used in predicting success in varying measures of performance.

Self-efficacy

Many psychological theories and research concentrate on how individuals gain task knowledge. Much of Bandura's work (1982) went into expanding the understanding of the relationship that exists between knowledge and action upon that knowledge. He explained that a person's self-perception influenced emotional arousal, thought patterns and actions. He explained that an individual will not always perform at top efficiency despite the fact that they possess the appropriate knowledge. Bandura ascribes this knowledge-to-action gap to the individual's self-perception, or self-efficacy related to their abilities. The higher a person's self-perception of their ability, the more their

knowledge will be translated into action. Bandura defined self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances (1986, p. 391)." Efficacy is not the measure of the skill one has, nor is it a judgment of likely outcomes of behavior, but the judgment of one's capabilities to complete specific tasks to a certain level of performance. Bandura (1977) described the difference between efficacy expectations and outcome expectations with the diagram in figure 1. Efficacy expectation is the confidence that an individual has in performing a behavior before the actual performance. This differs from outcome expectation in the time the confidence is measured. Outcome expectation is measured just after the behavior is performed and details what the individual believes the outcome will be based on their performance.

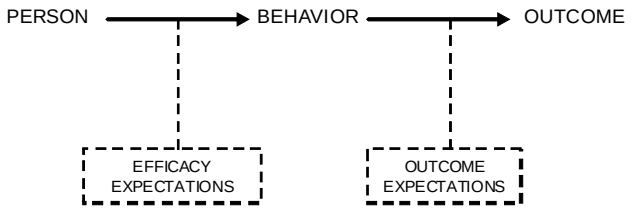


Figure 1: Diagrammatic representation of the difference between efficacy expectations and outcome expectations (Bandura, 1977).

Bandura (1982) also moved forward to show that self-efficacy can help account for various psychological phenomena such as levels of physiological stress reactions, resignation and despondency to failure, achievement strivings, and career pursuits.

Schunk (1982) stated that individuals evaluate personal factors of perceived ability, effort expenditure, task difficulty, performance aids, and patterns of outcome when determining their own self-efficacy. Those with low efficacy may avoid tasks, put

little effort towards difficult tasks, and/or experience high degrees of stress while those with higher efficacy may attempt tasks more often, display vigorous efforts, and handle anxieties better. He also stated that positive educational practices will have a positive effect on a student self-efficacy of their abilities.

Schunk (1996) studied the differences between self-efficacy in learning environments and self-efficacy related to task performance. He showed that an individual's judgment on their ability to learn a task does not correspond as well as their judgment to perform the task outside the learning environment. Few students accurately assess their ability to learn with most displaying overconfidence. This moves Schunk to advise researchers to focus on post training tests of self-efficacy that will describe the confidence gained through the training, rather than pre-training tests of learning self-efficacy that show how confident one is that they will be able to learn.

Process to develop self-efficacy

Bandura (1977) and Schunk (1982) discuss four types of environmental and social interactions that directly related to increased self-efficacy: performance attainments, vicarious experience, verbal persuasion, and emotional arousal. An individual's actions, or performance attainments, provide the most predictive information about self-efficacy (Schunk, 1982). Those who experience repeated successes at tasks likely achieve a higher efficacy than those experiencing failure. However, failure can lead to higher efficacy if followed by success, demonstrating that difficulties can be surmounted (Bandura, 1977).

Self-efficacy can also be gained by vicarious experience. These observations of others can come in the forms of demonstrations and comparison with peers. This gained efficacy can be altered by personal efforts after the observation (Schunk, 1982).

People can acquire efficacy through persuasion as well. Superiors and instructors engage in encouraging individuals to work diligently and convincing them that they have the capability to succeed. However, this type of self-efficacy enhancement must be validated by subsequent task success (Schunk, 1982).

The level of stress that a person experiences while performing a task may also serve to adjust their level of efficacy. Physiological indices such as sweating or the lack thereof may indicate to the individual whether or not they will be able to complete the task (Schunk, 1982).

In addition to these four areas, Tsai, Chen, and Liu (2007) successfully showed that positive moods can also increase an individual's self-efficacy which then enhances task performance. Unhappy employees and those under high stress generally had lower self-efficacy and task performance.

In the end, multiple factors can affect the attainment of self-efficacy towards a task with some having a stronger influence than others. The research on self-efficacy shows that the influencing factors are varied and can affect individuals in different ways.

Self-efficacy and Training Effectiveness

Self-efficacy has been included in widely used models of training effectiveness (Kirkpatrick, 1996) and has been shown to positively affect training outcomes (Bandura, 1977, Salas & Cannon-Bowers, 2001). Theories of expectancy and self-efficacy suggest

that trainees believe that they can learn essential task skills from training and that their performance will increase as a result (Noe, 1986). It has also been shown that self-efficacy mediates the relationship between training and newcomer adjustment and the ability to cope and job performance (Saks, 1995). While many studies have been performed showing that self-efficacy can make training more effective for an individual, Jennings (1991) and Berghorn and Lewis (1992) showed that changes in self-efficacy from before training to afterwards can be used as a proxy for measuring training effectiveness. Lawrence in 1997 also used self-efficacy to measure training effectiveness both for the individual and for teams going through training together. The predictive validity that self-efficacy has towards training effectiveness is important in the implications of this study. Due to the difficulty in gathering sufficient data on changes in behavior and results of training, other measures of effectiveness, such as self-efficacy, might be beneficial to trainers. And while training effectiveness was not examined in this study, the results gathered in this study could be of benefit to those interested in training effectiveness research.

Self-efficacy and job performance

Just as training effectiveness was not focused on in this study, measures of job performance were not examined during the course of this research; however, improved performance in the job is always of concern to organizations, and the predictive validity of self-efficacy to job performance led this study to examine more in depth how one gains self-efficacy. There are needs in the world to obtain new skills or perform new types of jobs. Self-efficacy can have an important role in progressing to these new

opportunities. A meta-analytic review of newcomer adjustment showed that role clarity and self-efficacy are positively influenced by information seeking and the tactics with which the organization uses to indoctrinate new employees (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007). These increases in self-efficacy and role clarity assist in raising performance and job satisfaction. Black and Mendenhall (1990) stated that the majority of individuals attempting to work outside of their own culture will fail, or have low performance, due to their inability to adjust to a new environment. Due to the difficulty in adjusting, they stated that social learning theory and self-efficacy should be an important factor when training individuals who will perform functions in a cross-cultural arena as they will increase the ability to cope in a new environment.

Task understanding and the process to develop it

Much research has been done in the attempt to measure the effectiveness of training. Kirkpatrick, a leader in this field, emphasized that there are four levels to training evaluation: reaction, learning, behavior, and results (1959a, 1959b, 1960a, 1960b). While the reaction level deals with how the students feel about the training, the learning level is a measure of the knowledge gained, skills improved, or attitudes changed during the training. Behavior and results are measurements, occurring after the training has been implemented on the job, dealing with actual change in job performance and measurement of final results.

Based on Kirkpatrick's work, many training evaluation models have been developed in the literature that include learning and task understanding as a primary factor in the evaluation (Mathieu, Tannenbaum, & Salas, 1992; Alvarez, Salas, &

Garofano, 2004; Cannon-Bowers, Salas, Tannenbaum, & Mathieu, 1995). Additionally these models show that organizational characteristics also have an effect on the learning gained through training. Alvarez et al. described the small number of articles within the literature that investigated the characteristics of the organization as they relate to training. Those that do were varied enough as to be measuring different constructs. Thus the whole of organizational characteristics were termed positive transfer environment and included in the model (Alvarez et al., 2004). POS is another organizational characteristic that was examined in the present study to understand its effect on the learning and task understanding portion of training evaluation.

Task Understanding and Job Performance

Various studies have been performed measuring how work experience impacts job performance. In a review of these studies Quiñones, Ford, and Teachout showed that all measures of work experience displayed a positive relationship with job performance; however, when work experience was measured as a function of task understanding and task complexity a much stronger positive relationship with performance was discovered than when experience was measured by tenure in a job (Quiñones et al., 1995). This implies that the more an individual understands tasks and performs them has a greater impact on the outcome of performance than the length of time the individual has been performing the tasks. Other studies directly link task understanding and job knowledge with job performance and suggest job knowledge tests as a representative of job performance when considering promotions (Hunter, 1986)

Perceived Organizational Support

Perceived Organizational Support has been defined as an employee's "global beliefs concerning the extent to which the organization values their contribution and cares about their well-being (Rhoades Shanock & Eisenberger, 2006, p. 689)." These beliefs stem from ascribing human characteristics upon the organization, giving the organization in entirety behaviors that allow it to hold responsibility of the individual employees. Employees subconsciously view that the organization is an entity that can enact policies, define role behaviors, and exert power over the individual (Eisenberger, 1986). POS has also been defined as an "assurance that aid will be available from the organization when it is needed to carry out one's job effectively and to deal with stressful situations (Rhoades & Eisenberger, 2002, p. 698). This view leans more towards perceived methods and programs that the organization uses to assist the employees to work productively and overcome obstacles.

Organizational support theory states that the development of POS stems from the human characteristics assigned to the organization. Actions taken by organizational agents are viewed as being the will of the organization and not a personal intention of the agent (Rhoades & Eisenberger, 2002). This support is more favorably received if it is viewed to come willingly instead of being forced by circumstances beyond the donor's control. The theory also states that POS should produce feelings of obligation from the employee to work towards the organizations goals and welfare. POS should fulfill socioemotional needs by leading workers to add organizational membership as part of

their social identity. Additionally, POS should strengthen employees beliefs that the organization rewards increased performance (Rhoades & Eisenberger, 2002).

POS as a multidimensional construct

While almost all research involving POS has conceptualized it as a single construct, the expatriate study performed by Kraimer and Wayne (2004) attempts to define POS as a multidimensional construct. In this study Kraimer and Wayne divide POS into the three dimensions of adjustment POS (support directed towards the employee's adjustment to the job transfer), career POS (support directed towards the employee's career), and financial POS (support directed towards employee's financial needs in terms of compensation and benefits). While POS as a whole can be a predictor of expatriate success, Kraimer and Wayne show that a multidimensional look at POS can shed further light on why success is gained.

In a meta-analytical review of the POS literature, Rhoades & Eisenberger (2002) state that there are three forms of positive treatment and two employee characteristics that will increase POS: fairness, supervisor support, and organizational rewards along with the employee's personality and demographic characteristics. Of the five antecedents, fairness, supervisor support, and rewards, which are organizationally related, strongly affected POS while the employee characteristics were weakly related. The results of the study support the idea that POS should be examined using multidimensional factors. In the same study, Rhoades and Eisenberger show that the consequences of high POS are increased organizational commitment and job-related affect, a moderate increase in job involvement and performance, and a moderate decrease in strains (2002).

In the current study POS was considered a multidimensional variable as well; however, the dimensions were defined differently and stratified based on organizational level. First, Corporate POS is the support from the upper echelons of the organization where policy and decisions are made affecting from large portions of the organization to the entire organizational culture. Second, Office POS is the support that is perceived to come from the area within the organization to which the employee directly works. Lastly, Training POS is the support received from elements of the organization directly responsible to the training and adjustment of employees to new tasks. And while training can have a great effect on changing the behaviors of individuals, Training POS is only defined as the support offered by the training organization itself and not the training curriculum.

POS and Boundary-spanning Roles

Rhoades Shanock & Eisenberger (2006) have also shown that perceived support from a direct supervisor is associated to the POS of an employee along with their in-role and extra-role performance. A boundary-spanning employee study performed by Stamper & Johlke (2003) shows that POS has a direct negative effect on role ambiguity and conflict, which in turn negatively affect performance, stating that companies with high support are more likely to explain work norms and expectations reducing the ambiguity and conflict between roles. Boundary-spanning employees are those who directly work with individuals from outside the organization and thus spend a great deal of their time out of the organizational culture. Many studies conducted concerning boundary-spanning individuals have focused on employees in customer service roles who

work with customers outside of the organization (Johlke, 2003, Tushman & Scanlan, 1981, Leifer & Huber, 1977). This study has expanded the role of boundary-spanning employees to include those individuals sent out of the organization to perform task for an unattached entity. The stresses and uncertainty of individuals in traditional boundary-spanning roles can be applied to this additional group of people.

POS has also been shown to positively impact the success of individuals who work as expatriates for their organization. The study performed by Kraimer and Wayne (2004) showed that a positive relationship exists between POS and expatriate assignment success, however, POS was negatively related to task performance possibly due to the POS focusing the individual's attentions on cultural adaptation and not to performance.

Linking POS to Self-efficacy and Task Understanding

The similarities in the aid organizations offer to help one in their job and deal with stress, which is POS(Rhoads Shanock & Eisneberger, 2006), and several of the antecedents of self-efficacy lead to the thought that POS and self-efficacy might be related. Vicarious experiences or training from others on certain tasks, as well as encouragement from supervisors and help in lowering work related stresses are all methods to that will increase self-efficacy (Schunk, 1982); additionally, these methods can be perceived by the individual as support offered by the organization, or POS. Therefore, this study examined the strength of this link between POS and self-efficacy.

In like manner the individual high POS feels that the organization cares for them and is concerned about the employee's ability to perform their role effectively (Rhoades & Eisenberger, 2002). However, if that employee has little task understanding they

might seek out additional support from the organization in form of instruction, mentoring, and/or training. The more these types of support are available in an organization it is likely that the task understanding of its employees will be higher. This study measured the strength of this relationship between POS and task understanding.

Hypotheses

Transitioning into a boundary-spanning role as part of the organization may present uncertainty and stress upon employees. This stress and uncertainty may be mitigated by support from their organization (Feldman & Brett, 1983, Bandura, 1982). Support is sought from social work avenues and information sources (Feldman & Brett, 1983) and through training. Figure 2 displays a model of how POS is thought to be related to self-efficacy.

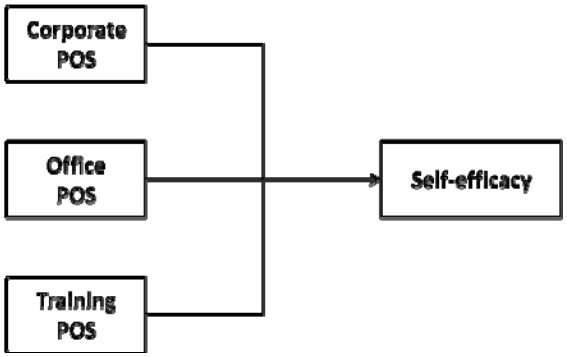


Figure 2: Model depicting the relationship between the multidimensional construct of POS & self-efficacy

It is hypothesized that the degree to which different levels of an organization are structured to offer this support will have a direct impact on the confidence an individual gains upon transitioning into the new role:

1a. Corporate POS has a positive impact on self-efficacy of ability to accomplish tasks.

1b. Office POS has a positive impact on self-efficacy of ability to accomplish tasks.

1c. Training POS has a positive impact on self-efficacy of ability to accomplish tasks.

In addition to the efficacy necessary to move into a new position, an understanding of the tasks inherent due to the transition is important. The perception of the support that an individual has towards their organization and its ability to train the employee transitioning has been shown to have effect on job performance (Rhoades & Eisenberger, 2002). Additionally, job performance has been linked to the individual's ability to understand the tasks required of them (Quiñones et al., 1995). Considering the results of these studies it is hypothesized that multiple dimensions of POS will predict task understanding in individuals transitioning to new roles:

2a. Corporate POS has a positive impact on task understanding.

2b. Office POS has a positive impact on task understanding.

2c. Training POS has a positive impact on task understanding.

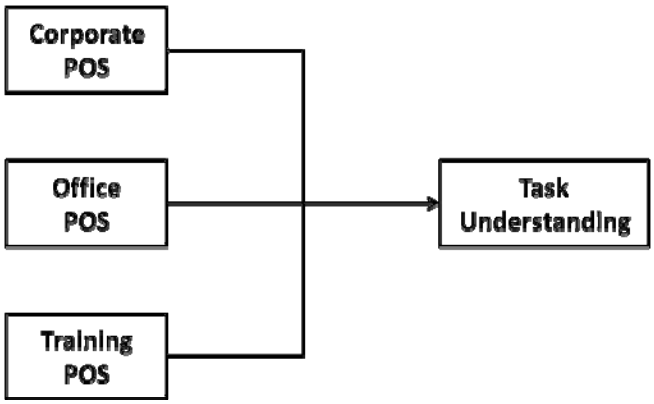


Figure 3: Model depicting the relationship between the multidimensional construct of POS & task understanding

While the individual will have contact with the support offered by the different levels within their organization, the frequency and duration of contact the employee has with that support could affect the strength of the relationship between each construct of POS and self-efficacy and task understanding. The employees spend most of their time in contact with the home office in which they work, followed by frequent contact with the corporate headquarters, and lastly infrequent contact with training support when the need arises. Based on the definition of POS being the belief that the organization cares about the individual and that an individual can identify greater with the section of the organization that they work directly for rather than the entire organization or part with which they spend little time, Office POS should have a greater influence on the individual followed by Corporate and then Training POS. This gives rise to the following hypotheses:

3a. Self-efficacy will be influenced differently by varying dimensions of POS such that Office POS will influence more than Corporate POS, and Corporate POS will influence more than Training POS.

3b. Task understanding will be influenced differently by varying dimensions of POS such that Office POS will influence more than Corporate POS, and Corporate POS will influence more than Training POS.

These hypotheses finalize the model, in figure 4, depicting the varying strength between the constructs of POS and the different DVs:

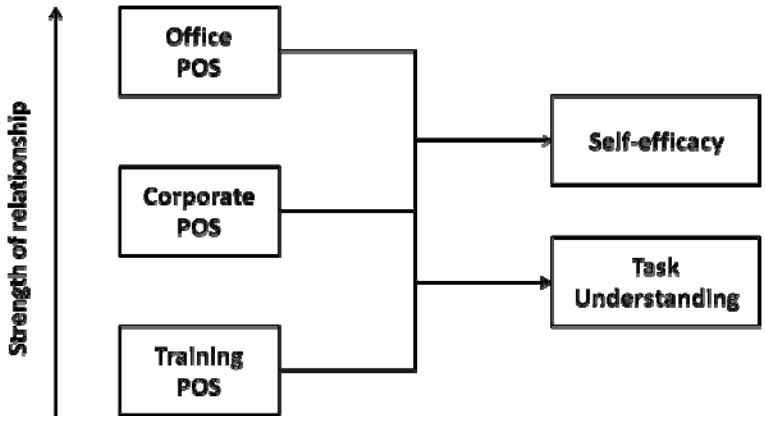


Figure 4: Model depicting a hierarchal strength relationship of POS to self-efficacy and task understanding

Summary

The reviewed literature shows that self-efficacy is used successfully as a predictor of job performance and training effectiveness. It also shows that POS is important in preparing employees for stressful situations and roles that are not considered ordinary for their typical job or organization. This study promotes the theory that POS has an influence on self-efficacy and task understanding, which can improve training effectiveness, job performance, and reduce the stresses of new tasks that cross cultural boundaries. The review also shows that POS has been successfully modeled as a multidimensional construct, giving rise to the possibility that other dimensions of POS might exist. The constructs of office, corporate, and Training POS have been developed to test the relationship between POS, self-efficacy and task understanding.

III. Methodology

Choice of Method

A survey method approach was ideal for this type of study in that surveys can be designed to understand or predict human behavior and gauge the effects that an organization has over large audiences (Alreck & Settle, 2004). Because the object of this research is to measure individual perception levels, the data were collected from attitudinal surveys administered to individuals of the target population completing a training program that teaches tasks and behaviors that are not normally associated with the individual's daily duties. The data used here were archival data that contained an initial observation of the individual's POS before the training treatment was performed. Questions were asked concerning the individual's opinion of the support received from the different levels of the organization both before and during the training process. Additionally a post treatment observation gathered the respondent's views on the confidence gained from the training and the ability to understand and perform the tasks required. This pre and post-test methodology along with the surveys being conducted at nine different locations ensured that the results minimized common method bias (Podsakoff & Organ, 1986).

Choice of Setting

The military is an example of an organization that is constantly asking it members to change work procedures and perform in varying environments from what they're used to. This is explicitly evident in the decision by AF leadership to assist the Army with its

high load of deployment taskings in current operations. Since 2003 the AF has supplied personnel to fill certain jobs normally performed by Army soldiers. There are great differences between the culture of Army combat soldiers and AF mission support Airmen; from the soldier being on the front lines of battle and the Airmen remaining behind on the air base, to the different deployment lengths of 15 months for soldiers and 6 months for Airmen, the military provided an excellent sample of individuals being asked to perform outside their normal sphere of operation.

In order to prepare the Airmen for these in-lieu-of (ILO) taskings, training programs coined "combat skills" have been developed through the USAF and in conjunction with the USA. The combat skills training (CST) varies in accordance with the duties the Airmen will perform at the deployment location, and with whom the Airmen will be working. On 3 May, 2005 the commander of USAF Personnel issued a letter requiring all Airmen deploying, regardless of duties, receive 19 hours of home station CST (Clark, 2007). Some programs, such as Explosive Ordinance Disposal (EOD) combat skills, are run directly by the Army and follow the Army training doctrine. Others, like convoy training, have special schools under Air Force direction. Regardless of the program source, all have been developed to achieve one goal: provide Airmen with the skills necessary to operate and survive in a terrorist/insurgent battlefield environment. The reality of hidden roadside bombs, insurgent ambush attacks, suicide bombers, and surprise rocket and mortar attacks provides an unending series of situations in which safety, life, and mission accomplishment are all in question. The USAF organization has developed means to train its Airmen to accomplish these new missions.

Currently the 2nd Air Force (2AF) headquartered at Barksdale Air Force Base in Louisiana has purview over the ILO taskings for the Army and has been conducting trend analysis on important factors regarding the entire CST process. Data have been collected over the past two years from the nine separate Army run CST centers.

The individuals participating in CST came from many of the support career fields such as security forces, civil engineer, communications, medical, transportation, supply, and intelligence. They are also divided into two separate rank structures; officers have command authority and serve as leaders and managers within the AF; enlisted Airmen serve as the working arm of the AF and are trained in specific skills and trades. This sample of convenience represented a large group of the military. All individuals attending this training were given pre and post-test surveys to complete. The first survey was given shortly after the trainees arrived at the training site. It gathered the initial demographic data and collected views on how the home units, 2AF help desk, and the AF detachment at the training site assisted in preparing the individual for training and the deployment. It was important to collect these views on the different dimensions of POS before the commencement of the training to ensure that the training regimen itself would not influence the perception of the support received. The second survey was completed upon graduation and gathered views of the students on their confidence of the training received and preparedness to accomplish the mission of their deployed task. The practice of ensuring that all airmen passing through this training have the opportunity to provide feedback on many aspects of the training program allowed for a large sample of useful data that came from one source. Because all ranks (excluding general officers) and many

varying job positions were included, the sample covered all levels of experience and many varied training backgrounds. The pilot and aircraft maintenance career fields rarely go through this training avenue, because the nature of their taskings rarely assigns them to the Army. Therefore, this portion of the population was not represented in the sample, implying that the results of this study may not be generalized to the entire AF population. The pilot and aircraft maintenance duties are very detailed and procedure driven. Any boundary spanning duties given to these individuals would be completely taking them out of their established roles and would provide little utility to the Army. This research is designed to study boundary spanning tasks which place the individual in somewhat similar roles as their original assignment but under a different culture and environment.

Procedure

Upon the recommendation of individuals from AF headquarters, 2AF was contacted and discussions resulted concerning the training procedures and how airmen move through the process of deployment notification to movement into the field. All responses to the surveys collected thus far by the ILO office at 2AF were recorded on scanable survey forms, scanned into electronic format, and read by a software program that collected the data into a Microsoft Access electronic database. Data from both surveys were then migrated into SPSS for statistical analysis.

The process of merging the data from the two surveys was straightforward and methodical. While there were no names collected with the surveys, there were unique identifiers to ensure that the data collected from the individual at the initial stages of the training directly matched the survey data gathered upon training graduation. Even with

this unique data that appeared on the surveys, rank, gender, home-station, and training location were also compared to add a level of assurance that the two responses came from the same individual. 4,214 responses were collected from the initial survey, and 2,786 responses were collected from the survey given upon graduation of the program. After merging the data using the above method, a final sample of 462 useable cases were obtained. All responses that could not be confidently tied together were eliminated from the study.

Various demographic and situational variables were also analyzed and controlled for to determine if there were significant moderators that help understand more the relationship between POS and the DVs. This was done by multiplying the data recorded for gender, rank, number of deployments, and first ILO separately by the independent variables creating interaction terms that were loaded, along with the first data, into a second model.

Sample

Eleven demographic variables were collected as well during the survey process. The number of previous deployments that the trainee had been on was collected. This was considered an operationalization of the amount of experience the individual had before entering the training process. Whether or not the current tasking was the individual's first ILO tasking, a new experience, was also collected. Whether or not the trainee had previously participated in CST could potentially affect the amount of self-efficacy gained by this occurrence of training. The military rank of the individual was also collected and divided into officer and enlisted personnel. Officers are put in

positions that deal more with leadership and management while enlisted personnel duties focus more on day-to-day tasks of the organization. This difference could possibly affect how POS influenced gaining self-efficacy during the training process. The following charts show how the different demographics are represented within the 462 cases of the study.

Chart 1 shows the breakout of gender among the students attending CST. It also shows the breakout of gender of the AF population at the end of 2007. The attendance by gender at CST closely mirrors the AF population.

Chart 1: Gender breakout among CST sample and 2007 AF population.

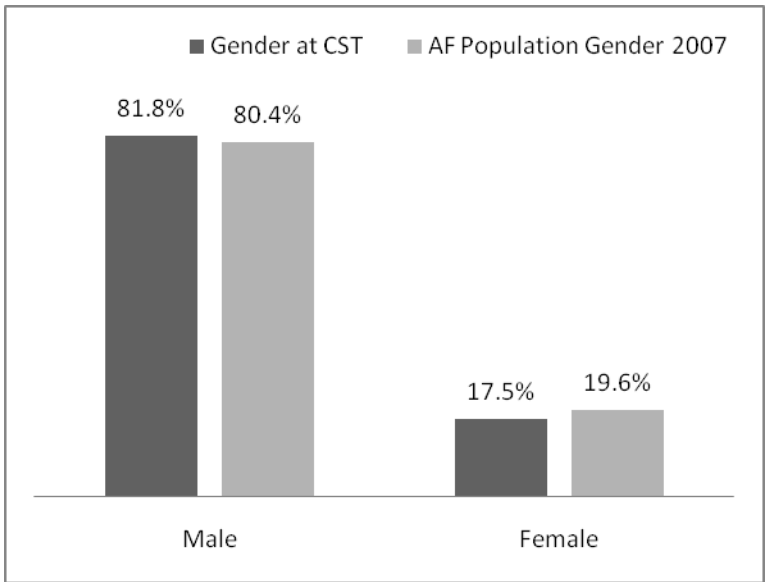


Chart 2 shows the percentage of each rank structure attending CST. The ranks have been consolidated into E1-E4 airmen, E5-E6, non-commissioned officer (NCO), E7-E9 senior non-commissioned officer (SNCO), O1-O3 company grade officer (CGO), and O4-O6 field grade officer (FGO). Again, chart 2 also shows how these ranks are

distributed throughout the 2007 AF population. The ranks of students in the sample closely resemble that of the AF population.

Chart 2: Rank structure of CST sample and that of AF 2007 population.

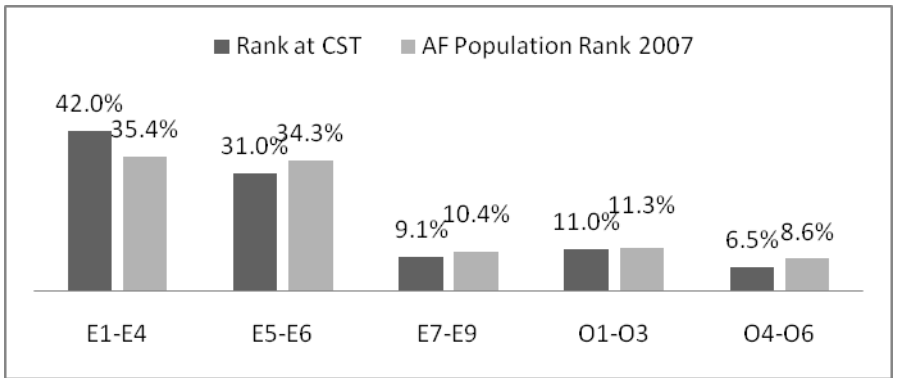


Chart 3 illustrates the diversity of career fields within the sample. Not all career fields within the AF population receive ILO taskings and some career fields are tasked more heavily than others. Therefore, the sample does not represent the AF population. The various career fields attending CST are security forces (SF), civil engineer (CE), intelligence (Intel), transportation (Trans), supply, medical, communications (COMM), information management (info mgmt), and other less represented fields.

Chart 3: Career fields represented in the sample of CST attendance

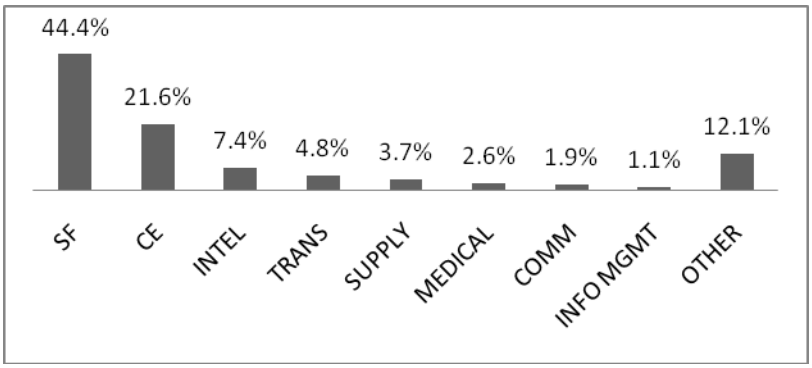


Chart 4 shows how the sample of CST students is divided up into the separate AF Major Commands (MAJCOM). Due to the ability of some MAJCOMs ability to deploy more airmen than other commands, the percentages of students from each command attending CST do not accurately reflect the AF population. The different MAJCOMs are Air Combat Command (ACC), Air Force Material Command (AFMC), Air Mobility Command (AMC), Air Education and Training Command (AETC), Pacific Air Forces (PACAF), United States Air Forces in Europe (USAFE), Air Force Space Command (AFSPC), Air Force Reserve Command (AFRC), Air National Guard (ANG), and other direct reporting units.

Chart 4: AF MAJCOM representation among CST sample.

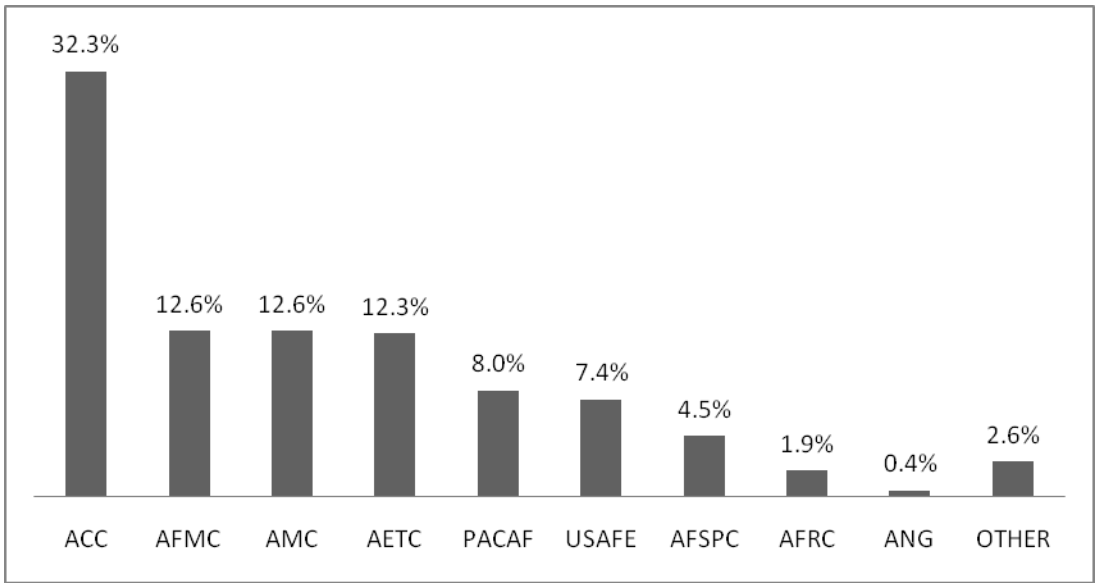


Chart 5 displays the number of deployments the members of the sample have been on previous to their current ILO tasking.

Chart 5: Number of previous deployments.

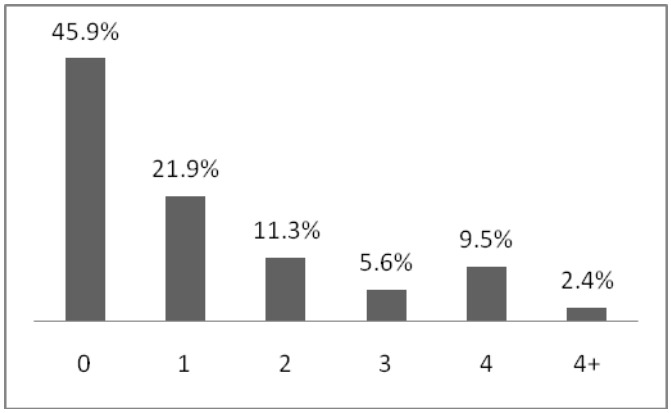
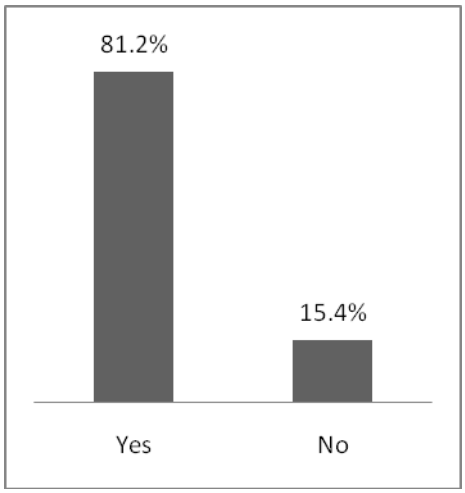


Chart 6 shows the percentage of CST students assigned to an ILO tasking for the first time.

Chart 6: Percentage of those assigned to their first ILO tasking.



Measures

The instruments used to obtain the data were not previously published with known reliabilities. An exploratory factor analysis revealed the underlying nature of the

multiple dimensions of POS within the instrument. According, Office POS was measured with 8 items. Questions from the survey included "My home station provided me with ALL the required equipment," "I completed all pre-deployment training prior to departing home station," and "My UDM/IDO [Unit Deployment Manager/Installation Deployment Officer] was knowledgeable of my mission details." Corporate POS was measured from 2 items in the survey that deal with the support received from the 2nd AF help desk set up to assist airmen preparing for ILO taskings. Training POS was measured from 4 items in the survey that investigate how well the AF detachment at the CST center supported the airmen in integration into the training environment. Because the training itself was provided by the USA, an entity outside of the home organization, perceptions about the training itself were not included in the study (see annotations on surveys in Appendix for specific item questions).

The responses to statements in the survey in regards to POS, task understanding, and self-efficacy came in the form of Likert responses from 1 to 5 with 1 being strongly disagree, 5 being strongly agree, and 3 being neutral. All statements were worded either positively or negatively with the student responding accordingly. All negative responses were reverse coded in order to evaluate the data in a standardized fashion.

The method of obtaining data on self-efficacy and on perceived ability to understand and perform tasks came from a single item each on the survey. Most single-item scales are limited because they cannot adequately and accurately capture the broader concept being measured. Individuals may view the question in a different manner (Nunnally, 1978). Single-item scales can be considered acceptable, however, when they

relate to a simple one-dimensional construct, and measured with minimal measurement error (Nunnally, 1978). Additionally, a study performed by Gardner, Cummings, Dunham, and Pierce showed that when measuring "overall" constructs, single item measures performed just as well as traditional multi-item tests of the construct due in part to common methods variance (1998). Given the straightforwardness of the items and that the constructs are broad in nature; there is confidence that the items measure the actual constructs effectively.

Power Analysis

With the survey data from 2AF in hand a post-hoc power analysis was performed to determine if a sufficient number of individuals had completed the survey to confidently assume that the results will not produce a false negative result. This was done using an online statistical power calculator (Soper, 2008). With an α of .05, four predictors in the model, the lowest observed R^2 of .03, and 462 cases in the sample, the observed power was calculated to be 0.87 for the lowest observed R^2 and higher for the others. With a minimum acceptable power of 0.80 (Field, 2005), confidence was achieved that the results did not produce a false negative.

Data Analysis

Multiple regression analysis was used to determine the amount of variance in self-efficacy and task understanding described by the different dimensions of POS. This was performed using a statistical software program called SPSS. A mean was taken of the responses to the items on the survey that corresponded to the different dimensions of POS

and was used as an aggregate response from each case. The aggregate responses for the IVs as well as the data from the demographic variables were then centered on their respective means, in other words, the mean was subtracted from each variable. This was done it renders the regression coefficients in the polynomial equation meaningful. Centering also eliminates the multicollinearity created when using powers of predictors in a single equation (Cohen, Cohen, West, & Aiken, 2003). The data on the DVs was not centered because predicted scores will be in the units of the original scale.

Eight separate forced entry regression methods were performed on the data. The direct variables of self-efficacy and task understanding were placed into the model along with four predictors; the three dimensions of POS along with one of four of the demographic variables being tested for moderation. The moderator variable was then multiplied by each dimension of POS to create the interaction term necessary for a test of moderation (Field, 2005). These interaction terms were loaded, along with the terms in the first model, into a second model to test for the moderation. This was performed separately for each of the four demographic variable and both dependent variables for a total of eight regression models.

IV. Analysis and Results

Chapter Overview

This chapter represents the descriptive statistics and regression analysis results of the CST survey instrument.

Reliability of Measures

Trainees' perceptions of support received by the different levels of the organization, to include methods for training preparation and information dissemination, were measured using several Likert scale items. The results and reliabilities of the categorized data are below in table 1.

Table 1: Reliability statistics for multidimensional POS

	Cronbach's Alpha	Mean	Standard Deviation	N	# of Items
Corporate POS	0.72	3.55	0.86	330	2
Office POS	0.80	3.83	1.10	408	8
Training POS	0.79	4.08	0.94	398	4

Missing Data Analysis

The lower values of n shown in table 1 as compared to the total n of 462 cases in the study are due to missing data in many of the responses. To analyze this, all data were coded to represent missing or present data. A correlation between the missing and present data in the study revealed no significant relationships between the missing IV

data and the demographics of the individuals participating in the surveys. From this it is concluded that all missing data is random in nature.

Correlations between variables

Pearson product moment correlations were calculated not to test any of the hypotheses but to evaluate the zero order strength of the relationship between self-efficacy, task understanding, the dimensions of POS, and various demographic variables, with the results displayed in table 2. The demographic variables in question are defined as:

1. Rank – a dichotomous variable distinguishing between enlisted and officer personnel
2. Gender – male and female
3. First ILO – trainees answering yes to this are indicating that this current deployment is their first deployment in an Army tasking
4. # of Deployments – the number of deployments that the trainee has been on previous to the current

The strongest relationships occur between the different dimensions of POS (r = .30, .25, and .32 for Corporate to Training, Corporate to Office, and Training to Office respectively). However, the strength of the relationship is small enough to show that no multicollinearity exists between the different constructs of POS.

Table 2: Correlations between variables

		Mean	SD	1	2	3	4	5	6	7	8	9
1	Self-efficacy (DV1)	3.70	0.83	1								
2	Task Understanding (DV2)	3.49	1.14	0.19**	1							
3	First ILO?[a]	0.84	0.37	0.17**	-0.02	1						
4	# of Deployments[b]	1.15	1.45	-0.13**	-0.06	-0.28**	1					
5	Rank[c]	0.18	0.38	0.13**	-0.31**	0.14**	-0.05	1				
6	Gender[d]	0.18	0.38	0.02	-0.10*	0.12*	-0.15**	-0.02	1			
7	Corporate POS	3.53	0.78	0.04	0.17**	0.04	0.00	-0.06	0.02	1		
8	Training POS	3.86	0.93	0.07	0.06	-0.03	0.04	0.09	-0.08	0.30**	1	
9	Office POS	3.76	0.75	0.15**	0.42**	-0.09	-0.06	-0.22**	-0.07	0.25**	0.32**	1

N = 314 to 459

*p<.1; **p<.05

[a] Dummy coded: 0 = No, 1 = Yes

[b] Coded: 0 = 0, 1 = 1, 2 = 2, 3 = 3, 4 = 4, 5 = 4+

[c] Dummy coded: 0 = Enlisted, 1 = Officer

[d] Dummy coded: 0 = Male, 1 = Female

The significant relationship of first ILO (.17), # of deployments (-.13), rank (.12), and Office POS (.15) to the DV of self efficacy are also interesting. This indicates that less confidence is gained by those who have served in multiple deployments than those who have not. This may be due to the training not completely mimicking the realities of the operational environment that the more experienced trainees have witnessed. The results also show that higher ranking, those new to the ILO system, and those who have higher Office POS gain slightly greater self-efficacy.

From the correlation, there does not appear to be a relationship between gender and self-efficacy, which was expected, however the lack of a significant relationship between training and Corporate POS and self-efficacy was interesting. As a reminder, the Training POS was not measuring the training itself but the support the trainee received while at the training center.

The strong negative relationship between # of deployments and first ILO (r = -.28) is expected. Those who have never previously deployed will be experiencing their first ILO while those who have deployed multiple times are more likely to have previously been tasked with the Army.

Several stronger relationships appear as the variables are correlated to task understanding. The strongest relationship (.42) appears to be between task understanding and Office POS. Corporate POS also becomes significant, in regards to task understanding, with a moderate relationship of .17. These relationships seem to indicate that POS is more related to the ability to understand the tasks required to the new duties

than they are to confidence in those abilities. The strong relationship from the Office POS may indicate that many of the tasked are learned previous to the deployment.

Another strong relationship with task understanding is a negative one with rank (-.31), signifying that those in lower ranking positions have greater task understanding. This could be due to the greater number of enlisted personnel attending this training that it is tailored to prepare them for their tasks more than the officers.

Gender also has some surprising, although small, significant relationships in the correlation analysis. There is a small negative relationship between gender and task understanding (-.10) specifying that females are slightly less likely to understand their tasks. There are also small relationships between gender and deployments and first ILO (-.15 and .12 respectively). It appears that females have been deployed a fewer number of times but more often to Army taskings than males.

Multiple regression analysis

In order to test the hypotheses, the results of the multiple regressions between the DVs of self-efficacy and task understanding and the multidimensional construct of POS along with the interactions of demographic variables as moderators are displayed in tables 3-10 with tables 3-6 showing the results of self-efficacy and tables 7-10 displaying the results of task understanding.

Table 3: Regression analysis of Self-efficacy moderated by First ILO

	Self-efficacy		
	Model 1 β	Model 2 β	Model 3 β
Constant	3.72**	3.72**	3.72**
Corporate POS (S1)	-0.03	-0.03	-0.03
Office POS (S2)	0.16**	0.19**	0.18**
Training POS (S3)	0.03	0.03	0.03
First ILO?[a] (M1)		0.14**	0.15**
M1 X S1			0.09
M1 X S2			0.02
M1 X S3			-0.06
R^2 /F	0.03/3.04*		
$\Delta R^2/\Delta F$		0.02/6.49**	0.01/1.02

N = 315

*p<.05; **p<.01

[a] Dummy coded: 0 = No, 1 = Yes

Table 4: Regression analysis of Self-efficacy moderated by # of Deployments

	Self-efficacy		
	Model 1 β	Model 2 β	Model 3 β
Constant	3.71**	3.72**	3.72**
Corporate POS (S1)	-0.03	-0.02	-0.03
Office POS (S2)	0.16**	0.15**	0.14*
Training POS (S3)	0.01	0.01	0.01
# of Deployments[b] (M2)		-0.14**	-0.15**
M2 X S1			0.05
M2 X S2			-0.02
M2 X S3			0.07
R^2 /F	0.03/2.63*		
$\Delta R^2/\Delta F$		0.02/5.92**	0.01/0.84

N = 315

*p<.05; **p<.01

[b] Coded: 0 = 0, 1 = 1, 2 = 2, 3 = 3, 4 = 4, 5 = 4+

Table 5: Regression analysis of Self-efficacy moderated by Rank

	Self-efficacy		
	Model 1 β	Model 2 β	Model 3 β
Constant	3.72**	3.72**	3.71**
Corporate POS (S1)	-0.02	-0.02	-0.04
Office POS (S2)	0.16**	0.19**	0.20**
Training POS (S3)	0.02	0.00	0.01
Rank[c] (M3)		0.14**	0.12*
M3 X S1			0.14**
M3 X S2			-0.04
M3 X S3			0.07
R^2 /F	0.03/2.79*		
$\Delta R^2/\Delta F$		0.02/5.82**	0.02/2.63*

N = 324

*p<.05; **p<.01

[c] Dummy coded: 0 = Enlisted, 1 = Officer

Table 6: Regression analysis of Self-efficacy moderated by Gender

	Self-efficacy		
	Model 1 β	Model 2 β	Model 3 β
Constant	3.72**	3.72**	3.73**
Corporate POS (S1)	-0.02	-0.02	-0.03
Office POS (S2)	0.16**	0.16**	0.18**
Training POS (S3)	0.02	0.02	0.00
Gender[d] (M4)		0.04	0.07
M4 X S1			-0.02
M4 X S2			0.12*
M4X S3			-0.08
R^2 /F	0.03/2.78*		
$\Delta R^2/\Delta F$		0.00/0.39	0.01/0.96

N = 323

*p<.05; **p<.01

[d] Dummy coded: 0 = Male, 1 = Female

For the model testing the DV self-efficacy against POS and the moderating interaction terms the direct effect R^2 terms was .03 meaning that the variability in the

outcome accounted by the predictors was 3%. This was hardly exciting and a reasonable assumption inferred from this was that POS, as measured, is not a strong predictor of self-efficacy received from training for boundary-spanning roles. The F-ratio for the tests calculated to 3.04 with a significance of $p < .05$ (Table 3).

Table 7: Regression analysis of Task Understanding moderated by First ILO

Task Understanding			
	Model 1 β	Model 2 β	Model 3 β
Constant	3.39**	3.39**	3.39**
Corporate POS (S1)	0.05	0.05	0.05
Office POS (S2)	0.42**	0.42**	0.42**
Training POS (S3)	0.04	0.04	0.04
First ILO?[a] (M1)		0.01	0.00
M1 X S1			0.05
M1 X S2			0.08
M1 X S3			-0.04
R^2 /F	0.21/26.97**		
$\Delta R^2/\Delta F$		0.0/0.01	0.01/1.06

N = 315

*p<.05; **p<.01

[a] Dummy coded: 0 = No, 1 = Yes

Table 8: Regression analysis of Task Understanding moderated by # of Deployments

	Task Understanding		
	Model 1 β	Model 2 β	Model 3 β
Constant	3.38**	3.38**	3.37**
Corporate POS (S1)	0.05	0.05	0.05
Office POS (S2)	0.41**	0.41**	0.41**
Training POS (S3)	0.03	0.03	0.03
# of Deployments[b] (M2)		0.02	0.00
M2 X S1			0.01
M2 X S2			-0.05
M2 X S3			0.08
R^2 /F	0.20/25.40**		
$\Delta R^2/\Delta F$		0.00/0.11	0.01/0.64

N = 315

*p<.05; **p<.01

[b] Coded: 0 = 0, 1 = 1, 2 = 2, 3 = 3, 4 = 4, 5 = 4+

Table 9: Regression analysis of Task Understanding moderated by Rank

	Task Understanding		
	Model 1 β	Model 2 β	Model 3 β
Constant	3.39**	3.41**	3.43**
Corporate POS (S1)	0.04	0.03	0.04
Office POS (S2)	0.42**	0.35**	0.35**
Training POS (S3)	0.04	0.08	0.07
Rank[c] (M3)		-0.24**	-0.20**
M3 X S1			-0.05
M3 X S2			0.09
M3 X S3			-0.04
R^2 /F	0.20/27.15**		
$\Delta R^2/\Delta F$		0.05/22.56**	0.01/1.08

N = 324

*p<.05; **p<.01

[c] Dummy coded: 0 = Enlisted, 1 = Officer

Table 10: Regression analysis of Task Understanding moderated by Gender

	Task Understanding		
	Model 1 β	Model 2 β	Model 3 β
Constant	3.38**	3.38**	3.39**
Corporate POS (S1)	0.04	0.05	0.04
Office POS (S2)	0.42**	0.41**	0.44**
Training POS (S3)	0.04	0.04	0.04
Gender[d] (M4)		-0.12**	-0.08
M4 X S1			-0.06
M4 X S2			0.14*
M4X S3			-0.18**
R^2 /F	0.20/27.12**		
$\Delta R^2/\Delta F$		0.02/6.12**	0.03/3.60**

N = 323

*p<.05; **p<.01

[d] Dummy coded: 0 = Male, 1 = Female

For the model testing the DV task understanding against POS and the moderating interaction terms the direct effect R^2 terms had a much stronger presence of .21 or that 21% of the variability in task understanding was accounted for by the predictors. The F-ratio for the test calculated to be 27.15 with a significance of $p < .01$ (Table 7).

Direct Effects

Hypothesis 1a was not fully supported in the results of the study. The β-value for Corporate POS was not significant (Table 3).

Hypothesis 1b was supported with a β-value .16 and significance of $p < .01$ (Table 3).

Hypothesis 1c was not supported in the results of the study. The β-value for Training POS was not significant (Table 3).

Hypothesis 2a was not supported in the results of the study. There were no significant predictors even when moderated by the demographic variables (Table 7).

Just as with the model predicting self-efficacy, holding all other predictors constant, Office POS affecting task understanding was significant with $\beta = .42$ and $p < .01$. This data confirmed hypothesis 2b (Table 7).

Hypothesis 2c was not supported in the results of the study (Table 7).

From this data the initial assumption made in hypothesis 3a was supported, that Office POS will predict self-efficacy better than Corporate or Training POS. Because neither Corporate nor Training POS were significant, one cannot conclude which predicts self-efficacy more effectively (Table 3). Additionally, hypothesis 3b was only supported in that Office POS was the best predictor of task understanding; however, the lack of significance in Corporate and Training POS prevented 3b from being fully confirmed (Table 7).

Moderation

First ILO, deployments, and rank were all significant in predicting the self-efficacy ($\beta = .15$, -.15, and .12 respectively). When the standardized β-values were taken into consideration these demographic variables have strengths slightly less than that of Office POS, but are similar (Tables 3-6). None of the β-values for Corporate POS had significance except when moderated by Rank. The interaction term in this case had a $\beta = 0.14$ with a significance of $p < .01$ (Table 5, Chart 7). When moderated by Gender the

strength of the relationship Office POS and self-efficacy increased with a β-value of .12 for the interaction term (Table 6, Chart 8).

Chart 7: Moderation of Corporate POS to self-efficacy by rank

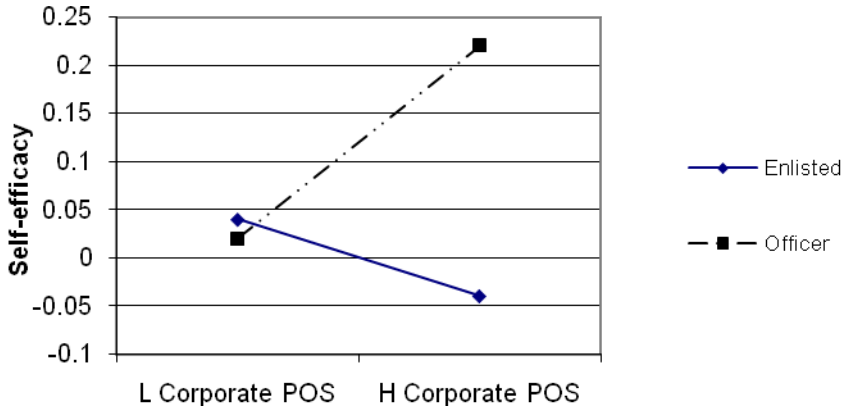
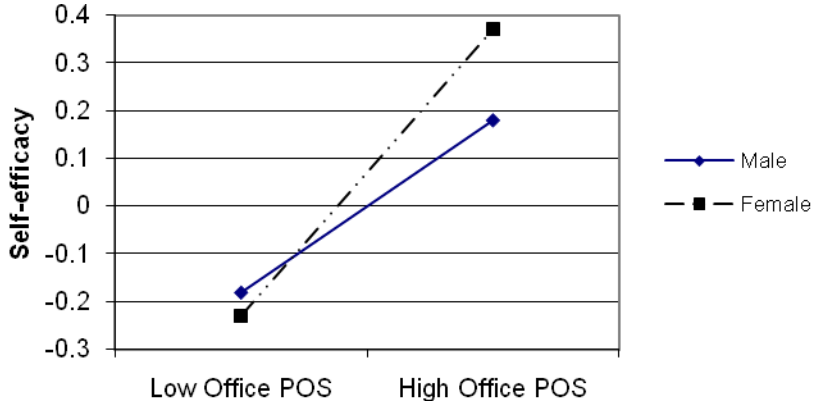


Chart 8: Moderation of Office POS to self-efficacy by gender



Office POS had significance in predicting task understanding and the strength of the prediction increased when moderated by Gender. Table 10 shows a β-value of .14 for the interaction term with a significance of $p < .01$. Chart 9 shows a slightly stronger positive relationship between Office POS and Task Understanding for females than for males.

None of the β-values for Training POS had significance except when moderated by Gender. The interaction term in this case had a β = -0.18 with a significance of $p < .01$ (Table 10). Due to the negative relationship, chart 10 shows that high Training POS has a negative effect on task understanding for females (Chart 10).

Chart 9: Moderation of Office POS to task understanding by gender

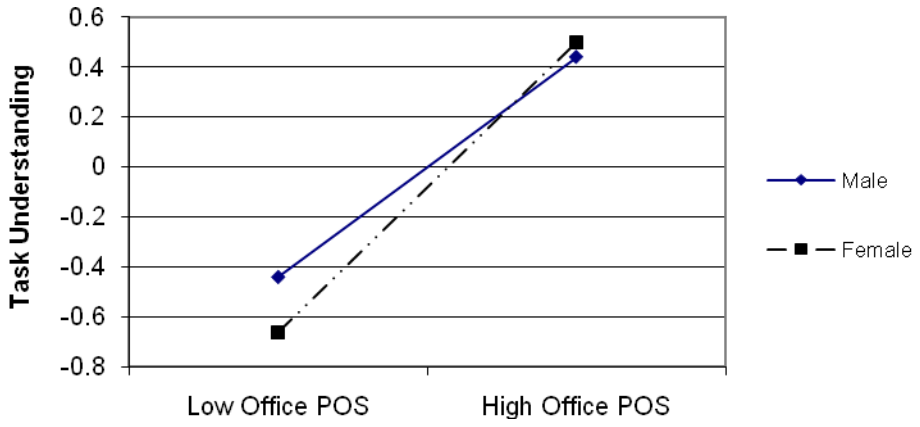
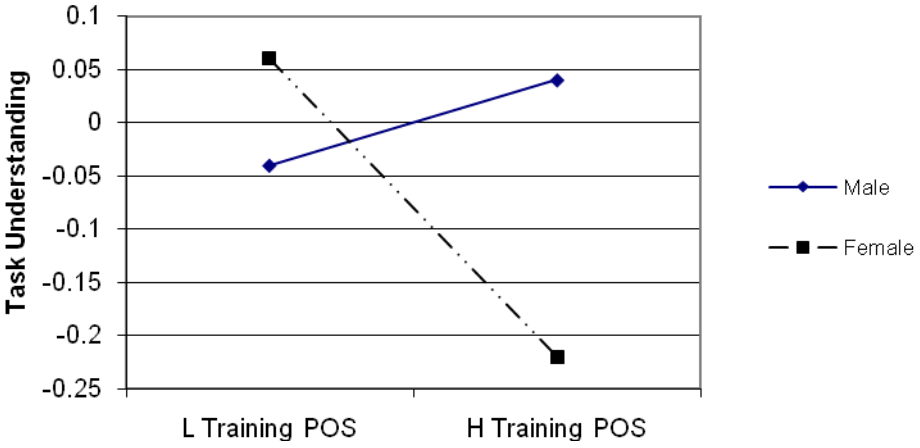


Chart 10: Moderation of Training POS to task understanding by gender



Summary of results

The summary of results of support for the hypotheses is shown in table 11.

Table 11: Summary of hypotheses results

Hypothesis	
1a	not supported
1b	supported
1c	not supported
2a	not supported
2b	supported
2c	not supported
3a	partially supported
3b	partially supported

While Office POS had a positive impact on both self-efficacy and task understanding, the strength of the relationship was only seen in regards to task understanding. And even though all of the demographic variables had significance in some of the models, only Gender was a moderator for both self-efficacy and task understanding in regards to Office POS. Rank was also a significant indicator for both DVs; however officers were favored in self-efficacy and enlisted were favored in task understanding.

V. Conclusions and Recommendations

Overview

This study sought to test the relationship between a multidimensional construct of perceived organizational support and results of effective training, namely, self-efficacy and task understanding for individuals whose impending duties cause them to span their original boundaries of job description and environment. In the process of completing this study there were some general recommendations that could be made with regards to the support offered to such individuals transitioning to new types of duties. This research also sought to link the research being conducted on training effectiveness and POS. As such, there are some limitations to this study and implications for future research.

Discussion

Hypothesis 1 sought to determine if POS provided a positive impact on the self-efficacy that an individual receives from a training program designed to prepare them for a boundary spanning role. While Office POS (hypothesis 1b) did have the anticipated positive impact on self-efficacy, it could only account for 3% of the variance in self-efficacy. The rather weak relationship shown in this study does not support the initial assumption that POS affects self-efficacy gained through training. This could be due to several factors. The time delay between the support received from the corporate and office levels of the organization and the rigors of the training regimen could possibly have lessened the effects of persuasion as a developer of self-efficacy (Shunk, 1982). From the time the individual is notified and support is initiated in preparation for the

transition, there may be enough of a delay in the process that the effects of this persuasion are lessened and do not promote efficacy as much as during the initial motivation. This could explain why the upper management (officers) had a greater relationship between Corporate POS and self-efficacy (Chart 7). An assumption is made that because officers are responsible for their teams' preparation and disseminating information to them, they would be in greater contact with corporate headquarters in order to obtain the necessary information to prepare their teams for the transition. This greater contact may lessen a delay effect on POS. Another factor that could lead to weakness in the relationship between POS and self-efficacy is the nebulous area of Army taskings used in this study. Many of the organizations within the AF sending individuals to support the Army have very little information to provide in regards to duties, culture, environment, and length of service. Lines of communication in regards to military deployments are kept purposefully vague for security reasons. In turn, this could explain why a stronger relationship exists between Office POS and self-efficacy and those participating in their first ILO (Table 7), and those who have many deployments have a negative Office POS to self-efficacy relationship (Table 8). The imprecise support offered to the Airmen deploying may be more recognizable by those more experienced and thus disregarded.

Hypothesis 2 similarly attempted to show the impact that POS has on task understanding of the purpose and objectives of the individual transitioning into a boundary spanning role. In this case Office POS did have a strong relationship accounting for 21% of the variance of task understanding. This is believed to be mainly

due to the individual learning most of what they know about their current duties from the area of the organization in which they work. Additionally, the reason the individual was chosen for the role in the new environment is that they have much of the knowledge, skills, and abilities needed to successfully perform in the assignment. This puts the onus on the home office to support and prepare the individual for basic job tasks and the transition training function to provide information and training that will enable the individual to adapt to the new culture and environment rather than teach basic job tasks. As a side effect of this, it is not unexpected to see a lack of relationship between Corporate and Training POS to task understanding. This mirroring of knowledge and abilities to the new assignment could explain why there is a negative effect on the relationship between Office POS and task understanding when rank is taken into account. In this study the enlisted personnel are more likely to perform tasks with which they are familiar in their boundary spanning role than the officers are. The AF officer will be required to interface more with the Army leadership and culture and follow unfamiliar procedures. Thus the tasks and knowledge gained from the home station may be less likely to transfer to an Army setting than those of the enlisted personnel.

The effects of Gender shown in charts 8, 9, and 10 could possibly be explained by the importance females give POS. If a female places greater importance on POS than males then it would possible result in the trends shown in chart 8 and 9 that the greater the perceived support they receive from the office the more confident they are. Additionally, a female who perceives that the training site is offering little to no support may feel that the training itself may be poorly organized and she should therefore try

harder to learn the tasks thereby increasing her understanding. On the other hand if she feels the training support was excellent, she might feel that reflects on the curriculum and she doesn't need to try as hard. Where, if males do not place this importance on POS they will not transfer that judgment onto the training.

Hypothesis 3 was developed to test a hierarchical relationship of the multidimensional construct of POS to the DVs with time spent by the individual in contact with the level of the organization as an indicator of the strength of the relationship between the construct of POS and the DV. This would indicate that Office POS would have the strongest relationship followed by corporate and training respectively. This hypothesis was partially supported in that Office POS did have a significantly stronger relationship with both DVs. However, the strength of corporate and Training POS was indeterminate in most cases. A possible explanation for this is that the items in the conducted surveys were insufficient to completely measure the corporate and Training POS of the individual. Another possibility is that, in the case of this study, the support provided by the corporate and training levels of AF organization is of such small magnitude as to be unnoticeable by the Airmen being affected by these Army taskings.

With no previous research conducted in the relationship between a multidimensional view of POS and self-efficacy or task understanding, the results of this study will be interesting to compare to any future studies that may relate.

General recommendations

While the construct of Office POS had greater strength in predicting self-efficacy and task understanding of those assigned to duties and environments that span their natural area of expertise this should not nullify the effects of the support that the corporate and training levels of the organization offer, be they ultimately perceived by the individual or not. In fact, to enhance the effect of Office POS on the individual the corporate level of the organization can make a greater effort to provide programs, information, and resources to the office levels in order to better prepare their employees for the upcoming transition. Detailed programs developed by the corporation designed to mitigate stress, enhance learning, provide necessary resources and information to the individual will provide greater confidence and task understanding and lead to greater success. While some of these programs and information must be general in nature, the more job and culture specific that it can be directed, the greater the effect it will have on the desired results. While specific programs are possibly not feasible in an organization as large as the AF, if more detailed information on upcoming task for the Airmen is distributed down to the affected units, better programs can be developed at the home station that will enhance the preparation and support offered to the Airmen.

Limitations

The act of utilizing the archival data gathered from an existing set of surveys led to possibly the greatest limitation of this study. While the measures of the various POS constructs from the factor analysis had sufficiently high reliabilities, adaptations of previously studied measures might have provided greater validity which could lead to the

results providing different conclusions. Additionally, with the archival data the DVs of self-efficacy and task understanding were measured with single items. This forces questions to be answered concerning the validity and reliability of the measures. Furthermore, the data only provided perceptions of individuals before participating in the Army tasking. Nothing is known about the perceptions during or after the deployment. While this study was designed to focus only on perceptions before the transition, greater information could be gathered on training effectiveness and utility. Knowing how effective the training is could shed light on the relationships between the variables in the study.

Implications for future research

There are several key areas that are important for future research. First, is to test the model and the relationships implied therein to an environment outside of the military. This study could be easily adapted to organizations that are about to experience changes internally or to those who have many expatriate employees.

Another direction future research could take is to refine the survey instrument used by the 2AF in this study. A refined survey, incorporating adaptations of previously published measures of POS, self-efficacy, and task understanding, along with items of valued importance to the 2AF and other members of the AF organization, could be used to attempt to replicate the results found in this study or uncover new variables affecting self-efficacy and task understanding of boundary-spanning employees.

Finally, future research should be conducted that will further determine the relationship with POS, training effectiveness, and job performance. One way of

accomplishing this would be to incorporate the results of this or similar study to the perceptions of the individuals on their training experience as it relates to their performance during the actual new job. Unavailable at the time of this study were data collected from the Airmen during different periods of their deployments. The Air Force Manpower Agency is currently collecting these data. Future research could attempt to marry these data to those of this study. Another method would be to collect any performance data collected by the Army training instructors during the ILO training. An outside perception of the Airman's abilities could provide additional information on the relationship between POS and task understanding as well as self-efficacy.

This research has highlighted some of the advantages of strong support from organizations when preparing individuals for new boundary spanning duties. Though POS may not predict 100% of the confidence and task understanding gained by the individual, the implications of this study warrant further research into this area.

Summary

This study sought the perceptions of the support received by individuals from different levels of their organization in preparation for new duties that would take them outside of their accustomed environment, specifically, the situation that the USAF finds itself in sending Airmen to support the Army with their deployment taskings, and generally, with any organization preparing its employees for transitional duties and/or assignment location. The support received from the office for which the individual directly works has the greatest impact on both self-efficacy and task understanding. Some limitations of the study include the use of unpublished survey measures, single

item measures of DVs, and the lack of post transition perceptions. These limitations lead to further research recommendations to include study replication in business organizations, improved survey items, and expansion of individual perceptions. General recommendations are for the corporate levels of organizations to develop specific programs to assist the offices in preparing their individuals for the transition, and provide timely, accurate information about the upcoming duties and situation.

Appendix

HQ Second Air Force "In Lieu of" In-processing Evaluation Survey

HQ Second Air Force
"In Lieu of" In-processing Evaluation Survey Form

Gender: ☐ M ☐ F Status: ☐ Active ☐ Reserve ☐ Guard

Rank: ☐ E1-E4 ☐ E5-E6 ☐ E7-E9 ☐ O1-O3 ☐ O4-O6

MAJCOM: ☐ AETC ☐ AMC ☐ ACC ☐ AFMC ☐ USAFE
☐ PACAF ☐ AFSOC ☐ AFSPC ☐ AFRC ☐ ANG

Please print as neatly as possible. USE ALL CAPS. Do not touch box sides.
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0 1 2 3 4 5 6 7 8 9

AFSC: ☐☐☐☐☐ Home Station: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

The following information can be found on your orders ULN: ☐☐☐☐☐ Line No: ☐☐☐

RFF: ☐☐☐☐ URF: ☐☐☐☐☐ IA JMD/EMAPS: ☐☐☐☐☐

How many times have you deployed prior to this ILO tasking? ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4+

Is this your first ILO deployment? ☐ Yes ☐ No

Will you return to home station prior to deploying to the AOR? ☐ Yes ☐ No ☐ Don't Know

Did you speak with the 2 AF Ops Center or ILO Help Desk? ☐ Yes ☐ No

How many bags of equipment/clothing did you bring? ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7+

How many days notification did you have to prepare for your deployment? ☐ 0-7 days ☐ 8-14 days ☐ 15-21 days
☐ 22-30 days ☐ 31-60 days ☐ >60 days

Were you greeted by USAF Detachment Personnel upon arrival at the Army Post? ☐ Yes ☐ No

008 B R A G G

Rate the following statements regarding the your ILO pre-deployment process and 2 AF interaction using the following scale: (1) Strongly Disagree (2) Disagree (3) Neither Disagree or Agree (4) Agree (5) Strongly Agree

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Corporate	The 2 AF ILO Help Desk/Ops Center was knowledgeable	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Corporate	The 2 AF ILO Help Desk/Ops Center was easily reachable	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Office	I was notified of this deployment in a timely manner	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Office	The Reporting Instructions were clear and understandable	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Office	I know where I am deploying	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Office	I know my deployed mission	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	I understand the purpose of the Combat Skills Training	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Office	My UDM/IDO was knowledgeable of my mission details	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Office	I completed all pre-deployment training prior to departing home station	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Office	My home station provided me with ALL the required equipment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Office	My PRF made transportation arrangements to the appropriate airport	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Training	Transportation from the airport to the Army Post was timely	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Training	USAF Detachment Personnel were readily accessible at the Army Post	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Training	USAF Det Personnel provided adequate assistance during in-processing	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Training	In-processing was a smooth, controlled operation	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

If you felt the reporting instructions were not clear, understandable and accurate, **What areas required improvement?** *Check all that apply.*

☐ Travel	☐ Equipment	☐ Local Information	☐ Points of Contact
☐ Weapons	☐ Class Synopsis	☐ Lodging and Meals	☐ Arrival Information
☐ Travel Orders	☐ Individual Checklist	☐ Equipment Checklist	☐ UDM Checklist

Comments: Please provide any additional comments in the box below.

008

HQ Second Air Force "In Lieu of" Graduation Evaluation Survey Form

HQ Second Air Force
"In Lieu of" Graduation Evaluation Survey Form

Gender: ☐ M ☐ F Status: ☐ Active ☐ Reserve ☐ Guard

Rank: ☐ E1-E4 ☐ E5-E6 ☐ E7-E9 ☐ O1-O3 ☐ O4-O6

MAJCOM: ☐ AETC ☐ AMC ☐ ACC ☐ AFMC ☐ USAFE
☐ PACAF ☐ AFSOC ☐ AFSPC ☐ AFRC ☐ ANG

Please print as neatly as possible. USE ALL CAPS. Do not touch box sides.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0 1 2 3 4 5 6 7 8 9

RFF: ☐☐☐☐ Home Station: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

The following information can be found on your orders ULN: ☐☐☐☐☐ Line No: ☐☐☐

AFSC: ☐ SF ☐ CE ☐ Medical ☐ Trans ☐ PA
☐ Supply ☐ Intel ☐ Comm ☐ IM ☐ Other

Rate the following statements regarding your CST experience using the following scale: (1) Strongly Disagree (2) Disagree (3) Neither Disagree or Agree (4) Agree (5) Strongly Agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Facilities (billeting, dining, training, etc) were adequate and acceptable to meet training objectives	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Overall Quality of Life was commensurate with AF QOL	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

If you felt the facilities were below standards, **What areas required improvement?** *Check all that apply.*

☐ Billeting ☐ Restroom/Latrine ☐ Laundry ☐ Dayroom
☐ Bathing/Shower ☐ Classroom ☐ Dining ☐ Heat/AC

If you felt QOL was not satisfactory, **What areas required improvement?** *Check all that apply.*

☐ Transportation ☐ Telephone ☐ Internet ☐ AAFES
☐ Base Restrictions ☐ Alcohol Policy ☐ Recreation Facilities ☐ Gym Facilities

019

B R A G G

Rate the following statements regarding your CST experience using the following scale: (1) Strongly Disagree (2) Disagree (3) Neither Disagree or Agree (4) Agree (5) Strongly Agree

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Self-efficacy	Combat Skills Training has given me confidence for this deployment	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Task Understanding	I thoroughly understand my deployed mission and objectives	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	"Safety was paramount" during all training modules	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	Allotted training time was efficiently utilized (not much "down time")	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	The class leader was fully engaged with USAF Det Personnel	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	Fitness training was effectively incorporated into the training course	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	Hazing (maltreatment of the Air Force) was not an issue during training	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	USAF Det Personnel were readily accessible at the Army Post	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	The USAF Det Personnel addressed all problems in a timely manner	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	USAF Det Personnel provided adequate assistance during in-processing	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	The FOB environment added value to the training	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
	Orientation briefs provided by Det personnel helped set my expectations for this course.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Of the following briefings provided during in-processing, which do you feel were most useful? *Check all that apply:*

☐ Army 101 ☐ Warrior Brief ☐ Airman Expectations ☐ CENTCOM/CENTAF Brief ☐ DV (0-6) Brief

Training time at the FOB was:	☐ Sufficient	☐ Too Long	☐ Too Short
Time allotted for Combat Skills Training	☐ Sufficient	☐ Too Long	☐ Too Short

Comments: Please provide any additional comments in the box below.

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Vita

Captain Ronald Scott Wallace graduated from West Jordan High School in West Jordan, Utah. He entered undergraduate studies at the Snow College in Ephraim, Utah and later transferred to Utah State University in Logan, Utah where he graduated with a Bachelor of Science degree in Mechanical Engineering with a minor in Aerospace Engineering, on 5 May 2003. During his academic career he voluntarily left his studies for two years to serve as a missionary for the Church of Jesus Christ of Latter-Day Saints in the Mexico-León mission, where he gained many life and leadership experiences. He was commissioned through the Detachment 860 AFROTC at Utah State University where he was recognized as the Rising Cadet and nominated for a Regular Commission.

His first assignment was at Fairchild AFB as a Mechanical Engineer September 2003 in the 92nd Civil Engineer Squadron. Additionally he was assigned as the Simplified Acquisition of Base Engineer Requests (SABER) Chief, rapidly executing many construction and renovation projects. In January 2006, he was deployed to the 447th Expeditionary Civil Engineer Squadron, Baghdad International Airport, Iraq as the Engineering Flight Commander. In August 2006, he entered the Graduate School of Engineering and Management, Air Force Institute of Technology. Upon graduation, he will be assigned to Osan Air Base, Republic of Korea.

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13. SUPPLEMENTARY NOTES

14. ABSTRACT

Perceived organizational support (POS), or how much an employee feels the organization they work for cares for them and assists them in their needs, has been traditionally characterized in a single dimension. The implications of a multidimensional view of POS were examined in this study. POS was separated into three different dimensions based on the organizational level from which support can be viewed to originate: corporate headquarters, the home office, and the training environment. These dimensions of POS were tested to discover their effect on self-efficacy and task understanding of individuals training for boundary-spanning tasks. Such tasks are those that place the employee in an environment, culture, and/or duties outside of their organization. For this study the perceptions of United States Air Force Airmen deploying overseas to serve in Army duties were researched. Results of the study showed that Office POS had a direct positive effect on both self-efficacy and task understanding on these boundary-spanning individuals.

15. SUBJECT TERMS

Perceived Organizational Support, Self-efficacy, Task Understanding, Training Effectiveness, Boundary-spanning Roles

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