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The Relative Influence of Military Rank versus Personality on Perceived Autonomy for United States Air Force Pararescuemen

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MA, University of Oklahoma, 2004

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Dissertation Submitted in Partial Fulfillment

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Abstract

Hierarchies within organizations like the military have often contributed to feelings of subordination and have contributed to lower employee autonomy and a decrease in job satisfaction, motivation, and performance. Other constructs, such as those relating to personality, have been eluded to explain the variance in the poor outcomes. However, despite the research on dominance, autonomy, and personality constructs, there has been little investigation to bridge together the structure and dynamics of personality and autonomy. By applying interpersonal, boundary, control, and contingency theories, this quantitative study bridged the gap between hierarchical levels of military rank, the personality construct of relative dominance, and perceived autonomy in a convenience sample of United States Air Force pararescuemen ($N = 72$). Based on a multiple linear regression and post hoc logistic regressions, results indicated that relative dominance and military rank equally and significantly explained the variance in total perceived autonomy for pararescuemen. These findings question the current rank-centric military hierarchy and highlight the importance of personality and qualitative factors that influence perceived autonomy in pararescue, a critical variable throughout organizational psychology. These findings have positive social change implications by encouraging a paradigm shift from a rank-centric to position-centric structure for pararescuemen, a shift that may improve personnel/resource management; reduce organizational costs for military personnel; and increase overall job satisfaction, motivation, performance, recruitment, and retention.

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Dedication

This dissertation is dedicated to the individuals that have given their lives so that others may live.

Acknowledgements

First and foremost, I would like to thank my mother, my father, my brother, and my surrogate grandparents for giving me the strength and determination to accomplish what some have tried to prevent. I would also like to thank and recognize Dr. Gwynne Dawdy and Dr. Tom Diamond as co-chairs within my committee, as each served as my chairperson in different capacities throughout my research.

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Chapter 1: Introduction to the Study

In early August 1943, a cargo and transport plane departed an air base at Chabua, India with 17 passengers and a crew of four. It developed engine problems while flying to China, near the China-Burma border and the Chindwin River, where Japanese military units were located. The pilots were unable to compensate for engine problems and the plane went down near the China-Burma border. Lieutenant Colonel Don Flickinger and two of his medical corpsmen, Sergeant Harold Passey and Corporal William MacKenzie volunteered for the recovery of the survivors. Lieutenant Colonel Flickinger had previously parachuted, but the other two individuals had no parachuting experience. The three men were airlifted via an additional transport plant to the recovery site and were inserted by parachute. Of the 21 individuals in the plane, only the copilot did not survive and return safely to friendly forces (Pararescue, 1996). While not immediately forthcoming, this mission is considered to be the precursor to modern day pararescue, officially assigned to the United States Air Force when it was established by the National Security Act of 1947.

Pararescue relies on individuals that are highly reliable, efficient, and effective at working in austere and hostile environments (Career Field Education and Training Plan [CFETP] 1T2XX, 2008). Similarly, highly reliable organizations require dynamic and complex infrastructures that are causally interdependent, extremely differentiated, internally redundant, highly accountable, time-sensitive, and synchronous (Burke, Salas, & Wilson, 2005). In effect, a highly reliable organization requires its members to meet

that same standard. While the incident rate may vary, a common failure of unreliable organizations is their inability to effectively mitigate the level of control necessary to achieve organizational objectives, consequently resulting in their failure to meet their short and/or long-term goals (Burke, Salas, & Wilson, 2005). In order to increase organizational efficiency, management should vary the level of control within the context of intra/interpersonal autonomy and situational dependencies (Eisenhardt & Santos, 2005). Specifically, pararescue requires a level of control that differs from that of traditional career fields. However, as with any military career field, pararescue is differentiated into tactical, operational, and strategic divisions of labor (CFETP 1T2XX, 2008). At the tactical level, the scope of employment is limited to single intrapersonal actions that can be combined to meet operational objectives. At the operational level, those actions at the tactical level combine to form interpersonal relationships. Finally, at the strategic level, operational objectives are modified through policy and doctrine to meet organizational objectives. Within all levels of an organization, the interpersonal boundaries of power, efficiency, competence, and identity influence the tactical, operational, and strategic divisions, creating a harmonic effect that cannot be simply defined in quantitative terms; therefore, the very existence of individual differences necessitates an organizational model that cannot be reliant upon a simple hierarchical model of centralized control and decentralized execution without reconciling with an individual's inherent need for autonomy (Eisenhardt & Santos, 2005).

To highlight the importance of a flexible level of control within pararescue, the

tactical, operational, and strategic levels of hierarchy require a relative absence of individual politics in order to meet mission objectives; however, the hierarchy must still strive to provide a general framework of laws and rules to prevent instability (Air Force Instruction [AFI] 36-2618, 2009). An unstable balance between control and autonomy reflects a basic systemic failure between the tactical, operational, and strategic divisions (AFI 36-2618, 2009). Currently, extensive organizational efforts have not yet been able to resolve the dialect between control and autonomy or between organizational efficiency and effectiveness (Christensen & Laegreid, 2007).

The premise of this research was to assess, among individuals within pararescue, the relative magnitude of the proportion of variance of perceived autonomy accounted for by dominance/submissiveness compared to that accounted for by levels of military rank (tactical, operational, and strategic). This is socially important because this research begins to address a gap in literature that has failed to adequately address the relationship between control, autonomy, hierarchy, and personality. Results indicate that the personality construct of dominance/submissiveness is a critical component in perceived autonomy for pararescuemen, and in turn, a significant influence in increasing their ability to save lives, do so more safely, reduce organizational costs, and enhance recruitment and retention of future pararescuemen. This research also explored these variables as an influence over policy at the sociopolitical level and its generalization to organizational psychology as a whole.

Background of the Study

This study explored the relative magnitude of the proportion of United States Air Force pararescuemen's perceived autonomy variance uniquely accounted for by dominance and submissiveness. In the context of autonomy, control structure within the military has traditionally been delineated between centralization and decentralization. Specifically, the military tenet of centralized control and decentralized execution has been engrained within military culture without questioning the need for asymmetric policy and doctrine.

Interpersonal theory assumes that every organizational interaction combines to form the causal dynamic within a particular organization and its subdivisions (Sadler, Ethier, Gunn, Duong, & Woody, 2009; Tiedens, Unzueta, & Young, 2007; Tracey, 1994). Specifically, a dialectic complement is created between organizational needs and the autonomic needs of every individual in an interpersonal dynamic. Within this causal relationship is the tenet of complementarity, referring to the extent that interpersonal behaviors form synergisms (Sadler, Ethier, Gunn, Duong, & Woody, 2009; Tiedens, Unzueta, & Young, 2007). These synergisms were analyzed with respect to military rank and dominance/submissiveness as predictive of perceived autonomy for United States Air Force pararescuemen. Current research has not effectively analyzed any form of hierarchy as compared to personality when attempting to predict perceived autonomy in the workplace. This research, within a military context, provides a likely foundation for future studies that can be expanded to address hierarchy, personality, and autonomy

within other organizational populations. For this study, I administered the Interpersonal Adjective Scales (IAS), a 64-item survey on an 8-point, Likert scale, to measure relative dominance or submissiveness. I also used the Work Autonomy Scale (WAS), a nine-item survey on a 7-point, Likert scale, to measure perceived autonomy in the work place. Finally, I also administered a demographic survey to record military rank and other important, individual factors. These scales were used to explore the interaction between military rank and dominance/submissiveness on perceived autonomy within United States Air Force pararescue and analyzed to determine generalizability across all organizations.

Problem Statement

While control is delegated to varying degrees within the military, the supposition that decentralization of control is sometimes necessary within highly reliable subdivisions of the military cannot be easily identified within current research. Specifically, historical and current research appears to have overlooked the variables of military rank and personality with respect to their relative influence on perceived autonomy for pararescuemen or the special operations military community as a whole. Generally, the importance of autonomy as a construct within organizational psychology is often implied, yet rarely addressed, as a cornerstone of organizational efficacy. In order to address this research gap, I analyzed the importance of dominance and submissiveness with respect to military rank in predicting variation in perceived autonomy for pararescuemen. Furthermore, I analyzed these constructs in order to provide suggestions as to the manner

in which autonomy can be effectively managed and employed within today's rapidly changing combat environment, as well as generalizing those suggestions across the spectrum of occupations.

Purpose of the Study

The purpose of this quantitative study was to discover if either the personality variable of dominance/submissiveness or the hierarchical variable of military rank influences perceived autonomy for United States Air Force pararescuemen. This study identified important relationships that affect variations in perceived autonomy and highlighted the importance of autonomy within rigid hierarchies such as the military (specifically, pararescue). Through the application of interpersonal, boundary, control, and contingency theories, I explored several managerial models, including one that employs a variable control structure that is situational dependent, rather than a traditionally hierarchical model of control that is linear.

Nature of the Study

In this quantitative, predictive study, I administered surveys as my method of data collection to examine the hypothesis described below. I used a multiple linear regression (MLR) analysis to explore which of the independent variables (military rank or dominance/submissiveness) predicted the greatest variance in the dependent variable (perceived autonomy). Post hoc logistic regressions were also conducted to provide a deeper interpretation of the MLR.

The target population was a convenience sample of 75 males, ages 18 and older, who were enlisted in the United States Military as pararescuemen. Upon IRB approval by the United States Air Force and Walden University, I surveyed this target population at each Active Duty, Air Force Reserve, and Air National Guard rescue organization after coordinating with each organization's respective Commander. Participation in the study was voluntary and participants were provided a copy of the informed consent form (see Appendix A).

The surveys included a demographic form (see Appendix A) to assess military rank, the IAS to assess level of dominance/submissiveness, and the WAS to assess perceived autonomy. I administered surveys in multiple individual settings. Chapter 3 contains further discussion regarding the research method and execution.

Research Question and Hypothesis

The following research question and hypothesis guided this study:

1. Does hierarchical level, as compared to dominance/submissiveness, predict greater variation in perceived autonomy for United States Air Force pararescuemen?

$H1_o$: The personality variable of dominance/submission, as measured by the Interpersonal Adjective Scales, will not significantly predict a greater proportion of variation in perceived autonomy, as measured by the Work Autonomy Scale, than hierarchical level (operationalized by military rank).

$H1_a$: The personality variable of dominance/submission, as measured by the Interpersonal Adjective Scales, will significantly predict a greater proportion of variation in perceived autonomy, as measured by the Work Autonomy Scale, than hierarchical level (operationalized by military rank).

Theoretical Base

Several key theories are implicated in this research, including interpersonal theories and models relevant to dominance/submissiveness, autonomy, interpersonal boundaries, conflict, contingencies, self-determination, and organizational efficacy. Common themes throughout these theories are varying constructs of efficiency, power, competence, and identity (Eisenhardt & Santos, 2005). Dependent upon the strength of these constructs within each organizational division and within each person, different personalities will manifest and management's level of control will increase or decrease. Efficiency, by itself, is often a tactical construct while other constructs are more strategically oriented - implicating a level of control continuum that positively or negatively affects perceived autonomy (Eisenhardt & Santos, 2005). In order to effectively address interpersonal theory (i.e., dominance/submissiveness) within the context of these theories and models, perceived autonomy may be best represented as a Venn diagram of (dis)agreement, emotion, and interference, in which the definition of autonomy is situational dependent (Barki & Hartwick, 2004). In effect, an appropriate level of control within an organization is contingent upon the interaction between

organizational divisions and interpersonal boundary valences (Ethiraj & Levinthal, 2004). Detailed theoretical basis for this study can be found in Chapter 2.

Definitions of Terms

Qualified Pararescueman (PJ)

The career field of pararescue is limited to male applicants. In order to be qualified, a pararescueman participating in this research was awarded his maroon beret at some point during his military career. In order to be awarded his beret, he must have completed the Pararescue Apprentice course. Furthermore, a qualified pararescueman is considered a Battlefield Airman that is an operational component of the United States Air Force rescue and recovery force that provides the capability for the United States to recover a wide range of military, civilians, and contractors in combat and noncombat environments. They also provide survival, evasion, resistance, and escape assistance, as well as an array of emergency and field trauma care. In addition, qualified pararescuemen are capable of recovering both personnel and materiel safely and securing them without the use of dedicated assets such as aircraft (CFETP 1T2XX, 2008). Throughout the remainder of this dissertation, the term *qualified* will be assumed within the term pararescueman.

Organizational Rank

Organizational rank is the hierarchical assignment of United States Air Force pararescuemen to nine vertical levels (E-1 through E-9) within three divisions: (a) tactical (E-1 through E-4), (b) operational (E-5 through E-6), and (c) strategic (E-7 through E-9).

The sample is comprised of an equal representation within each division to minimize bias and maximize the study's validity and generalizability.

Tactical divisions. Represented by those airmen initially entering into the pararescue career field with the rank of airman basic (E-1), airman (E-2), airman first class (E-3), or senior airman (E-4).

Airmen. This division consists of airman basic, airman, airman first class, and senior airman. Airmen in these ranks primarily focus on adapting to the military environment and achieving initial qualification training. During this time, airmen are groomed for increased responsibilities and may receive mission qualification training so that they are able to deploy and operate in support of global conflicts. Furthermore, airmen continue to broaden their technical skills and should attempt to further their educational pursuits (AFI 36-2618, 2009).

Pararescue-specific functions. At the tactical level, pararescuemen perform as a team member for the essential ground to air command and control link for personnel recovery and materiel recovery operations. They provide a dynamic capability and operate across the full spectrum of geographic and environmental conditions. Tactical-level pararescuemen also provide survival, resistance, evasion, and escape expertise, emergency and field trauma care, team medicine, and security (CFETP 1T2XX, 2008).

Operational divisions. Represented by those noncommissioned officer (NCO) pararescuemen in the ranks of staff sergeant (E-5) and technical sergeant (E-6).

Noncommissioned Officer (NCO). This division consists of staff sergeants and technical sergeants. Mission accomplishment is the primary focus within this division. NCOs continue to further their technical knowledge and expertise. Simultaneously, NCOs are honing their skills as supervisors, managers, and future leaders of the enlisted force. Additionally, NCOs coordinate and ensure that they themselves and their subordinate airmen are adequately trained and qualified in order to deploy and operate in global conflicts. Furthermore, NCOs must prepare for increased responsibilities while furthering their educational objectives (AFI 36-2618, 2009).

Pararescue-specific functions. In addition to the above tactical requirements, pararescuemen at the operational level perform as element leaders—after appropriate upgrade—and plan, lead, supervise, instruct, and evaluate. Following a pararescueman's upgrade to element leader, he will then complete all qualifications required for recovery team leader (RTL) and all other items deemed necessary by their specific command job qualification standard and unit upgrade training plan. As a RTL, he will lead, plan, supervise, instruct, and evaluate pararescue activities for the entire team. Furthermore, he operates in various team leader roles as the essential ground to air command and control link in personnel and materiel recovery operations (CFETP 1T2XX, 2008).

Strategic divisions. Represented by those senior noncommissioned officer (SNCO) pararescuemen in the ranks of master sergeant (E-7), senior master sergeant (E-8), and chief master sergeant (E-9).

Senior Noncommissioned Officer (SNCO). This division consists of master sergeants, senior master sergeants, and chief master sergeants. Mission accomplishment is their primary objective. SNCOs are at the strategic level and are the enlisted force's leaders, providing senior mentorship to the airmen and NCO ranks. At this level, SNCOs continue to increase their knowledge and experience with policy and doctrine. As with NCOs, SNCOs are responsible for keeping themselves and subordinates adequately trained and qualified in order to operate effectively and efficiently in global conflicts. SNCOs are considered to have extensive experience and leadership ability that they use in the best interest of mission requirements. Finally, SNCOs engage in numerous decision-making processes regarding technical, tactical, operational, and strategic issues (AFI 36-2618, 2009).

Pararescue specific functions. Pararescuemen at the strategic level conduct, supervise, manage, and evaluate other pararescuemen and personnel recovery activities across the full spectrum of military operations. This includes but is not limited to: unconventional operations, standardization of functions, and mission-specific programs (CFETP 1T2XX, 2008).

Interpersonal Constructs

Circumplex. A circumplex is a circle in which various traits are plotted at different angles, much like a pie chart. Within the context of interpersonal dynamics, the interpersonal circumplex is defined by an individual's manifestation of affiliation

(friendly vs. hostile) and relative power (dominance vs. submissiveness), representative of x and y axes of a graph, respectively (Tracey, 1994).

Dominant/submissive personality. This research will focus solely on the dimension of power (relative dominance), which will be measured by the Interpersonal Adjective Scales (IAS) and plotted on the interpersonal circumplex. Participants who score in the highest category of dominance on the interpersonal circumplex are termed assured-dominant, which is a measurable vector derived from the IAS. Conceptually, the assured-dominant personality exhibits characteristics of forcefulness, assertiveness, dominance, and self-confidence; furthermore, traits associated with the IAS vector of dominance include achievement, self-esteem, persistence, and deliberate planning (Wiggins, 1995). Comparatively, participants who score in the lowest category along the axis of dominance on the interpersonal circumplex are termed unassured-submissive. Conceptually, the unassured-submissive personality exhibits characteristics of timidity, fearfulness, and submission; furthermore, traits associated with the IAS vector of submissiveness include a general lack of self-esteem, a fear of negative evaluation, and introverted behavior (Wiggins). For the purpose of this study, participants were given a relative dominance score based upon their position on the circumplex. Therefore, not all participants will be at the highest level of conceptual dominance (assured-dominant) or submissiveness (unassured-submissive), but were on a continuum of relative dominance/submissiveness. Further discussion regarding dominance/submissiveness can be found in Chapter 2.

Perceived autonomy. An individual's perceived level of freedom to make important decisions without consulting another individual (Brock, 2003).

Work autonomy. The level of freedom a worker has with respect to work methods, scheduling flexibility, and work criterion (Breaugh, 1985).

Work method autonomy. The level of freedom a worker has with respect to the methods they use to accomplish their job duties (Breaugh, 1985).

Work scheduling autonomy. The level of freedom a worker has with respect to their control over scheduling the sequence and timing of their job duties (Breaugh, 1985).

Work criteria autonomy. The level of freedom a worker has with respect to their ability to select and/or change the criteria used for performance evaluations (Breaugh, 1985).

Assumptions

The IAS is a psychometrically viable measure for identifying interpersonal categorizations, while the WAS is a psychometrically viable measure for measuring perceived autonomy in a work environment. Furthermore, I assumed that the IAS and WAS accurately measured their intended constructs and would result in consistent findings over multiple iterations. The participants in this research were adult males in the military career field of pararescue and were capable of completing the IAS and WAS. Furthermore, I assumed that participants could adequately read and comprehend the surveys. In addition, operational psychologists influence policy, which meant that I assumed that the data collected and analyzed from this research would potentially result

in policy and doctrine changes that would improve the ability of pararescue and other special operations units to support asymmetric operations in current world conflicts. Finally, I used an equal number of participants within each hierarchical level (tactical, operational, and strategic) to prevent skewing of the results.

Limitations

While this research has the potential to initiate a paradigm shift within current military doctrine concerning the relative influence of organizational division and interpersonal boundaries on autonomy, there may be some limiting factors that prevent the use of such findings from maximizing positive social change. Self-report bias may be one such limitation if the participants attempted to increase their social desirability. In effect, participants may have attempted to increase their social standing by responding to personality assessments with the objective of being perceived as more socially respectable than the traits actually reflect. The probability of this occurring was mitigated by the anonymous nature of this study, as well as that I had a high level of rapport with participants as a member of the same special operations community. An additional limitation may be that the research was based upon volunteers, which may prevent the results from being accurately generalized to the entire special operations and/or military community. There is no guarantee that results will be able to be generalized across the spectrum of military and civilian occupations.

Significance of the Study

Literature pertaining to autonomy within organizations and the level of control necessary to maximize organizational efficacy does not effectively address the scope of organizational and interpersonal influences upon individuals within the military. This study on the assessment of hierarchy, dominance/submissiveness, and autonomy would be valuable to the special operations community (specifically, pararescue) within the United States military to ensure operational success within an asymmetric threat environment.

While my intent with this study was to discover if dominance/submissiveness for United States Air Force pararescuemen is more closely related to autonomy than military rank, its social implications are farther reaching. Specifically, if I found dominance/submissiveness, within pararescue, to be more closely related to autonomy than military rank, this might extend to other military and civilian organizations. Comparatively, if rank, within pararescue, was more closely related to autonomy than dominance/submissiveness, this might also extend to other military and civilian organizations. Furthermore, identification of these variable relationships could lead to better personnel/resource management. Specifically, identification of these relationships could enable pararescuemen to save more lives with reduced organizational costs. Finally, autonomous individuals could be selected and placed within organizations based upon the findings from this study. In effect, it is likely that this study will result in positive social change by increasing job satisfaction, decreasing financial overhead,

minimizing turnover, and more importantly, increasing the ability of pararescuemen to save lives in combat.

Summary

This chapter introduced my research on the topic of the relationship between hierarchy, personality, and autonomy within organizations and provided a foundation for analyzing the predictive ability of hierarchy and the personality construct of dominance/submissiveness with respect to perceived autonomy for pararescuemen. Chapter 2 describes the theoretical emphasis encompassing interpersonal, boundary, and contingency theories within the context of hierarchy, personality, and autonomy, which have strong empirical support in the literature regarding organizational division and interpersonal influence on control structures within organizations. Chapter 3 will discuss the research design and methodology that I used for this quantitative study.

Chapter 2: Literature Review

In this chapter, I discuss and review the scientific literature regarding the relative influence of organizational hierarchies and the personality construct of dominance/submissiveness on perceived autonomy within organizations, and specifically the military. I conducted a digital search of the literature on the internet in online databases, including but not limited to PsycArticles, PsycInfo, CINAHL, and ProQuest. Search terms of dominance, submissiveness, rank, hierarchy, military, personality, autonomy, control, interpersonal, boundaries, and centralization were used in various combinations. These searches resulted in more than 2,500 articles with indirectly related combinations, but less than ten articles that were directly relevant to this research. There were zero search results that addressed all of the variables that were analyzed within this study.

Personality Constructs of Dominance and Submissiveness

According to recent collegiate textbooks (Larsen & Buss, 2008; McAdams, 2006; Pervin, Cervone, & John, 2008), within organizational psychology, personality can be traced back over four decades to Mischel's (1968) *Personality and Assessment*. Within Mischel's research and over the course of these four decades, three notable events have occurred: (a) a refocusing upon traits, (b) an acceptance that within-person variability in behavior is prevalent, and (c) a furthering of research regarding academic understanding of the dynamics of within-person variability (Fournier, Moskowitz, & Zuroff, 2009). From the above events and historical trends, it is evident that past and current research

has formally established a relationship between traits and behavior. Specifically, variation of personality traits have been relegated to between five and seven dimensions, with observed behaviors providing a means to categorize individuals across these dimensions as well as providing a foundation indicative of within-person consistency of traits (Borkenau, Mauer, Riemann, Spinath, & Angleitner, 2004; Epstein, 1979; Epstein, 1980; Goldberg, 1993; Moskowitz, 1982; Moskowitz, 1988; Saucier & Simonds, 2006). Furthermore, traits have been found to predict both intrapersonal and interpersonal events, including health and occupational success (Ozer & Benet-Martínez, 2006; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). In effect, historical trends have proven that traits and behavior are inextricably linked in both a causal and predictive nature.

Given the extensive work of Mischel (1968, 1973, 1999, & 2004) as well as Mischel and Shoda (1995, 1998, & 1999) and validated by Fournier, Moskowitz, and Zuroff (2009), it is evident that within-person behavioral variation is a stable and important characteristic of individual difference. The principle of intra-individual variability in behavior has been originally represented within a theoretical framework termed the cognitive-affective processing system (CAPS). Mischel and Shoda (1995, 1998, & 1999) initially proposed CAPS, a framework based on the premise that individuals translate environmental conditions into psychological constructs through pre-conceived within-person archetypes. While these preconceptions may evolve, the CAPS framework provides a stable means through which behavioral patterns define an individual's trait-behavior, or cognitive-affect signature (Fournier, Moskowitz, & Zuroff,

2009). Therefore, every individual is defined by a unique, even if slightly unique intrapersonal CAPS signature.

According to Fournier, Moskowitz, and Zuroff (2009), the intrapersonal CAPS signature directly support the concept of the circular structure of interpersonal dynamics (Freedman et al.,1951; LaForge, Leary, Naboisek, Coffey, & Freedman, 1954; Leary, 1957; Wiggins, 1980; Wiggins, 1982), which takes into consideration a two dimensional model in which the vertical axis relates to autonomy and control along a continuum of dominance to submissiveness while the horizontal axis relates to affiliation and connection along a continuum ranging from quarrelsomeness to agreeableness. Furthermore, the CAPS framework provides a means through which the interpersonal circle is effectively utilized and employed to conceptualize the trait-behavior relationship and the effect of the intrapersonal CAPS signature on interpersonal situations (Fleeson, 2007; Fournier, Moskowitz, & Zuroff, 2009; Saucier, Bel-Bahar, & Fernandez, 2007). The implications of this relationship are of primary importance throughout this study and will be discussed in-depth throughout this dissertation.

One theory that focuses primarily on the autonomic vector of the interpersonal circumplex and directly relates to the dominance/submissiveness continuum is social competition/rank theory. According to this theory, social competition is a means through which the social system attempts to prevent subordinates in a rank-based hierarchy from challenging their superiors (Fournier, Moskowitz, & Zuroff, 2002; Gilbert, 1992, 2000; Gilbert, Allan, Brough, Melley, & Miles, 2002; Price, 1972; Price, Sloman, Gardner, Gilbert, & Rohde, 1994; Sloman, 2000; Sloman, Price, Gilbert, & Gardner, 1994). While

multiple paradigms are a product of this theory, the involuntary defeat strategy (IDS) is of particular interest to this dissertation. Within the IDS construct, the defeat strategy is subconsciously enabled when an individual submits to a dominating situation (Levitan, Hasey, & Sloman, 2000; Zuroff, Fournier, & Moskowitz, 2007). Since the IDS construct is universally inherent within individuals, this finding with similar research suggests that dominant personalities would suppress the IDS and intensify its parent system, the threat-defense system or more commonly known as the fight or flight mechanism (Moskowitz, 2005; Zuroff, Fournier, & Moskowitz, 2007).

While the above discourse focuses primarily on the intrapersonal constructs of dominance and submissiveness, further research supports an interpersonal model that can be measured by the valence of his or her social dominance orientation (SDO). Specifically, individuals with high SDO embrace vertical social structures and inequality within social ranks, while those with low SDO embrace horizontal social structures and equality within social ranks (Halabi, Dovidio, & Nadler, 2008).

In effect, the current research supports the premise that military personnel in special operations would tend to have high SDO. With respect to personnel selection within special operations, it would follow that those individuals selected would ideally have similarly high levels of SDO to support group cohesion, autonomy, and dominance and avoid the perception of weakness in terms of submissiveness (de Reuver, 2006). Therefore, to continue to maintain a high level of SDO and avoid negative perceptions associated with submissiveness in a military environment, special operations may use a form of social power that identifies them as a dominant force through inter-group

dependency (Cartwright & Zander, 1968; Fiske, 2001; French & Raven, 1959; Kelman, 1958; Keltner, Gruenfeld, & Anderson, 2003; Overbeck & Park, 2001; Reynolds & Platow, 2003; Thibaut & Kelley, 1959).

Social power necessitates a certain level of personal control. In particular, personal control relates to interpersonal perceptions of work autonomy and the impact of an individual's actions on work outcomes; specifically, increases in intrapersonal control directly correspond to increases in autonomy and impact, and vice versa (Brockner et al., 2004; Tangirala & Ramanujam, 2008). From this finding, it is becoming increasingly evident that dominance through social and intrapersonal power is directly related to autonomy. Furthermore, it is important to mention that a lack of control may negatively impact the interactions between supervisor and subordinate, and show a commensurate decrease in a subordinate's perceived autonomy (Ford & Tetrick, 2011).

The relationship between autonomy and dominance is undeniable. Both personality constructs complement the other and encourages dependency relationships whether in terms of groups through SDO or at the intrapersonal level through the IDS. Furthermore, autonomy is relevant to affiliation, which is interestingly the secondary component of the interpersonal circle, which will be discussed in-depth later in this proposal (Tett & Murphy, 2002). The nature of the interactions between dominance, affiliation, and autonomy within different social structures requires that different can be better defined within a military structure.

Autonomy

Dominance, with respect to autonomy, can be viewed with the context of either an individual or group's need for self-governance. In particular, Herrera (2001) emphasized that a paradigm shift occurred during the American Revolution, in that an American soldier's belief in the inherent right to self-governance developed and has continued to permeate current military culture and ideals. This right of self-governance became engrained within all military professions and supports the concept of a military reliant upon dominance through autonomy. Further historical importance can be tied to the term of empowerment. Empowerment can be viewed as an overarching concept that Etebarian (2010) has traced back to 1788, in which subordinates were relegated some or all of the authority from his or her higher authority. Within empowerment, five constructs have been identified: (a) competence, (b) self-determination, (c) impact, (d) meaningful sense, and (e) trust (Etebarian, 2010; Ford & Tetrick, 2011; Thomas & Velthouse, 1990). While all of these constructs are important, self-determination and impact are once again highlighted within the related dominant/submissiveness concept of empowerment. Specifically, healthy autonomy is defined as healthy level of self-governance in which the individual is not overly dominated and is empowered to accomplish tasks (as supported by Yeh, Bedford, & Yang, 2009).

The concept of autonomy with respect to self-governance and its relationship to dominance/submissiveness is supported through self-determination theory (SDT), which is a motivational theory that addresses both the motivational type and intensity (Gagne & Bhave, 2010). Specifically, self-determination is the end result of high autonomy, free-

will, and sense of purpose (Deci & Ryan, 2000). Given that autonomy is a central component of self-determination, individuals such as pararescuemen would also have to be relatively dominant to meet their objectives. This supposition is supported by current research that indicates that self-determined individuals are better able to manage task saturation, multitask, and mitigate stress through dominant control mechanisms within high intensity environments (Parker, Jimmieson, Amiot, & Parker, 2010).

Self-determination theory (SDT) links intrapersonal and interpersonal (work) autonomy. Specifically, a relationship exists between autonomy and interpersonal relations, and a relationship exists in which the self is responsible for and sanctions interpersonal behavior (Yeh, Bedford, & Yang, 2009). In effect, SDT highlights the important notion that autonomy is not a means to separate individuals from others, but focuses autonomy's meaning to separate but related intrapersonal and interpersonal definitions. A relatively new model of autonomy addresses the role of interpersonal distance as a mediator of autonomy. This dual model accepts the premise that autonomy can fluctuate with respect to the type of interpersonal relationship (dominant/submissive) and/or affiliation (Yeh, Bedford, & Yang, 2009; Yeh, Liu, Huang, & Yang, 2007; Yeh & Yang, 2006).

While self-determination theory provides an initial understanding of the construct of autonomy as a concept, its practical application may be better understood within the job demands-control (JDC) model. Within the JDC model, interpersonal relationships are examined under the context of employee health and well-being (Karasek, 1979), in which an employee's health and well-bring is measured in terms of job autonomy and job

demand in order to predict their level of stress in the work environment (Chung-Yan, 2010). There is some question as to whether the JDC is actually an accurate model, and that demands and control do interact (Taris, 2006; Tucker et al., 2008).

However, as with all models, it is imperative to properly define the constructs that are being identified and explained. Specifically, job demand should be conceptualized as the level of task saturation, while job control, in the context of autonomy, should be conceptualized as broadly encompassing control over tasks, methods, scheduling, etc. in order to strengthen the applicability and relevance of the JDC (Hvid, Lund, & Pejtersen, 2008; Johnson, 2008; Parker, Jimmieson, Amiot, & Parker, 2010).

The job demand-control (JDC) model provides a foundation that explains the interaction between dominant forces and autonomic response; however, it does not effectively highlight those dominant forces that affect autonomy. The job characteristics model (JCM) of work motivation explains that all jobs have specific features that may lead to higher levels of work motivation depending upon the manner in which these features influence the affective state of the employee (Hackman & Oldham, 1975, 1980). Within the JCM, five job characteristics and three affective states are possible. The relative manner in which the five job characteristics of skill variety, task identity, task significance, autonomy, and job feedback manifest within the individual create varying affective levels of meaningfulness of the work, perceived impact on the work accomplished, and actual understanding of the work results (Humphrey, Nahrgang, & Morgeson, 2007). It is evident from the job characteristic listing, and their resulting affective levels, that a multitude of end-states could occur. In particular, the five

characteristics, and three affective states, are associated with work motivation, commitment, satisfaction, involvement, and performance (Humphrey, Nahrgang, & Morgeson, 2007).

Since it appears that an individual's level of autonomy is directly related to work-related variables, it would appear to follow that autonomous learning would be a beneficial construct to encourage, especially in highly demanding professions such as the military. In support of this premise, learner autonomy can be subdivided into four components: (a) desire, (b) resourcefulness, (c) initiative, and (d) persistence (Mensch & Rahschulte, 2008). Since each of these components are required in order to complete military selection courses, autonomous learning could be an essential component in identifying primary candidates for certain highly demanding professions such as pararescue (van Yperen, 2006). In order to implement this task, it would be necessary to understand the transaction dynamics between the social structure and the individual's personality, and specifically the manner in which dominance and autonomy can be effectively utilized within social structures such as the military.

Hierarchy and Personality

Historically, interpersonal theorists have accepted that traits can be relegated to a circular pattern, indicating that an individual's personality traits can be combined to be plotted mathematically on an interpersonal circumplex (Carson, 1969; Leary, 1957); however, as research continued, studies found that specific behaviors can also be mapped to an interpersonal circumplex and interpreted in the context of the interaction effect among other individuals (Tracey, 1994). This is in stark comparison to linear and planar

measures of interpersonal traits that continue to be used today (i.e. FFM, MMPI). A comparison between interpersonal models will be reviewed in greater details below. In terms of a circumplex, just as the distance between two points on a graph represents a quantitative unit of measure, the distance between two individuals' behaviors on a circumplex would be a qualitative measure of interpersonal complementarity. According to Sadler, Ethier, Gunn, Duong, and Woody (2009), an individual that is dominant would induce a complementary behavior of submission from the receiving individual. Comparatively, the individual that is submissive would induce a complementary behavior of dominance from the receiving individual. Similarly, a friendly behavior would induce a friendly reciprocity, and a hostile behavior would induce a hostile reciprocity. However, this simple measure of qualitative differences and expected behavior fails to include the ecological influences inherent within the human social system. In response to this apparent shortfall, Carson (1969) outlined three types of complementarity dependent upon the level of stress imposed upon the interpersonal interaction: (a) complementarity, (b) anticomplementarity, and (c) acomplementarity. Specifically, complementary interactions are those supported by Tracey (dominant-friendly elicits submissive-friendly), while anticomplementarity are those interactions in which submissive-friendly behavior elicits submissive-hostile behavior. Finally, acomplementarity interactions are those in which only one dimension is complemented or when one individual is submissive-friendly and the other individual responds with either dominant-hostile or submissive-friendly. Basically, relationships under low stress are complementary, relationships under high stress are anticomplementarity, and moderate stress relationships

are acomplementarity. Several confounding variables affect the amount of stress imposed on a relationship, including: (a) the environment, (b) differences in status, (c) time spent in the relationship, and (d) individual differences (Tracey, 1994; Sadler, Ethier, Gunn, Duong, & Woody, 2009).

Compared to ecological influence, procedural utility refers to an individual's interpretation of that influence (Benz & Frey, 2008). This suggests that the meaning behind ecological influences is equally important to the influence itself. In terms of hierarchy, procedural utility emerges due to an individual's psychological need for self-determination, which includes among other things control and autonomy (Benz & Frey, 2008). Generally, self-determination is restricted under hierarchy, whereas it may be unrestricted if governed by personality (Benz & Frey, 2008). When acting directly on the mission with fewer restrictions (i.e., pararescue), individuals have a higher level of self-determination to affect mission success, in contrast to a sociopolitical scenario or mission in which they are restricted under a rigid hierarchy and mission success is more dependent upon bureaucratic determinates (Benz & Frey, 2008).

Within hierarchies, a single individual or unit is at the pinnacle. For example, the President of the United States is the individual at the top of the hierarchy for pararescuemen. While this allows for linear control, it does not easily permit time-sensitive and dynamic execution of mission-essential tasks. Specifically and contrary to Demange (2004), the hierarchy structure is limited by its inherent rigidity and does not allow for multiple creative thoughts. In effect, hierarchies can only implement policies that address a blanket outcome, not dynamic taskings.

To be fair, hierarchical organizations are not all alike, with some degree of variation in centralization and decentralization of control. For example, hierarchies that give a very limited scope of autonomy to their teams are centralized. However, regardless of the control structure employed by an organization, a particular hierarchical structure should be defined by factors other than group stability. In agreement with Demange (2004), comparing structures among and between each other should be the appropriate method used in order to determine which one(s) are more appropriate to a given situation (i.e., situational leadership).

Compared to hierarchical management, distributive management is fundamentally different in that there is not a linear command structure, but there is a framework imposed which limits unreasonable actions that are governed by social controls that affect the collective, rather than direct lines of authority that affect subordinate individuals (Heen, 2009). In terms of pararescue, this would mean that experience and personality would supersede military rank in terms of command structure. However, the distributive network still requires checks and balances to prevent instability (Heen, 2009). In effect, it would appear that military rank is only necessary when personality attempts to override the limitations of the organization's network. Furthermore, a high level of trust is necessary in networked organizations, both in the position and within the individual (Heen, 2009). Specifically, in pararescue, the position is not allocated to any individual that has not already shown a high degree of trust and integrity, supporting the argument that career fields such as pararescue are better structured as networks than as strictly linear hierarchies defined by military rank.

Within organizations, hierarchical autonomy may be viewed in an individual context or in the context of the units within the organization. For example, individual autonomy usually decreases when consent is required from supervisors, while less autonomous organizations have more power (Brock, 2003). In effect, it would be better for pararescuemen to have high individual autonomy in a dependent organization. Therefore, pararescuemen would be able to operate outside the confines of normal command structure within the unit while simultaneously taking advantage of the inherent power of organizational interdependencies for support, resources, training, and equipment from higher headquarters.

Further support for high individual autonomy in pararescue is evident in current research. For example, job autonomy within the confines of perceived control corresponded highest to employee attitudes with respect to the job itself as compared to formal/informal organizational support (Thompson & Prottas, 2006). These results directly implicate a relationship between personal and work autonomy. In addition, these results indirectly implicate that job autonomy may vary more as a function of an individual's personality than as to where he or she sits within the organizational hierarchy. Specifically, pararescuemen are continuously putting their own lives before those of others. With an increase in autonomy based on personality rather than military rank, it would appear that morale and retention of personnel would increase.

On another topic, unilateral control over ethics has been found to inhibit an individual's potential for creativity and for a sense of morality (Maclagan, 2007). Since pararescuemen are literally in control of saving another individual's life, they require

greater moral latitude to make time-sensitive decisions. Mechanisms of control over ethics cannot decrease the moral latitude necessary for individuals at higher autonomous levels (Maclagan, 2007).

Of further importance is that hierarchical and informal networks have always coexisted and that these types of organizations have highly dynamic boundaries that encourage boundary spanning (Hinds & Kiesler, 1995; Manev & Stevenson, 2001). In pararescue, lower ranking individuals are often given authority to tell higher ranking individuals what needs to be accomplished and in what order (CFETP 1T2XX, 2008). In this organizational form, boundary spanning activity must be nearly instantaneous and requires network centrality. In effect, higher ranking individuals provide network centrality while mission effectiveness and efficiency is governed by every individual, regardless of rank. Furthermore, individuals with high centrality (i.e. higher rank) have greater privileges and control over information and physical assets, which increases their relative influence within the organization. Since an individual derives influence from higher centrality, he or she is better postured to become a boundary spanning individual that extends beyond the constraints imposed by a traditional organizational hierarchy. Therefore, it appears to be an inherent responsibility for individuals of higher rank to empower those of lower rank to affect positive social change within organizations (i.e., via personality). In support of this supposition, Manev and Stevenson (2001) found that boundary spanning is ineffective if a strict and traditional hierarchy is imposed as compared to a dynamic and cross-relational interaction between organizational divisions.

Autonomy in a Military Context

Although the military is structured vertically, current research has begun examining the benefits of a horizontal and collectivistic structural approach to organizations (Dar, 2007). Traditionally, the military's decision making authority is through a hierarchy of rank. While higher ranking individuals should rely upon unbiased support and information to reach informed decisions (Drake & Deegan, 2009), the dominant nature of a rigid rank structure sometimes limits lower ranking individuals from making autonomous decisions. However, a paradigm shift has slowly been occurring in which the military is evolving from a monolithic society to that which is increasingly transformational (Mensch & Rahschulte, 2008; Stadelmann, 2010). In particular, previous notions of hierarchical dominance and subversion of subordinates has been gradually replaced by an understanding of asymmetric and autonomous needs. For example, current threats in the twenty-first century are becoming increasingly reliant upon special operations forces such as pararescue, which operate in small autonomous groups in order to maintain team integrity and effectively execute missions in asymmetric and dynamic environments (Ashcroft, 2008; Coker, 2004; Rasmussen, 2006; Shaw, 2005; Smith, 2005). In effect, the military's needs have shifted from a predominantly top-down control approach to that of relegating control (autonomy) to small groups or individuals.

Military operations have become increasingly complex with the technological revolution. This fact has forced military leaders to reevaluate how to best address and counter those threats that have been created from this technology. Specifically, military operations have shifted from conventional and linear method of operating, to one that is

unconventional, asymmetric, dynamic, and outside of those operations previously detailed with the Geneva Conventions (Mensch & Rahschulte, 2008; Newell, 1991; Toguchi & Rinaldo, 2004). This difference has had immense effect on the complexity of prosecuting missions in both peacetime and combat environments. Therefore, it is imperative for these complexities to be understood and managed by highly capable individuals and groups. In particular, critical thinking and reasoning have been identified as essential components for time-sensitive decision-making (Beach & Connolly, 2005; Cederblom & Paulsen, 2001). Within professions such as pararescue, these decision-making skills are routinely life-or-death decisions. Not only are these decisions time-sensitive, but they are also a product of scientific, cognitive, and moral judgments (Toguchi & Rinaldo, 2004). When constraining these judgments by unreasonable time limits, it becomes evident that leadership or those in higher military ranks cannot always be accessible to make difficult life or death decisions. Therefore, the best way in which leaders can enable effective military strategy and mission success is by supporting military personnel's autonomy (Derrick, 2001; Mensch & Rahschulte, 2008; Newell, 1991).

Roxhorough (2000) directly supports autonomy within organizations as a primary factor in producing innovation and catalyzing organizational adaptation within the military. However, autonomy can lead to both good and bad outcomes depending on how it is permitted to foster. Three different perspectives highlight the manner in which autonomy can positively or negatively influence organizational behavior. The integration perspective emphasizes that attitudes and beliefs are relatively stable and similar

throughout the organization and between individuals; the differentiation perspective emphasizes that attitudes and beliefs of an organization are created from a conglomerate of individual and smaller groups' attitudes and beliefs within that organization; and the fragmentation perspective emphasizes that attitudes and beliefs within organizations are evolving and are dependent upon current issues and the context in which they develop (Alvesson, 2002; Cooke & Szumal, 1993; Cooke & Szumal, 2000; Eldridge & Crombie, 1974; Hofstede, Bond, & Luk, 1993; Kwantes & Boglarsky, 2004; Martin, 1992; Martin, 2002; Martin & Frost, 1999; Williams, Dobson, & Walters, 1993).

By far, the fragmentation perspective is the most ambiguous but may actually identify a key underlying component that affects attitudes and beliefs. In effect, personality in terms of intra/interpersonal levels of dominance may predict variations in levels of autonomy within organizations when personalities are relatively similar throughout the organization (Costa, McCrae, & Holland, 1984; Fonne & Myhre, 1996; Gottfredson, Jones, & Holland, 1993; Haase, 1979; Huntley & Davis, 1983; Selmer & DeLeon, 1993). Furthermore, this homogeneity within the organization has been found across occupational specialties (Kwantes & Boglarsky, 2004). From this current evidence, it appears that personality-based assessments can be effectively used to select individuals predisposed to occupations that permit higher levels of autonomy. For example, the personality constructs within the five-factor model were determined to be effective predictors of leader performance and promotion in personality assessments of United States Military Academy cadets and Squadron Officer School students (McCormack & Mellor, 2002; Rueb, Erskine, & Foti, 2008). These findings implicate

personality as an effective predictor of leadership outcomes. Specifically, it would appear that the relative level of an individual's dominance or submissiveness as compared to their military rank would be able to predict his or her perceived autonomy within certain occupations (Hogan & Kaiser, 2005; Rueb, Erskine, & Foti, 2008). This would highlight the importance of certain traits dependent upon an individual's occupation such as that of pararescuemen.

In further support of the above supposition that personality would not only be able to predict perceived variance in autonomy, but also that of future leaders is referenced in historical research that finds dominance and self-monitoring as consistent predictors of leadership potential (Caldwell & O'Reilly, 1982; Foti & Cohen, 1986; Hills, 1985; Lord, DeVader, & Alliger, 1986; Mann, 1959; McCormack & Mellor, 2002; Rueb, 1993; Rueb, Erskine, & Foti, 2008; Rueb & Foti, 1990; Stodgill, 1948; Sumer, Sumer, Demirutku, & Cifci, 2001). Specifically, dominance is consistently related to leadership across occupations and is concomitant with emotional stability and extraversion in terms of positive leadership potential (Hogan & Kaiser, 2005; Judge, Bono, Ilies, & Gerhardt, 2002; Rueb, Erskine, & Foti, 2008). Given these links, it would appear that special operations career fields, to include pararescue, would greatly benefit from a dominant personality regardless of military rank. For example, emotional stability is necessary due to the traumatic nature of combat operations upon the human psyche. Furthermore, extraversion is required so that time-sensitive decisions can be made and voiced to the entire group of pararescuemen during an operation. Without a commensurate level of perceived autonomy to make decisions for both the individual and the team, it would

appear to follow that life and death situations would have a greater likelihood of a negative outcome. In support of this premise, social dominance orientation as previously discussed, has been positively correlated with production emphasis and negative correlated with consideration and tolerance of uncertainty (Nicol, 2009). This would support the premise the pararescuemen require a greater level of perceived autonomy to minimize uncertainty and maximize mission results.

Maximizing mission results is of primary importance to all organizations. It is imperative that higher managerial echelons provide a means to maximize perceived autonomy and employ methods to measure this autonomy. For example, research has found that even when organizations provide certain amounts of autonomy to their employees, those employees may still have a low level of perceived autonomy, leading to higher incidence of turnover and work exhaustion and decreased organizational commitment (Ahuja, Chudoba, Kacmar, McKnight, & George, 2007; Eby, Freeman, Rush, & Lance, 1999; Ito & Brotheridge, 2005; Tangirala & Ramanujam, 2008). Autonomy allows for the freedom to work independently and devise solutions to problems that may be far apart from supervisory contact (Ahuja, Chudoba, Kacmar, McKnight, & George, 2007). This principle is important to all organizations, but is particularly common in military organizations in which subordinates must execute tasks and missions without any contact from higher echelons.

As previously identified, self-determination is directly related to autonomy. Currently, research has identified that self-determined employees with high levels of perceived autonomy have higher levels of work commitment, and may provide a useful

means to develop occupational stress management techniques and interventions (Parker, Jimmieson, Amiot, & Parker, 2010). This finding is of particular interest to special operations career fields such as pararescue where occupational stress is a component of nearly every training and combat operation. In support of this premise, Tucker et al. (2008) used Karasek's (1979) Job Demand-Control (JDC) model to examine 1,539 soldiers. Results indicated that increased occupational stress levels corresponded with increased subsequent task overload and decreased levels of perceived autonomy over the course of six months, highlighting the importance of identifying stress coping interventions early.

In the case of increasing level of autonomy as a pre-meditated and proactive approach to stress management, it would also be essential to address the relative dominance or submissiveness of the individual in the context of the JDC model. In support of this supposition, the JDC model explains that individuals experience the stress of task saturation when the tasks are not self-imposed, but imposed upon in a dominant manner by others (Tucker et al, 2008). Further findings that personality constructs such as emotional stability are curvilinearly related to job performance imply that dominance and autonomy are inextricably related within the military rank structure (Endler & Magnusson, 1976; Holland et al., 2011; Kanfer & Heggestad, 1997; Mischel & Shoda, 2008).

The missions of occupations such as pararescue are inherently unstructured. This does not mean that the training and actions of occupations such as pararescue are unstructured, only that the complexity of their mission sets require them to be

autonomous decision-makers (Chung-Yan, 2010). In order to ensure that high complexity jobs have autonomous decision-makers, it is important to select individuals that show a propensity for complex decision-making skills. Specifically, current research has found that high levels of personality traits may be helpful in predicting performance in complex professions (Holland et al., 2011). Practically speaking, job complexity and job autonomy are synergistic constructs that directly affect job performance (Chung-Yan, 2010). It is not only important to hire individuals capable of complex decision-making, but it is also important for supervisors relegate a higher level of autonomy to workers in complex organizations.

One manner in which managers can increase autonomy within their workers is through motivated learning. Motivated learning is particularly effective within complex and dynamic organizations (Starzyk, Graham, Raif, & Tan, 2012). This would appear to be a useful tool within the military special operations community. Further support for motivated learning in terms of increasing autonomy is the positive effects of teams that are supportive of an autonomy-orientation (Dyrstad, Miller, & Hallen, 2007; Liu, Chen, & Yao, 2011).

Autonomy-supportive motivating style is when managers and leaders focus upon a worker's intrapersonal motivations and has shown to be of greater importance to perceived autonomy and worker efficacy that one that dominates individuals and controls their behavior (Deci & Ryan, 1985; Reeve, 2009; Reeve, Deci, & Ryan, 2004). Autonomy-supportive motivating styles have resulted in increased job performance, decreased turnover, and improvement in overall intrapersonal and organizational efficacy

(Hardre & Reeve, 2009; Hornung, Glaser, & Rouseau, 2010). Furthermore, positive increases in autonomy are a direct result of management's conscious efforts to empower their subordinates. Empowerment as an overarching concept has been found to increase safety within the work center and decrease occupational injury due to the fact that individual's that believe their work is meaningful and autonomous are more willing to participate in suggesting and making safety-related changes (Ford & Tetrick, 2011). The benefits of this principle within pararescue are evident. Given that operations often involve complex scenarios, even for training, it is imperative to empower individuals to ensure that operations and training are as safe as possible to minimize injury and death.

The above concept of increasing autonomy through empowerment is a primary tenet of transformational leadership. Specifically, transformational leadership has shown to be very effective in military contexts, directly leading to increases in retention of personnel, increasing levels of motivation, satisfaction, and commitment of subordinates, and predicting positive team performance in scenario-based training exercises (Barling, Weber, & Kelloway, 1996; Bass, Avolio, Jung, & Berson, 2003; Dumdum, Lowe, & Avolio, 2002; Judge & Piccolo, 2004; Kane & Tremble, 2000; Lowe, Kroek, & Sivasubramaniam, 1996; Patrick, Scrase, Ahmed, & Tombs, 2009; Quinn & Spreitzer, 1997; Stander & Rothmann, 2010).

These results indicate that it might not only be leadership that requires transformation, but also organizational structure itself. In particular, future evolution of organizational structure should take into consideration the possibility that professional and non-professional entities are no longer as distinct and separate as they once were

(Maravelias, 2003). Within the context of military structure, the lines between Officers and Enlisted are becoming increasingly blurred, not necessarily with respect to rank, but with respect to capabilities as decision-makers.

Given the increasing ambiguity between strictly vertical organizational structures such as the military, it is important to group individuals together in terms of complimentary personality traits. In support of this premise, current historical research indicates that personality can predict job performance in terms of three levels of individual-job compatibility: (a) task (intrapersonal), (b) group (interpersonal), and (c) organizational (social) (Barrick & Mount, 1991; Hough, 1992; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990; Salgado, 1997; Tett, Jackson, & Rothstein, 1991). From these three levels, it is evident that a community-based model of interactions between individual personality and interpersonal structure affects job performance. For example, Evans and Dion (1991) reported a correlation between performance and group cohesion of .42, indicating that selecting individuals based upon personality traits offers a means at building ideal teams within occupations (Tett & Murphy, 2002). Current findings also confirm the usefulness of personality in personnel selection but indicate that it is one facet of the individual to consider (Holland et al., 2011; Morgeson et al., 2007; Ones, Viswesvaran, Dilchert, & Judge, 2007; Tett & Christiansen, 2007). However, in terms of occupations such as pararescue, it is important to select individuals who are higher in social dominance orientation (SDO) than those in other military occupations, as supported by the current finding that individuals in groups with higher levels of SDO exploit within-group autonomy-oriented behavior in order to subvert and dominate

between-group interactions (Halabi, Dovidio, & Nadler, 2008). Since special operations occupations must be dominating in order to effectively prosecute their missions, it would appear to follow that management in higher ranks should permit greater autonomy, regardless of a subordinate's rank within professions such as pararescue.

Military Framework

Investigations of control in formal organizations often focus upon two conceptually divergent though empirically related issues. One deals with the kinds of internal structures that develop in organizations—the division of labor, task specialization, and systems of communication. The second issue is related to the strategies of administrative leadership and influence that control participants in desired ways—whether by loose or close supervision (Rosengren, 1967). Most organizations use the following types of specific control mechanisms: (a) chain of command, (b) policies and procedures, (c) missions and plans, (d) information systems, (e) internal infrastructures, (f) special evaluation procedures, and (g) social relations (Broskowski, 1984).

Outside of the military, control structures are defined by relatively high levels of decentralization and autonomy for making operational decisions. Comparatively, military control systems are characterized by relatively low degrees of decentralization, and consequently, low autonomy for making operational decisions (Hill & Hoskisson, 1987). However, most organizations do not adequately regulate the degree to which controls are delegated or decentralized. In most cases, the level of centralization is dependent upon the action being taken. The matrix design incorporates this concept, imposing a separate

and dynamic structure over the traditional hierarchical design. Matrix designs are suitable for organizations that have rapidly changing and complex missions that work within highly dynamic environments (Broskowski, 1984). Therefore, it appears that the traditional military hierarchy should permit the special operations (i.e., pararescue) community to flex to a matrix, rather than a strictly pyramidal design.

Pararescue Framework

The difference between civilian and military control systems is inherent within each respective organization's regulatory systems. Specifically, each respective organization's regulatory system inherently limits human autonomy because of two major forces: differentiation and integration. However, the manner in which these forces are instantiated within the civilian and military control systems is different. Differentiation dimensions include an individual's specialization, division, time-involved processes, type of product produced, demographics, and sociocultural factors (Broskowski, 1984). Integration is the manner in which these factors form interdependencies within the organization. A civilian organizational structure does not follow the strict hierarchy that is inherent within the military. For example, ownership is dispersed within many civilian organizations and management exerts a coercive form of control (Harris & Ogbonna, 2007). While control can be exploited by management in the military, ownership is not dispersed but inherently centralized in the form of rank and file.

Tactical level. In addition to the definition in Chapter 1, pararescuemen at this level support mission planning and preparation (CFETP 1T2XX, 2008). They perform all phases of mission execution to recover personnel and material, to include insertion,

infiltration, actions at the objective, exfiltration, and extraction (CFETP 1T2XX, 2008). Pararescuemen are able to operate in chemical, biological, nuclear, and explosive environments (CFETP 1T2XX, 2008). Once completed with the recovery, they perform offload and transfer of personnel and/or materials to higher echelons of care. Furthermore, they may assist in the reintegration of military personnel and help them return back to duty after they have been recovered. The reintegration process involves intelligence and survival debriefings, as well as helping the individual to reunite with his or her family (CFETP 1T2XX, 2008).

Operational level. In addition to the above tactical level description and the definition in Chapter 1, pararescuemen at the operational level are Element Leaders and Recovery Team Leaders (CFETP 1T2XX, 2008). An Element Leader (EL) is selected from the most qualified pararescuemen on the team and must have completed specific tasks associated with the upgrade (CFETP 1T2XX, 2008). A Recovery Team Leader (RTL) is selected from the most qualified PJ on the team and must have completed EL upgrade as well as further tasks specific to the Recovery Team Leader Syllabus of Instruction. In addition to EL upgrade, swift water rescue and confined space rescue are desired for the RTL. The primary focus of ELs and RTLs is to lead, supervise, instruct, and evaluate during a recovery mission that can include all of the operations outlined in the Tactical Level section (CFETP 1T2XX, 2008).

Strategic level. In addition to the tactical and operational level descriptions, and the definition in Chapter 1, pararescuemen at this level conduct, supervise, manage, and evaluate personnel recovery and materiel recovery operations (CFETP 1T2XX, 2008).

They plan, organize, direct, and manage pararescue teams to provide dynamic and full spectrum personnel and material recovery capability for operations in civilian environments as well as austere, non-permissive, and/or hostile environments (CFETP 1T2XX, 2008). At this level, pararescuemen directly supervise, manage, and evaluate all phases of mission execution to include the insertion, infiltration, actions on the objective, exfiltration, and extraction phases. Furthermore, they perform long-term and/or crisis action planning as well as develop operations plans, concept plans, concepts of operations, and operations orders for higher headquarters. They also act as liaisons across the total force (active duty and Air Reserve components). Finally, strategic level PJs develop, review, update, and manage full spectrum unit deployment readiness and material as well as manage, monitor, and evaluate unit programs and generate reports (CFETP 1T2XX, 2008).

Training Schedule for Qualification

While the preceding paragraphs outlined the roles and responsibilities for tactical, operational, and strategic level pararescuemen, all PJs must go through the same initial training. All retrainees, prior service, Guard and Reserve, and non-prior service airmen (basic military training graduates) will enter and must graduate the Pararescue Indoctrination Course before they can enter the follow-on pararescue training pipeline (see Figure 1). The Pararescue Indoctrination Course prepares and selects individuals for the pararescue career field by developing and training PJ candidates to handle rigorous physical fitness routines (CFETP 1T2XX, 2008). The course also emphasizes teamwork and begins to instill and cultivate an individual's selfless motivation to serve others. By

building the core values of integrity, PJs are instilled with the moral traits of accepting responsibility, having the courage to do what is right, having a sense of justice, having self-respect, and understanding the importance of exceeding standards. These principles are evident in the *Pararescuemen's Code*:

> It is my duty, as a Pararescueman, to save life and to aid the injured. I will be prepared at all times to perform my assigned duties quickly and efficiently, placing these duties before personal desires and comforts. These things I do that others may live (Pararescue, 1996, p. 2).

After successfully graduating from the Pararescue Indoctrination Course, candidates must complete the following prerequisite training in order to become a qualified PJ:

1. Air Force Combat Dive Course - Open Circuit
2. US Army Airborne
3. Combat Survival Training
4. Underwater Egress
5. US Navy or US Army Military Freefall Course
6. National Registry Emergency Medical Technician - Basic
7. National Registry Emergency Medical Technician - Paramedic
8. Pararescue Apprentice Course

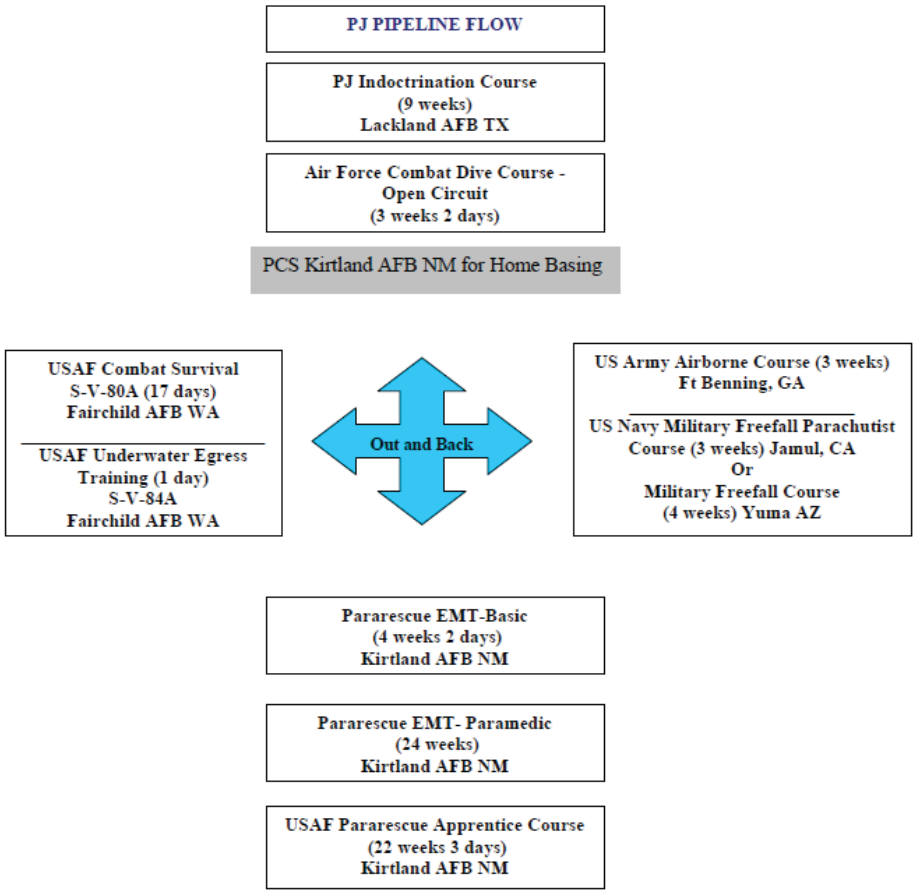

Figure 1. Pararescue training pipeline. Adapted from Careerfield Education and Training Plan (CFETP) 1T2XX, 2008, p. 6.

Interpersonal Theory in the Context of Autonomy

Beginning in the 1950s, it was proposed that interpersonal behavior can be perceived in terms of a circumplex (Freedman, Leary, Ossorio, & Coffey, 1951; Leary, 1957). The interpersonal circumplex is similar to a pie chart and is basically a circular representation in which various personality traits are plotted at different angles. The interpersonal circumplex and the 5-factor model of personality have both been used as models of interpersonal behavior over the course of more than 60 years (see Figure 2).

Initially, the 5-factor model can be traced to Cattell (1946), followed by Tupes and Christal (1961) and Norman (1963). More recent evolutions of both models can be referenced in McCrae and Costa (1985), Digman and Inouye (1986), Hogan (1983), Peabody and Goldberg (1989), and Trapnell & Wiggins (1990).

Interpersonal Circumplex

The circumplex model has exponentially evolved from its purely quantitative measures of mental abilities. Compared to cognitive tests that only provide linear depictions of an individual's behavior, the circumplex represents a geometric approximation of qualitative states. For example, in the 1992 Psychometric Society's presidential address, circumplex models were described as providing a complex framework for encompassing all combinations of the Big Five dimensions of personality (Wiggins & Trobst, 1997). In effect, interpersonal behavior follows a relative trajectory within the circumplex, rather than a linear function of time as is evident in traditional psychometrics. This relative trajectory can be mapped as an amalgamation of the intrapersonal relationship, interpersonal affiliation, and directionality (Foa, 1965).

From research accomplished on the interpersonal circumplex, it is evident that each interpersonal act is a behavioral vector within the interpersonal adjective scales. These behavioral vectors may correspond directly with one of the eight scales on the interpersonal circumplex, or it may correspond to a location between one of the scales. In effect, the interpersonal adjective scales successfully order actual behavior so that it is not a simple quantification of dispositions, but represent a three-dimensional sphere of interpersonal boundaries (Gifford & O'Conner, 1987).

Circular statistics is a branch of statistical methodology that focuses on the vectors that can be calculated and depicted upon the interpersonal circumplex (Gliem & Gliem, 2003). Using circular statistics, the mean interpersonal behavior can be derived from the sum of the behavioral vector angles (Gliem & Gliem, 2003). In terms of the interpersonal circumplex, an individual that reports a homogenous spread of traits would be determined to be a confounding variable/outlier and would be removed from this study.

In some ways, the circumplex is treated slightly differently from the current majority of instruments. In 1954, Guttman distinguished two different variable orders: (a) a linear continuum from lower to higher levels such as the intelligence quotient (simplex), and (b) a circular continuum (circumplex). In a circumplex, the order does not rank in sequence such as a simplex. Furthermore, Guttman combined both the simplex and circumplex structures in a dualistic model called a radex. In the radex, the area inside the circle and the circle itself are important, in that both the angle of the vector from the circle's center and the distance from the center are important (Martinez-Arias, Silva, Diaz-Hidalgo, Ortet, & Moro, 1999). From this definition, Wiggins' circumplex would more accurately be termed a radex, since it requires that the entire circle be considered for an accurate conclusion.

Wiggins' interpersonal circumplex is composed of eight trait-based variables that are arranged in order and represent eight equal octants of the circle. Furthermore, they are ordered based upon their relative dominance and submissiveness. This model originated with Freedman, Leary, Ossorio, and Coffey (1951), Leary (1957), and Lorr and McNair

(1965). More recent updates to the interpersonal circumplex can be found in Benjamin (1974), Kiesler (1983), and Wiggins (1979). Upon reviewing this historical account of the 5-factor and circumplex models, it is evident that they were developed from independent and succinctly different contexts of personality theory, resulting in different uses dependent upon the group or researcher. For example, the factor-analytic tradition was used to develop the 5-factor model and is used predominantly by psychometricians and personality psychologists (Cattell, 1946; Eysenck & Eysenck, 1975; Trapnell & Wiggins, 1990).

However, it is worth mentioning that the 5-factor model does provide a framework to compare and analyze the circumplex, with the circumplex providing a unique and accurate representation the urgency/extraversion and agreeableness factors; McCrae and Costa (1989) found that these factors correspond to the circumplex axis positions of dominance and nurturance (submissiveness), respectively. Furthermore, the 64 items on the IAS appear to effectively and reliably compare to the remaining conscientiousness, neuroticism, and openness factors of the 5-factor model (Trapnell & Wiggins, 1990). In effect, the IAS constructs of dominance and submissiveness are validated by their correlation to their five-factor model counterparts.

Furthermore, in a cross-correlational study (Martinez-Arias, Silva, Diaz-Hidalgo, Ortet, & Moro, 1999), independent results were related to the structure of Wiggins' circumplex model across three groups. Although the three groups had different sociodemographic characteristics, especially in sex and age, the analyses show high equivalence among the results obtained. The study tested the equivalence by means of

several procedures, including: (a) the comparison of the correlation matrices with an ideal circular matrix, (b) the angular location of variables in the circle, and (c) both exploratory and confirmatory factor analysis. Findings indicated a close correspondence between the correlation matrices and the ideal circular correlation matrix, showing the scales' minimal differences with the expected angular location. Principal component analysis, followed by a procrustes rotation toward the target matrix provided by the direction cosines, shows a satisfactory approximation to the circumplex model in all cases, so that the eight scales are located in quite a homogeneous form in the circumference, although the results of the American sample were better than those of a Spanish sample. The values of the congruence indices were all very high, indicating invariant factorial structures across the three groups. The single-group confirmatory analyses showed poor fit to the ideal circumplex, with fixed loadings derived from the direction cosines. A less restrictive model was then hypothesized, which specified two orthogonal factors. The less restrictive model resulted in a better data fit in all three cases, reaching acceptable values (around 0.90). Finally, a non-circumplex model was analyzed, with the only constraints being two factors and the pattern of loadings. This model showed fit indices similar to those of the circumplex model. However, it was concluded to adopt the circumplex model for the three groups, because of theoretical consistency and scientific parsimony. Both models, circumplex and non-circumplex, were tested by a multigroup analysis in order to analyze the factorial invariance across groups. The study then tested the equality constraints across the three groups on (a) number of factors, (b) correlation between factors, and (c) factor loadings. The fit indices obtained confirm the factorial invariance across the

three groups. Similar to the case of the single group analyses, the two models showed no difference in fit as evaluated by the descriptive statistics of fit. In summary, it was concluded that the factor loading pattern derived from the circumplex model is congruent with the empirical data, and is applicable to the Spanish population, independently of the sample used. This fact could not have been established if the model were not robust enough (Martinez-Arias, Silva, Diaz-Hidalgo, Ortet, & Moro, 1999).

In further support of Wiggins' Interpersonal Circumplex, the 12-Point Affect Circumplex Scales intersects the IAS, indicative that the circumplex can be rotated and overlaid with other circumplexes without changing internal data configuration that would be unavoidable with the FFM (Yik & Russell, 2004).

Circumplexes such as those reported by Wiggins have also been reported by others (Benjamin, 1974; Leary, 1957; Schaefer, 1959; Stern, 1970), but in all of these studies the potential role of response or judgmental styles was uncontrolled. When the role of response biases is curtailed in personality assessment, as with the Personality Research Form, simple structure, rather than a circumplex, has been reported (Jackson & Helmes, 1979).

There is an important reason why traits should define independent, distinct, uncorrelated factors—such traits are more likely to yield evidence of convergent and discriminant validity. With all traits arrayed in only two dimensions, and in general showing substantial correlations, it is unlikely that they would meet any of the criteria for multitrait-multimethod validity as put forth by Campbell and Fiske (1959). Furthermore, in agreement with the findings of Jackson and Lay (1968), Kusyszyn and Jackson (1968),

and Morf and Jackson (1972), discriminant validity of traits would be found in the residual factor scores after removing the influence of the two large principal components. With Wiggins' data, each scale score is largely predictable from the other scale scores (Jackson & Helmes, 1979).

There is now considerable evidence that responses to personality questionnaires and judgments of the personality of others are related to the relative desirability of the descriptors being judged or endorsed (Jackson & Helmes, 1979). Specifically, the likelihood of a valid response to a personality statement or adjective by participants is dependent upon the judged desirability of the item. This implies different thresholds for responding desirably. The threshold model describes the process by which a person ascribes traits as self-descriptive at different levels of desirability. The Wiggins scale contains 46 such negations in four octant scales. The social desirability scale values for unnegated forms of these adjectives were used in the simulation. Wiggins does call attention to what he terms the "confound" between desirability and his scales. First, the four scales having the least desirable content have substantial negative loadings, whereas the other four scales have neutral or positive loadings (socially desirable). The second principal component appears to reflect the differential tendency to endorse traits as self-descriptive and is dependent upon the presence of negations in the Wiggins traits (Jackson & Helmes, 1979).

Interpersonal Adjective Scale (IAS)

To effectively measure the differences in personality with Wiggins' Interpersonal Adjective Scale (IAS), it is first necessary to determine if it is a reliable and valid

measure of personality using a circumplex. Two recent studies evaluated the ability of this scale, as well as its revised counterpart, to reproduce an ideal circumplex structure. Specifically, the intent of these studies was to find how the traits were correlated or uncorrelated with their corresponding trait(s) positioned at 180°, at 135° on either side, at 90° away on either side, and at 45° on either side. The quasicircumplex was shown to have an optimal fit to interpersonal data regardless of sample size. Furthermore, the non-circumplex as well as ideal models of interpersonal behavior were rejected with a sample size of over 200, indicating that the quasicircumplex model is not false and both the non-circumplex and ideal models are false (Gaines et al., 1997).

According to Wiggins (1996), IAS has roots in five different fields, including the following three: The lexical approach in personality psychology started with Allport and Odbert in 1936, followed by Norman (1967) and Goldberg (1977). The taxonomy of interpersonal scales used by Wiggins in the IAS is based on Goldberg's research (Wiggins, 1979). Its highest development in clinical contexts was carried out by Leary (1957); however, its psychometric branch merged with LaForge and Suczek (1955), resulting in the Interpersonal Checklist (ICL). The IAS arises directly from a revision of the ICL made by Wiggins himself (Wiggins, 1979). Guttman's Facet Analysis and the composition of interpersonal variables by Foa (1965) is the final historical root for the IAS. When developing the IAS, it was necessary to consider how an individual conceives him or herself. According to Martinez-Arias, Silva, Diaz-Hidalgo, Ortet, and Moro (1999), the individual's conception on how they are social perceived is dependent upon three components: directionality in terms of acceptance or rejection, relative perspective

in terms of the self or other, and relative affiliation in terms of love or status. Thus, a group of $2 \times 2 \times 2 = 8$ possible combinations are obtained. Wiggins adjusted the eight sectors of his circumplex (octants) to these eight combinations, and arranged the eight octants around the circle, so that adjacent octants differed one from another in just one element (see Figure 2; Martinez-Arias, Silva, Diaz-Hidalgo, Ortet, & Moro, 1999).

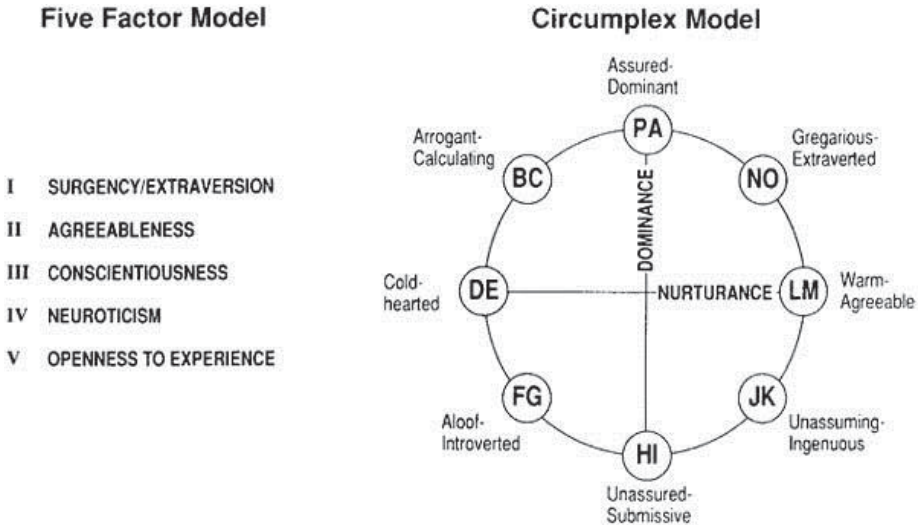

Figure 2. Five-Factor Model vs. Interpersonal Circumplex. Adapted from "Extension of the Interpersonal Adjective Scales to Include the Big Five dimensions of Personality," by P. D. Trapnell and J. S. Wiggins, 1990, *Journal of Personality and Social Psychology, 59,* p. 782. Copyright 1990 by the American Psychological Association

Wiggins distinguished interpersonal traits from those derived from other theoretical bases, such as those based on temperament, character, and qualities of mind as manifested in thought, perception, and speech. Within the domain of interpersonal traits, he has identified eight theoretical variables, labeled: Gregarious-Extraverted, Ambitious-Dominant, Arrogant-Calculating, Cold-Quarrelsome, Aloof-Introverted, Lazy-Submissive, Unassuming-Ingenuous, and Warm-Agreeable (Jackson & Helmes, 1979).

It is evident from Figure 2 that each of the interpersonal variables reflects a relative transition throughout the circumplex. Specifically, Arrogant-Calculating behavior only differs from Assured-Dominant behavior when individual's relative affinity (love) of another individual is minimal or nonexistent; comparatively, the difference between Gregarious-Extraverted behavior and Assured-Dominant behavior is that an Assured-Dominant individual does not acknowledge status of the Gregarious-Extraverted individual (Wiggins & Trobst, 1997). In effect, the Interpersonal Adjective Scales are geospatial representations of the qualitative measures of power and affiliation. Furthermore, within these primary axes, a matrix of submeasures can be defined which take into consideration individual differences and time-dependent phase states. For example, a comparative analysis of interpersonal scales and inventories finds that the Impact Message Inventory (Kiesler, 1987) provides a microcosmic level of interpersonal analysis. Within the inventory, participants rate on a 4-point Likert scale, undisclosed feelings, behavioral tendencies, and interpersonal perceptions of another individual while conversing. Upon analysis of a respondent's answers, the octant version of the inventory has been found to reflect a circumplex structure (Wiggins & Trobst, 1997). While the notion of feelings, tendencies, and perceptions are not immediately relevant to interpersonal behaviors, it reflects that the behaviors within the self and those that manifest outward elicit circumplex structures. This similarity does not prove that other linear measures of interpersonal behaviors are false, but that the IAS is a more powerful measure of qualitative states.

In particular, the geometric structure of the IAS may also be a more reliable and valid measure that is able to take into consideration the difference between individualistic and collectivistic cultures, as well as the difference between microcosmic analysis between individuals and macrocosmic analysis between the interpersonal relationship and the greater society (Wiggins & Trobst, 1997). Just as power and affiliation represent the primary axes of the IAS circumplex, these two dimensions could also be analogized to micro/macrocosm and individualistic/collectivistic, respectively. Since the intrinsic power of an interpersonal relationship defines the level of micro or macrocosmic state, so too would the intrinsic affiliation between the self and the other define the level of individualistic/collectivistic intent. In support of this premise the interpersonal circumplex can be interpreted as an intermediary between quantitative and qualitative measures. On a non-quantitative level, the circumplex can be viewed as a simple pie chart of interpersonal concepts that chart an individual's progress throughout treatment or therapy; on a quantitative level, a person can test the geometric properties and differences associated with two different points on the circumplex; finally, on a dually quantitative/qualitative level, these two methods can be combined to formulate a geometric analysis of an individual's interpersonal behavior on both implicit and explicit levels (Wiggins & Trobst, 1997).

Several studies have supported Wiggins' coordinate system utilizing the IAS-revised (IAS-R) for three groups of undergraduate students. The IAS-R is composed of 64 adjectives and participants are required to respond with their relative affinity to that trait on an 8-point Likert scale. It was found that the IAS-R exhibited strong geometric

and psychometric support for the circumplex, to include consistency between interpersonal variance and a significant relationship between interpersonal behavior and vector length in all circumplex octants (Wiggins, Phillips, & Trapnell, 1989).

Three separate studies tested several assumptions of the IAS-R. The first study tested the assumption that vector lengths can change irrespective of personality change. This first study analyzed 14 outliers and 131 ($N = 145$) moderate subjects represented in varying degrees within all of the circumplex octants, with the 14 outliers determined to represent the upper 10% after averaging. Within each octant, the mean profiles of extreme and moderate groups were correlated with an average correlation of .989 and range from .981 to .997. This finding indicates and supports that the each octant has an equivalent profile, and justifies that vector length is a consistent measure of extremity/deviance. In effect, the qualitative axes of status and affiliation are equivalent to their theoretical quantitative/geometric counterparts. Therefore, the study suggests that the circumplex's geometry is in accordance with the qualitative octants of each diagnostic group (Wiggins, Phillips, & Trapnell, 1989).

Compared to the IAS-R, depicting results of interpersonal profiles with other objective personality tests face linear constraints. In effect, the linear nature of comparable interpersonal tests (i.e. MMPI, Jackson's PRF) fails to address the geometric necessity of sine and cosine weights to qualitative interpersonal behaviors. Therefore, the circumplex model does not only possess an inherent geometric symmetry, but overlays this symmetry with an interpersonal array of traits (Wiggins, 1997). In comparison with the eight Murray needs, the interpersonal scale differentiates each of the eight octants

with striking similarity. In particular, the horizontal and vertical coordinates of the circle, regardless of nomenclature, can employ trigonometrics in order to isolate an individual's interpersonal disposition with respect to vector length and angular location (Wiggins, 1997). From an individual's relative typography on the circumplex, a baseline can be established in which a group of individuals can be contrasted and compared.

Within an individual's relative interpersonal typography, an indiscriminate number of traits and characteristics form an interpersonal amalgamation that converges to a circumplex octant. In particular, the IAS is a validated instrument that effectively utilizes the circumplex model through factor analysis. Specifically, Hofess and Tracey (2005) found large correlations between comparable traits (IAS) and capability (BIC) scales. In further comparison, both scales demonstrate geometric symmetry within a circular pattern, with deviation in similarity within the IAS occurring only within the JK scales and the BIC having some unique variance with respect to submissive behaviors (Hofess & Tracey, 2005).

In order to effectively code interpersonal data, each individual's traits must be aggregated in accordance with the level of experience of that individual (Orford, 1986). In other terms, individual differences preclude an integral solution to each circumplex measure; however, an individual's interpersonal aggregation can be approximated much like the sum of squares method for approximating the area under a curve (i.e. integral approximation). In effect, this concept is a central assumption to interpersonal theory in that apparently equivalent interpersonal styles are only a characterization of close

relationships, not that the interpersonal traits aggregated for each individual are identical (Yaughn & Nowicki, 1999).

According to Leary (1957) and Sullivan (1953), the relative affinity between individuals within the circumplex characterizes complementary personality styles, not identical personality traits. These individuals were the first to explicitly outline interpersonal theory in its present form. Within interpersonal theory, individuals are forced to interact with one another out of necessity, rather than formulating their interpersonal styles independently from group interactions and experience. While Sullivan and Leary provided the initial framework for a reliable and validated model for interpersonal theory, it was not until Kiesler (1996) and Wiggins (1991) evolved their model into a circumplex of interpersonal symmetry that instruments became available to properly measure interpersonal styles and predict complementarity between individuals and groups.

In addition to the individual differences that arise within interpersonal styles, the 5-factor model of personality highlights the issue of complementarity versus anticomplementarity. For example, two individuals whose interpersonal styles are similar will more than likely still manifest their styles in distinct patterns with respect to their relative levels of neuroticism, conscientiousness, and openness (Pincus & Wiggins, 1992). This finding is interesting, given that research has also indicated similarities between the IAS (style) and BIC (behavioral manifestation). This apparently dialectic model is not necessarily counterintuitive to interpersonal measurement and theory, but

reflects the dually quantitative and qualitative components inherent within the interpersonal circumplex.

In further support of Wiggins' interpersonal model, correlational and multidimensional scaling analyses were performed to assess its similarity to Holland's Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC) model. Results indicated that both models shared the common dimension of affiliation, indicative that a relationship exists between interpersonal personality and vocational interests (Hogan, 1983; Prediger & Vansickle, 1992; Rounds, Tracey, & Hubert, 1992; Tracey & Rounds, 1993). While the research did not indicate that Holland's RIASEC model and Wiggins' interpersonal model share the common dimension of power, data and ideas are not necessarily dependent upon an individual's intrinsic need for power; however, interpersonal style is inherently reliant upon the valence of an individual's need for that same level of power (Schneider & Ryan, 1996).

To counter the overwhelming support for the IAS, some protest that they are no more than a pictorial of personality theory. For instance, Shweder and D'Andrade (1979) interpreted the interpersonal circumplex as a simple subjective opinion of an individual's behavior by others, rather than a realistic and objective depiction. Weiss and Mendelsohn (1986) counter this finding, suggesting that their hypothesis is unfounded; however, even the creators of the circumplex concede that it is difficult to ascertain if mapping an individual's interpersonal circle reflects only the personality trait structure, or if it actually represents their objective behavior (Conte & Plutchik, 1981). Another argument states that response bias is detrimentally inherent within the IAS. To support this claim,

Jackson and Helmes (1979) simulated administering the IAS to 500 participants. Factor analysis from the data collected on the notional participants resulted in two factors that accounted for nearly 95% variance and mimicked the salience and threshold constructs from Jackson's theory of stylistic responding. While they did not claim that the interpersonal adjective scales only mapped response style, they did claim that response style may represent an alternative explanation for Wiggins' results. In effect, it was unclear if the interpersonal circle mapped an individual's perception of their behaviors or if the interpersonal circle actually mapped the behaviors themselves (Gifford & O'Conner, 1987).

Contrary to the above suggested limitations, there is a preponderance of evidence that supports Wiggins' (1979) approach to the classification of personality. The interpersonal adjective scales have historically shown that they are systematic and provide an analytical method for qualitatively measuring personality traits; furthermore, they are scholarly in that the scales are supported by numerous theoretical foundations that are based in empirical research (Jackson & Helmes, 1979).

Some readers may question the reasoning for choosing the Interpersonal Adjective Scales (IAS) over other methods. Given the nature of personality and its dynamic nature, the IAS was chosen over other methods such as the FFPI, NEO-PI-R, and MMPI-2 due to its circumplex and nonlinear nature. While linear methods may imply similarity or complementarity, true complementarity cannot be represented with a linear measure. A unique feature of interpersonal circumplexes such as that employed by the IAS is its reliance upon a primary tenet of social exchange theory. This tenet states that

trait expression is interpreted in reciprocity, meaning that the existence of a person's trait permits existence of the complimentary trait on the circumplex (Foa & Foa, 1974; Thibaut & Kelly, 1959). Since this is a unique feature of circumplex models, other linear-based solutions for measuring dominance and submissiveness would not be able to adequately address the similarity-complementarity distinction (Tett & Murphy, 2002).

In an attempt to adequately cover multiple theoretical bases within this research, it is important to note that the factors of the Five-Factor Personality Inventory (FFPI) are correlated with those of the Revised NEO Personality Inventory (NEO-PI-R); however, autonomy was not clearly interrelated, with facet analysis suggesting that autonomy might be viewed as a subcomponent of dominance while the IAS explicitly addresses both dominance and autonomy (De Fruyt, McCrae, & Szirmak, 2004; Wiggins, 1995). The MMPI-2 is just as ineffective at showing the interrelationship between dominance and autonomy, in that it is a linear needs-based approach to describing personality rather than a curvilinear and synergistic approach that can be mapped onto a circumplex (Craig & Bivens, 2000).

Of further concern by using a linear based model is that the labels Big Five and Five-Factor Model (FFM) are used interchangeably within academia. While the Big Five broadly encompasses the factors of personality, the FFM describes those factors by means of questionnaires. When analyzing the Big Five and FFM, it was found that circumplex-based methods provided the best means within which to account for the structure of personality traits, as compared to linear representations (De Fruyt, McCrae, & Szirmak, 2004). Furthermore, Spangler, House, and Palrecha (2004) reported that the

primary shortfall of the Big Five model is its inadequacy in addressing the context and conditions through which personality traits manifest within leadership (Ng, Ang, & Chan, 2008). Since this proposal involves certain aspects of leadership, it would not be appropriate to use a data collection method that is based upon the Big Five model. Therefore, while most models do not take into consideration context (Yardley & Derrick, 2007), when administered to multiple individuals in a similar group, context can be extrapolated via non-linear means on the IAS circumplex. This premise is further supported in that personality is not consistently related to job performance beyond a certain point, indicative that a circumplex model must be used over a linear model for the purposes of this research (Holland et al., 2011).

Work Autonomy

One of the first measurements of work autonomy was accomplished within the Job Diagnostic Survey (JDS), which can arguably be traced to Turner and Lawrence (1965), as well as Hackman and Lawler (1971). Seven-point response scales were used throughout the JDS and provided measures of five core job dimensions: (a) skill variety, (b) task identity, (c) task significance, (d) autonomy, and (e) feedback from the job itself (Hackman & Oldham, 1975). Although autonomy is but one subcomponent of the JDS, it still is one of the first attempts at measuring work autonomy.

Scores on the JDS are obtained from two separate sections. In the first section, participants indicate the amount of each job characteristic they perceive to be present. In the second section, participants indicate the accuracy of a number of statements about their job's characteristics. The JDS is interpreted as their perceived meaningfulness for

their job, their perceived self-determination, and their knowledge of actual end-states (Hackman & Oldham, 1975). These interpretations provide the initial foundation for an individual's work-role perception. An interesting finding is that with minimal autonomy, an individual's work-role perception may cause role ambiguity and work dissatisfaction (Hackman & Oldham, 1975).

For example, meta-analyses (i.e., Jackson & Schuler, 1985) indicate the negative impact of role ambiguity for both individuals and organizations. Within their research, they found that individuals with job ambiguity indicate job dissatisfaction, particularly with their supervisors and higher headquarters or organizational levels (Breaugh & Colihan, 1994). The Nicholson model argues that role ambiguity necessitates work-role transitions that involve reactive adaptations (i.e. intrapersonal) and proactive adaptations (i.e. interpersonal) (Ashforth & Saks, 1995). Therefore, intra/interpersonal autonomy within the work place is essential to prevent role ambiguity and work dissatisfaction.

Control Theory and Autonomy

Affect control theory explains the way people think about roles within relationships and those actions that occur from their (mis)conception of their role(s) in the relationship. In practice, affect control theory postulates that individual's behaviors are a direct reflection of their attempt to conform to their own belief system (Wiggins & Heise, 1987). On structured personality tests, autonomous individuals are usually described by themselves and other individuals as warm, kind, cooperative, sympathetic, nurturing, or understanding as long as those descriptions are deemed socially acceptable. For example, the IAS Cold-Hearted scale is a primary negative predictor of

submissiveness (nurturance). Furthermore, the IAS Cold-Hearted scale is positively correlated with autonomy scales from other inventories (including the PRF) and negatively correlated with measures of nurturance (Wiggins, 1997). Wiggins and Broughton (1985) combined responses to autonomy scales from five different measures, inter-correlated the responses, and analyzed the data in order to extract the primary construct that would help to isolate the most prevalent self-reported autonomy item. In social exchange theory (Foa & Foa, 1974), the interpersonal variables controlled by varying levels of affiliation are considered to be those resources that are given or taken away during interpersonal transactions (Wiggins, 1997). This finding indicates that autonomy is partially defined by the control of interpersonal resources.

Besides autonomy, another organizational control strategy is to increase the amount of standardization, formalization, and specialization to allow an increase in the decentralization of authority. In effect, organizational control can be attained in two ways--by centralizing decisions or by enhancing organizational structure (Dickson, 1981). Due to the dynamic and asymmetric structure of special operations units, it may be better that control within these organizations should not be achieved through centralization, but reliance upon the asymmetric structure of special operations itself. Due to the highly selective process of allowing individuals into the special operations community, the structure of the community has already created a level of control commensurate with operational success. Specifically, it has been found that organizations that have some options as to whom they will accept/recruit establish boundary control mechanisms that limit admission into that organization (Newman & Lyon, 2009).

Furthermore, these organizations allow for more autonomy and less control over their personnel because of the asymmetric nature of the individual's interpersonal traits as well as the organization's operations (Broskowski, 1984).

Centralized vs. Decentralized Control

Current research has come to question the reliability of measures of control (Skinner, 2007). Specifically, the use of autonomy to measure centralization can be misleading. Although autonomy and control share some similarities in definition, they can result in vastly different organizational outcomes, depending on the manner in which they are employed (Skinner, 2007). In effect, autonomy and decentralization must be delineated with respect to their theoretical underpinnings. In support of this delineation, Brock (2003) explains that the extent of decision making authority will define the level of autonomy within a given position, person, or organization; comparatively, where the decision-making authority functionally resides within an organization defines the relative of level of centralization within that organization. For example, the career field of pararescue may be autonomous with respect to individuals, but (de)centralized in that power is relegated in various levels among all individuals. In effect, (de)centralization is a broad term used to characterize an organization while autonomy is a specific characteristic that pertains to the decision-making authority at a specific individual/unit position (Brock, 2003).

Control Mechanisms

When an organization expands and its distributed network differentiates beyond the ability of management to control the integration of interpersonal needs and

organizational objectives, the organization must evolve in order to prevent failure. While Ouchi (1977) recommends increasing manpower within an organization to reach required output objectives, this quantification of results fails to address the inherent qualification of organizational control and evolution. In effect, it is proposed that the control problem can be resolved through a dual conception of manpower, meaning that *man* (personnel) and *power* are dependent variables. Therefore, the addition of more personnel offers a quantifiable solution to the proper integration while the redistribution of power throughout the organization's structure offers a qualitative solution to catalyze integration through commensurate levels of control. Although Ouchi did not explicitly support this determination, his work, as well as Whisler, Meyer, Baum, and Sorensen (1967) directly stated that organizational structure and control are separate constructs, implying that the attribute of (de)centralization is inherent within organizational structure. This implication is further supported in current research, indicating that organizational structure and the level of control within that organization are separate yet interacting constructs (Greer & van Kleef, 2010).

As previously indicated, the structure of an organization consists of centralization; however, it also encompasses those properties associated with any distributed network, such as differentiation and formalization (Ouchi, 1977). From this explication of structural variables, the control system can be extrapolated into two components - the conditions that mediate control and the processes through which this occurs (Greer & van Kleef, 2010). It is increasingly evident that the organization's structure forms interdependencies with the control system that is inherent within the organization,

directly implicating agency, communion, autonomy, and interpersonal constructs as interdependencies. Translating this into common practice, organizations form a basic ecological structure comprised of tactical, operational, and strategic levels, with a control system mediating the individual, interpersonal, and societal levels of organizational interdependency, respectively.

The problem with properly implementing this structure-control dynamic is the inability to control behavior and output without an innate understanding of an organization's objectives (Maner & Mead, 2010). Specifically, without a thorough understanding of a desired end state, the means through which the organization structures and controls itself will be irrational, unreliable, and invalid. As these organizations expand and differentiation, formalization, and centralization become increasingly difficult, the need for clear and concise objectives becomes exponentially important (Maner & Mead, 2010). In effect, organizations cannot strictly quantify the transition from behavior control to output control and achievement. The interdependencies within organizations create a convolution of interpersonal roles and boundaries that manifest at all levels of the ecological spectrum.

The dynamic that is created from interpersonal roles and boundaries interacting with organizational divisions forms the macrocosm of an organization. Therefore, it is not only imperative to have a control system, but one that effectively mitigates outliers that negatively impact the organizational macrocosm (Greer & van Kleef, 2010; Whisler, Meyer, Baum, & Sorensen, 1967). The need for macrocosmic control is possible so long as the valences of individual, interpersonal, and societal control do not exceed the

threshold of the organizational structure (Kraus, Piff, & Keltner, 2009). For example, at an individual level, an organization's structure cannot support a form of system control in which actual control is centralized to only one member; comparatively, an organization's structure cannot support a form of system control in which actual control is decentralized equally to all members (Greer & van Kleef, 2010). While this example pertained to the individual level of ecological control, perceived interpersonal control, as previously discussed by Ouchi (1977), is equally important. In this case, organizational structure cannot support a form of system control in which perceived control is centralized to a few individuals. In effect, the graphical curve of perceived control should be reconciled by the actual control imposed by organizational control, forming a relative hyperbolic structure.

Aside from the difference between perceived and actual organizational control, there is also an inherent difference between perceived and actual interpersonal control. With respect to interpersonal control, its structure can be defined as an array of individual valences of influence or control over others as indicated by self- and other-reports (Kraus, Piff, & Keltner, 2009; Whisler, Meyer, Baum, & Sorensen, 1967). From this delineation between organizational and interpersonal control, an ecological trend can be extrapolated in reference to the social, relational, and intrapersonal levels of interaction. At the lowest level of the ecological control spectrum is the absolute centralization of control within one member of an organization, while the highest level of the ecological control spectrum is absolute decentralization of control to all members of an organization (Whisler et al., 1967). From this ecological spectrum of control, an index of centralization can be

baselined to establish inequities of control within individuals, relationships, and the organization itself. This index is equivalent to a span of control, where the structure of control is simultaneously a network of control relationships that can be mapped onto an organizational chart (Meier, Semmer, Elfering, & Jacobshagen, 2008). In effect, this distributed network of control relationships can be data-mined in order to identify the appropriate level of control associated with each level of an organization. Throughout this process, decentralization is the condition in which the control relationship within an organization is defined as a one-for-one relationship between superior and subordinate; comparatively, centralization is the condition in which the control relationship within an organization is defined as a single superior for the entire organization (Whisler et al., 1967).

Military and Hierarchical Control

The primary intent of hierarchy within the military is to encourage and permit greater autonomy at higher hierarchical levels (i.e. AFI 36-2618, 2009). From the military's perspective, higher ranks need higher levels of autonomy in order to appropriately command, control, and delegate those of lesser rank. While this philosophy may be conducive to most career fields, pararescue, by its very mission to save lives requires higher levels of autonomy. In particular, this study tested the traditional military assumption by hypothesizing the opposite; compared to military rank, dominance/submissiveness will be a stronger determinant of perceived autonomy. In effect, the intent is to explore if pararescuemen require and create their own internal sense of freedom despite the control structures imposed by traditional military rules.

Furthermore, the development of structures of control within the military should be mediated by social construction and those self-identities that are maintained by evolving these structures through an increase in autonomy (Ezzamel & Willmott, 1998).

A primary tenet of military structures is the relatively linear concept centralized control and decentralized execution; however, a subcomponent of this study's intent is to explore if control, like all qualitative constructs, is a continuum derived from the interactions between organizational divisions (i.e. military rank) and interpersonal boundaries (as guided by dominance/submissiveness). For example, micromanagers maintain a high degree of centralized control over processes and procedures while macromanagers delegate their responsibilities by decentralizing control. Within career fields such as pararescue, it is necessary for teams to maintain strict control measures with a high level of organizational centrality. Therefore, the tenet of centralized control and decentralized execution may be better viewed in terms of centralized strategic control and decentralized operational/tactical control.

This complex organizational design is reliant upon a hierarchical division of labor to coordinate the different functions. Participation should be viewed as a primary component of organizational structure, as well as authority (not centralization), formalization, and specialization (Dickson, 1981). Specifically, centralized control for pararescuemen should involve the concentration of authority at higher levels, while actual centrality of control during a mission is relegated to the pararescue members themselves. In these terms, organizational control directly corresponds to the centralized and formal establishment of policy and procedure. Through formalization of policy and procedure, a

framework is created through which representative participation can occur, and in turn promotes empowerment and an increase in autonomy. Consequently, autonomy does not equate to centralization but an opposing construct, supporting the premise that the individual autonomy is not equivalent to organizational autonomy (Liu, Chen, & Yao, 2011). Therefore, the traditional military hierarchy does not appear to address the inherent need for greater autonomy for pararescue. When task conditions are difficult, such as the complexities in saving another individual's life in a combat environment, a balanced distribution of control and autonomy among all members (i.e. a pararescue team) will lead to better performance and higher satisfaction than will an unbalanced distribution of control (Greer & van Kleef, 2010; Levine, 1973; Liu, Chen, & Yao, 2011).

Environmental Control

High environmental complexity and uncertainty have been found to catalyze organizational differentiation as each function attempts to cope with all of the variables affecting each situation (Broskowski, 1984). Boundary strategies are a means for organizations to control the porosity of the organization's boundary to mitigate disruptions that occur when environmental variables attempt to alter the state of the organization (Greguras & Diefendorff, 2009). In order to circumvent these influences, organizations must implement several strategies, including filtering, leveling, and timing (Broskowski, 1984). These environmental strategies reduce conflict and complexity by streamlining processes while controlling the environment through monitoring, influencing, and gaining control over sources (Greguras & Diefendorff, 2009).

Leaders are able to motivate subordinates to set aside their own personal desires in order to attain collective objectives. This tenet of leadership is reliant upon his or her ability to manage environmental controls, discriminating between individual and organizational needs while mitigating environmental influence (Maner & Mead, 2010). An overemphasis on management through control can adversely affect subordinates and subordinate functions. Moreover, an overemphasis on leadership with no attention to the control and management of environmental complexities can lead to organizational disarray (Maner & Mead, 2010).

Boundary Theory and Autonomy

While the previous discourse focused primarily on the intrinsic properties of interpersonal theory, style, and behavior, these constructs are not sufficient to provide a foundation for discussion and researching the interaction between military rank and personality on autonomy. Instead, an indeterminable number of boundaries exist that prevent individuals from manifesting their interpersonal traits in order to conform to a particular interpersonal style. For example, material resources within an ecological context act as mediums through which interpersonal interactions and experiences occur, such as love and status (Wiggins & Trobst, 1997). In other terms, an individual's behavioral manifestation of an interpersonal style is relative to his or her own needs and constrained by the boundaries that are imposed by other interpersonal styles, traits, and ecological influences (Miller, Maner, & Becker, 2010). In effect, at the lowest level, interorganizational relationships are composed of a single interpersonal experience that produces varied experiences and is dependent upon the boundaries imposed at all levels

of the ecological spectrum (individual, relational, societal) (Miller, Maner, & Becker, 2010). The degree of inter-relatedness among risk, power, and trust within inter- and intraorganizational relationships may be the foundational boundary constructs that guide interpersonal interactions (Bachmann, 2003). Specifically, a trusted relationship is one where an assumed risk is taken to balance the level of relational power and/or leverage power in favor of one of the individuals within the interpersonal exchange. In effect, trust and power can be considered two universal boundary control mechanisms that represent the qualitative counterpart to the quantification of interpersonal styles within organizations (Bachmann, 2003).

Aside from the qualification of boundaries and the quantification of relationships, a multilevel analysis within the organization is required to satisfy the higher ecological necessity for social homogeneity. According to Bachmann (2003), organizational systems can be analyzed at the sociocultural, interorganizational, and intraorganizational levels of relational interaction. Within these levels, trust and risk form an interrelated dynamic that affect the organization horizontally and vertically throughout the hierarchy of power. In effect, trust and power are the means through which interpersonal styles are coordinated within the boundaries of organizations (van Dijke, De Cremer, & Mayer, 2010).

Organizational boundaries are delineations between the social structure and the resources possessed by that organization. There are four components of interpersonal boundaries: (a) efficiency (cost), (b) power (autonomy), (c) competence (growth), and (d) identity (coherence) (Eisenhardt & Santos, 2005). Each construct pertains to a different yet fundamental organizational function. While they can accurately predict horizontal

(interpersonal relationship) and vertical (rank and file) boundaries, they provide even greater insight into the locus of control within each boundary construct. Specifically, the efficiency construct is relatively tactical and focused, while power, competence, and identity are relatively strategic and represent broad objectives. The constructs can be complementary and synergistic, which highlights the importance of all boundary constructs, with one not being more important than another. With respect to boundaries and autonomy within the context of pararescue, a team sent to recover an individual can be efficient, competent, and cohesive, but if they are not relegated the appropriate level of autonomy, then they will not have the level of power necessary to achieve mission success.

Contingency Theory and Autonomy

The more that an individual's behaviors are dependent on the behaviors of another individual, the less relative power that individual will have in the interpersonal exchange (Eisenhardt & Santos, 2005). In effect, interpersonal boundaries are contingent upon each individual's interpersonal vector. For example, equal dependency is a stable state that discourages the use of power by either person, whereas imbalance promotes the use of power by the more powerful (less dependent) person (Eisenhardt & Santos, 2005). Unbalanced relations have to move toward balance throughout time in order to reach interpersonal homeostasis (Michaels & Wiggins, 1976).

Role and status are integral components that directly affect the process of mitigating contingencies and achieving interpersonal homeostasis. From a cross-cultural perspective, Raush (1965) alludes to American–Norwegian cultural disparities in

contingencies relevant to dominance/submissiveness, speculating that there have also been commensurate changes in interpersonal complementarity beginning in the 1950s. Specifically, interpersonal behavior may be less affected by interpersonal complementarity as the relationship progresses, with higher levels of trust lowering the need for rules governing interpersonal behavior (van Dijke, De Cremer, & Mayer, 2010). For example, pararescuemen have high levels of trust with one another and would therefore require fewer controls imposed upon them to operate effectively.

Organizational Fit and Misfit

Organizational fit can be defined as an organization's relative sociopolitical place within its environment (Leibold, Tekie, & Voelpel, 2006). Contrary to what most may believe, in order to become innovative and successful, organizations should purposely strive to become misfits rather than strive for a perfect environmental fit (Leibold, Tekie, & Voelpel, 2006). In the context of contingency theory, contingency arguments implicitly assume that high-level actors in an organization are able to identify and comprehend the demands imposed by their current environment and are able to design the appropriate organizational architecture to respond to those demands (i.e. nonhierarchical, organizational misfit) (Leibold, Tekie, & Voelpel, 2006). The design of complex organizations requires both reductionism and efficient division of labor. Among the many coordination benefits of specialization and the division of labor is the potential for relatively autonomous adaptation within the specialized units or departments (Ethiraj & Levinthal, 2004). Within pararescue, specialization and division of labor is inherent, implying that autonomous adaptation is a natural byproduct. Therefore, limiting

autonomy based upon rank would be counterintuitive to the personalities that create an environment conducive to adaptation and improvisation. Further support for this logic is indicated by Ethiraj & Levinthal's (2004) finding that stability in the organizational form can only result if the organization accepts some degree of apparent misspecification of the organizational structure. This appears to directly counter traditional military doctrine regarding military rank structure. However, this is not to imply that rank is unimportant, only that rank should not be used to limit autonomy derived from personality.

Specifically, a contingency theory of control states that organizational effectiveness will be enhanced when high amount of control is exerted within the management system (i.e., rank), that this control is distributed in a power-equalized fashion (within each organizational division), and that there is agreement (based on personality) among echelons as to the amount and distribution of control within the system (i.e., pararescue; McMahon & Perritt, 1973).

Autonomous Hierarchies

In order to overcome interpersonal boundaries that constrain organizational interactions, boundary-spanning individuals are necessary (Ashill, Meadows, & Stewart, 2001). Boundary-spanning individuals not only serve to address perceptions of organizational uncertainty, but can also influence their organization's strategic direction in terms of task characteristics/job demands, role characteristics, interpersonal conditions and relationships, organizational structure, climate and information flow, and career development issues (Ashill, Meadows, & Stewart, 2001). For example, pararescuemen of lower ranks are continuously required to brief high ranking individuals on capabilities

and limitations, thereby directly impacting the tactical, operational, and strategic levels simultaneously. However, as a condition of existence, organizations such as pararescue must maintain distinguishable boundaries that separate the individuals from their environment (i.e., rank). Transaction cost economics suggest that boundaries should be placed where they maximize the effect of governance while minimizing its cost; however, this should not be at the expense of constraining boundary-spanning individuals from mitigating interpersonal boundaries (Xu, 2004). Therefore, pararescuemen necessitate high levels of autonomy to effectively span all organizational divisions. Military rank should only be imposed to minimize the cost of mission limitations.

Boundary Spanning

Boundary-spanning individuals are necessary to mitigate interpersonal boundaries. However, boundary shakers are equally necessary and constitute those individuals who catalyze and affect change across organizational boundaries while permanently changing the boundaries themselves. For example, they provide a means to integrate and mitigate conflict in creative ways that circumvent traditional hierarchies (Balogun, Gleadle, Hailey, & Willmottz, 2005). Additionally, boundary-spanning activity (BSA) encompasses all individuals to include boundary-spanners and boundary-shakers. BSA encompasses information about environmental contingencies which is converted into organizational decisions through collectivistic rather than individualistic thought processes (Delbecq & Leifer, 1978). BSA is used to affect three different types of organizational behaviors: (a) boundary redefinition, (b) buffering, and (c) bridging (Alexander & Fennell, 1987).

The construct of BSA is further constrained by time. Time effects must be considered if one is to gain an accurate understanding of how interactions do or do not influence individual decisions (Bouty, 2000). This is evident when pararescuemen have time-sensitive decisions to make and must make these decisions without the explicit knowledge of higher ranking individuals. This occurs frequently when transactions between military subunits are infrequent and the exchanged resources are not explicitly defined, as well as when information may be insufficient, or when there is some uncertainty (Griesinger, 1990).

If an organization engages in effective boundary-spanning activity, transaction costs that affect the coordination between or within organizational divisions can be mitigated through the correct application of external processes. In effect, by making each operational process within the organization contingent upon the scale and scope of interpersonal boundaries, the level of control necessary within a particular organization can be tailored to each organizational division (Morroni, 2007).

Social Autonomy

Inherent within individual differences are unique adaptive mechanisms that require different levels of autonomic need that are specific to each individual and manifest in social outcomes. Due to varying autonomic needs, each interpersonal behavior and relationship elicits complementary behavior. This principle causes a chain reaction, in which every behavior influences subsequent interpersonal relations and behaviors. The perpetual chain of interpersonal influence is generally in concert with the

original interpersonal models of Carson (1969), Kiesler (1983), and Wiggins (1979), with some minimal differences that are inconsequential to this basic foundation.

Historical analyses (i.e., Spector, 1986) indicate that self-reports of autonomy are significantly related to employee turnover, performance, and satisfaction. Hackman and Oldham's (1975) Job Diagnostic Survey (JDS) and the Job Characteristics Inventory (JCI) have historically been the primary self-reporting measurements for perceived autonomy; however, their reliability and validity have been severely questioned (Sims, Szilagyi, & Keller, 1976; Spector, 1986). These concerns include unacceptable internal consistency (Fried, 1991), unclear factor structures (Fried & Ferris, 1986), measurement errors (Idaszak & Drasgow, 1987), and confounding definitions (Kiggundu, 1983). The Global Work Autonomy Scale (GWAS) was developed in order to address these issues by averaging the scores on the original WAS (Ashforth & Saks, 1995). Scores on the GWAS have been found to be internally consistent and relatively stable with acceptable test-retest coefficients. Ashforth and Saks (1995) also found that the scores derived from the GWAS were valid. Specifically, scores on the GWAS were related to the JDS measures of work satisfaction, supervisory satisfaction, and global autonomy; the GWAS scores were also able to predict subgroup differences in the scale itself (Breaugh, 1998).

Interpersonal Conflicts

While varying autonomic needs elicits complementary behavior, interpersonal conflicts are inevitable when extreme disparities exist between individuals (Barki & Hartwick, 2004). Although definitions of conflict are considerably different, Barki and Hartwick (2004) highlight three common factors, including disagreement, negative

emotion, and interference. In particular, a person's interpersonal actions tend to provoke, incite, or antagonize to initiate a complementary response to the other individual that can result in conflict. With respect to the interpersonal circumplex, complementarity occurs due to a reciprocal action from an opposite proactive trait (i.e., dominance elicits submission, submission elicits dominance) or from an opposite reactive trait (i.e., hostility encourages hostility, friendliness encourages friendliness) (Sadler, Ethier, Gunn, Duong, & Woody, 2009).

Social Dialectic of Autonomy

Autonomy at a societal level is both desirable and undesirable. This apparent dialectic can be reconciled in the following manner. Autonomy is socially desirable for individuals; however, when the autonomy of an individual result in behavior that is not deemed socially acceptable, then that same autonomy becomes undesirable. Therefore, a system of checks and balances is necessary to mitigate between the desirable and undesirable effects of autonomy (i.e. military rank). The social undesirability of autonomy emphasizes: (a) individual differences, (b) the continuum of normality-abnormality, and (c) values that define certain forms of adaptation as desirable and others that require capitulation to social norms. The items in the IAS Cold-Hearted scale have the lowest average rated social desirability values of all IAS scales (Wiggins, 1997). Therefore, it is evident that even personality must not be the only variable governing autonomy, but must be controlled if left unabated by such control measures as military rank. However, research supports that all facets of personality positively contribute to the collective objectives of society (Wiggins, 1997).

An essential managerial task is the effective mitigation between organizational autonomy and interpersonal autonomy. The effective mitigation of these constructs allows an organization to convert its inputs into valuable outputs. A common assumption is that the boundaries should encompass methods to mitigate autonomic processes. However, this is a situational-dependent process and will differ fundamentally with respect to organizational objectives, communication channels, and individual motivations (Nickerson & Zenger, 2004).

During the process of autonomic mitigation, transactions occur between and within multiple dimensions simultaneously, establishing varying contexts for the individuals involved. How each individual perceives the situation within each given context will inevitably vary with contingency factors (Staber, 2004). When organizations limit their strategies to traditional organizational structures such as the military rank structure, they limit their strategic flexibility. To avoid this organizational stagnation, it is recommended that these organizations create bounded instability. Bounded instability is achieved through positive crises that manipulate organizational and intrapersonal autonomy to construct a chaotic and yet controlled environment that thrives equally on creativity and relative stability. An organization that is dynamically stable requires rigid flexibility, which enables an autonomic environment for creative thinking while providing a malleable structure for organizational cohesiveness. In effect, an organization that relies upon bounded instability maintains clear boundaries through visions, objectives, guiding principles, but permits a great deal of freedom and autonomy within

those boundaries to reach maximum organizational efficacy (Leibold, Tekie, & Voelpel, 2006).

Summary

Within this study, a reappraisal of organizational structure highlights the interrelationship of military rank, dominance/submission, and perceived autonomy. This research not only focuses on the concrete elements of the organization (strategy, structure, systems), but also on the abstract elements such as personality and autonomy. Organizational divisions and interpersonal boundaries are continuously changing in terms of strategy development, structure, transformation, command and control, and organizational objectives. The emergence of network organizations as a better organizational model than traditional hierarchies is the primary point of contention between traditional and contemporary research on hierarchy and personality issues within organizations. This premise supports a situational model for determining the level of control necessary within an organization or one of its subdivisions. Furthermore, the complementary manipulation of organizational constructs must mitigate and appropriately balance between autonomy and interdependencies. To compete successfully in asymmetric environments such as the conflicts in the Middle East, organizations like the military may need to reappraise their traditional organizational construct in order to more strategically affect the asymmetric threats facing current societies (Graetz & Smith, 2005).

This quantitative study explores the relative influence of hierarchical level and the personality constructs of dominance/submissiveness on perceived autonomy for United

States Air Force pararescuemen. Each individual's interpersonal traits and perceived work autonomy were measured to analyze this hypothesis. Chapter 3 discusses the research design and methodology used for this study.

Chapter 3: Research Method

In this chapter, I describe the research design and approach to the study, the setting and sample, data collection and analysis, instrumentation and materials, protection for human participants, and dissemination of findings. An overview of the research design explains the rationale for selecting this particular research approach. The purpose of this quantitative, predictive study was to explore the relative influence of hierarchical level as compared to dominance/submissiveness upon perceived autonomy within the United States Air Force career field of pararescue.

Research Design and Approach

A quantitative, predictive study seeks to understand the relative influence of multiple independent variables on the dependent variable (Boslaugh & Watters, 2008). In this particular study, I was interested in cross-referencing information about military personnel contained in the independent variables to predict their relative influence upon the dependent variable. In this study, I investigated the independent variables of hierarchical level (military rank) and the personality dimensions of dominance/submissiveness, as well as the dependent variable of perceived autonomy. Given this framework, it is recommended to use a quantitative design (Triola, 2002). In order to conduct this study, I used a convenience sample of 75 military adult males in the pararescue career field. I administered the Interpersonal Adjective Scales (IAS) (Wiggins, 1995) to measure the independent variable of dominance/submission, while I used the level of position of the participant within the military rank structure to measure the variable of hierarchical level as supported by relevant military doctrine. I used the Work

Autonomy Scale (WAS) to measure the dependent variable of an individual's perceived autonomy in his organization. The study utilized a multiple linear regression and post hoc logistic regression analyses to explore the nature of hierarchical level as compared to dominance/submissiveness in predicting perceived autonomy within a sample of United States Air Force pararescuemen.

For this study, I incorporated a quantitative, predictive design. All variables were quantitative in nature. I used a multiple linear regression (MLR) to analyze whether the independent variables predicted variance within the dependent variable. The MLR has numerous assumptions, including: (a) the errors are normally distributed; (b) the mean of the errors is zero; (c) the errors have constant variance; and (d) the model errors are independent (Boslaugh & Watters, 2008). Furthermore, post hoc logistic regressions provided a deeper analysis on how the independent variables predicted the variance within the dependent variable. Logistic regressions have several assumptions, including: (a) the sample size is greater than 30 per predictor, (b) the absence of multicollinearity, and (c) the absence of outliers (LeBlanc and Fitzgerald, 2000). Specifically, I used a MLR and post hoc logistic regressions to test the predictive nature of the independent variables of dominance/submissiveness and hierarchical level on the dependent variable of perceived autonomy.

Setting and Sample

For this study, I used a convenience sample of 75 adult male military pararescuemen from rescue squadrons in the Air Force Reserve Command, Air National Guard, and Air Combat Command. Administration of surveys was coordinated with the

Commander of each rescue unit participating in this study. An equal distribution of participants was achieved for every hierarchical level. The participants selected were fully qualified pararescuemen, as defined in Chapter 1. For the multiple linear regression, a minimum sample size of 60 participants was calculated using a power of .80 and an alpha of .05 and will be able to detect effect sizes down to .17 (Cohen, 1988; Green 1991; Maxwell, 2000). Furthermore, greater than 60 participants (>30 per predictor) enabled the post hoc logistic regressions to be accomplished (LeBlanc & Fitzgerald, 2000).

Instrumentation and Materials

Demographics

For this study, I used a demographic form to assess general information regarding the participant's rank, unit type, employment status, years in pararescue, total years of military service, age, level of education completed, and ethnicity/racial background (see Appendix A).

Hierarchical Level

I measured hierarchical level using the pararescueman's rank structure, which in the military designates an individual as having the rank of E-1 through E-9. Given this quantitative delineation and the preceding literature review of military doctrine concerning autonomy and rank, I assigned each participant a hierarchical level on a Likert scale ranging from 1 through 9. This number corresponded directly to the participant's actual rank (i.e., E-1 = 1, E-2 = 2, etc.), as found on the demographic form. The individual was then coded as tactical, operational, or strategic levels based upon their

respective airman, NCO, or SNCO divisions, respectively. Each participant's respective category was used for data analysis.

Interpersonal Adjective Scale (IAS)

The IAS is a list composed of 64 adjectives that are descriptive of interpersonal interactions. I administered the survey to individuals and, using an 8-point Likert scale, the individuals self-rated how each adjective described them. Upon scoring, individuals were plotted on an eight-position circumplex in terms of interpersonal affiliation (Martinez-Arias et al., 1999). In effect, individuals received both an interpersonal dominance score and an interpersonal submission score; these scores ranged from 4 to 32, respectively. The individual's score was mathematically represented as an angular location on the interpersonal circumplex. From that mathematical representation, the angular location and vector length derived from the IAS were multiplied to calculate the relative dominance/submissiveness of the participant.

I administered and scored the IAS, having had the prerequisite academic background to include advanced courses in testing, measurements, psychometrics, and data analysis at the doctoral level. These prerequisites have been independently verified and validated by Psychological Assessment Resources. Furthermore, I administered the IAS in accordance with the IAS manual (Wiggins, 1995).

Wiggins (1995), as the author of the IAS, indicated that the instrument is appropriate for use with adults and college students, with separate norms provided for each in the IAS manual. Wiggins (1995) further indicated that a reading level analysis of the IAS test items and the IAS glossary sheet adjective definitions require a 10th-grade

reading ability to complete the test. Wiggins (1995) also recommended the test user practice care in the administration of the IAS to persons whose native or first language is not English, or who do not have the physical and emotional capabilities for meeting the normal demands of testing with self-report instrument (Steven, 2010). The United States Air Force ensures that individuals are fluent and proficient in English prior to permitting enlistment, as tested by the Armed Services Vocational Aptitude Battery. Furthermore, the United States Air Force ensures that pararescuemen are physically and emotionally capable of performing tasks well above and beyond the normal demand of completing a self-report instrument (see Training Schedule for Qualification, Chapter 2). Therefore, I did not exclude any pararescuemen from this study for language proficiency issues or for physical/emotional limitations.

I further based my use of the IAS on normative samples from several sources, including: (a) the Baltimore Longitudinal Study of Aging (McCrae & Costa, 1989) (N = 344), (b) a volunteer sample that was recruited through churches and civic organizations (N = 377), (c) a sample of volunteer undergraduate college students from the University of British Columbia (N = 2,988) (Wiggins & Broughton, 1991), and (d) an employment sample of applicants for fire fighter positions in a large southwestern city (N = 362). Wiggins (1995) provided descriptive information regarding the composition of each normative group and differences among sample groups were analyzed and resulting data were presented (Steven, 2010).

Internal consistency reliability coefficients for the IAS range from .755 to .865 across the entire circumplex (Wiggins, 1995). Each of the eight scales of the IAS has

strong internal consistency, providing a reliability index that suggests items making up each of these scales are cohesive in measuring the underlying characteristics they have been assigned to measure. Although the scores from the IAS have strong reliability with respect to internal consistency, the test manual provides no information regarding the consistency with which individuals assess themselves over multiple occasions (test-retest reliability) or the extent to which ratings of individuals by independent others agree (interrater reliability).

In terms of validity, a study with 150 participants who were administered the IAS and NEO-PI, indicated that ratings for dominance and nurturance (the primary axes) of the IAS were correlated with their corresponding NEO-PI measures of assertiveness (r = .84) and altruism (r = .75; Wiggins, 1995). Furthermore, the structural arrangement of the IAS interpersonal scales along the dimensions of dominance and nurturance has substantial theoretical and conceptual support. This theoretical and conceptual evidence comes from research conducted by others examining concepts and constructs related to the IAS (Steven, 2010).

Studies directly using the IAS have shown that peer ratings of dominance and nurturance correlate with corresponding facets of the NEO Personality Inventory (McCrae & Costa, 1992). In addition, IAS scales correspond with self-reported behaviors such as dominance and submissiveness (Buss, 1984; Buss & Craik, 1983; Buss, Gomes, Higgins, & Lauterbach, 1987) and observed nonverbal behaviors (Gifford & O'Connor, 1987). From the above, a convergence between two different measures of similar characteristics suggests that the IAS is measuring the underlying interpersonal constructs

it purports to measure. Correspondence between IAS ratings and behaviors also supports the notion that inferences made from individuals' standings on the IAS are descriptive of their actual behaviors.

It is important not to confuse content and style when interpreting IAS results. Both are crucial in understanding personality, but these concepts are not interchangeable. Half of the items should be worded positively, and half worded negatively. With the addition of marker scales for desirability responding, content and style factors might be distinguished, particularly if a sufficient diversity of desirability among items within each scale could be identified. Personality is almost certainly more complex than that which can be represented realistically in a two-dimensional plane; however, this study's intent is to use the IAS to measure relative dominance/submissiveness, not overall personality (Jackson & Helmes, 1979).

Work Autonomy Scale (WAS)

The WAS measures an individual's perceived level of autonomy using a nine-item survey on a 7-point Likert scale. Typically, researchers analyze results in terms of the extent to which the participant perceives that he or she is permitted (from upper echelons/organizational policy) to select and use work methods, work scheduling, and performance criteria. In this study, I used scores from this survey to measure the dependent variable of perceived autonomy. These values ranged from 9 to 63. Test-retest reliability for the three subscales of the WAS were found to be .76 for method autonomy, .71 for scheduling autonomy, and .65 for criterion autonomy (Breaugh, 1985). Furthermore, Breaugh (1985) established validity of the WAS by correlating the WAS to

the work satisfaction and supervisory satisfaction scales of Hackman and Oldham (1975), Lawler and Hall's (1971) job involvement index, employee absenteeism and performance rating, and the Hackman and Oldham (1975) autonomy scale as shown in Table 1.

Table 1

Correlations of the Work Autonomy Scale

	Work Autonomy		
Items Assessed Variable	Method	Scheduling	Criteria
Satisfaction with work (.84)	.26 **	.23 *	.23 *
Satisfaction with supervision (.91)	.30 **	.25 **	.17 *
Job involvement (.64)	.24 **	.25 **	.34 **
Employee absenteeism	-.21*	-.31 **	.00
Performance rating	.26 **	.32 **	.18 *
Hackman and Oldham's autonomy scales (.79)	.42 **	.37 **	.33 **

Note. Entries in parentheses are internal reliability estimates (Cronbach's alpha).
* $p < .05$. ** $p < .01$.

There is a significant difference between an individual's perceived autonomy at work and job satisfaction. In support of this supposition, research has historically found that this difference is of primary importance when attempting to understand individuals' reactions to work-related interventions Kiggundu (1981, 1983). Fahr and Scott (1983) have further suggested that combining work autonomy with other work-related constructs directly resulted in confusing factor analyses when the JDS or JCI scales are included. However, Breaugh (1989) found the WAS to be both internally consistent (coefficient

alpha) and relatively stable (test-retest reliability) with alpha coefficients measuring .91 for method autonomy, .85 for scheduling autonomy, and .78 for criteria autonomy.

Principal axis factor analysis of the nine items comprising the WAS further contributed to the instrument's psychometric soundness. Breaugh (1985) identified the pattern of the item factor loading for both samples to the priori facets. Furthermore, congruence coefficients supported the stability of the factor structure across two samples. Correlations between the three autonomy constructs and related dependent variables (i.e., job satisfaction) further supported construct validity of the three autonomy scales (Breaugh, 1985). Furthermore, confirmatory factor analysis was accomplished in lieu of exploratory factor analysis (Long, 1983) and provided clear support for the WAS' construct validity. Furthermore, another study by Breaugh and Becker (1987) examined whether autonomy self-reports reflected subjective or objective differences, finding that perceptions of autonomy are grounded in objective reality, which provided support for both discriminant and convergent validity. Finally, potential users of the autonomy scales indicated that they perceived greater value in rating different factors of autonomy (i.e., work method autonomy) then rating autonomy as a whole (Breaugh, 1989). The WAS is shown in Appendix C.

Data Collection and Analysis

I gave the informed consent form and information that introduced the study to each participant (see Appendix A). The informed consent form provided an explanation of the research, the requirements for voluntary participation, a confidentiality clause, and human protection concerns. I have encrypted and stored all confidential data that I

collected for this study on an external hard drive in my home office safe. Furthermore, the data is coded with identification numbers to maintain the participants' confidentially and anonymity. I am the only individual with access to participant data.

I administered all surveys individually and at each pararescueman's respective unit. If a participant wished to remain anonymous, then the survey was administered outside of the unit. I issued the informed consent form and a demographic form, which consisted of his rank, unit type, employment status, years in pararescue, total years of military service, age, level of education completed, and ethnicity/racial background. I asked the participants to respond to the 64 questions on the IAS (see Appendix B) and the nine questions on the WAS (see Appendix C).

As the first step in data collection, I administered the consent form and demographics form (see Appendix A). This took approximately 5 minutes. Second, the IAS was administered. Upon administering the IAS, the participant received the four-page IAS test booklet and a one-page glossary (printed definitions were included on both sides of the page). The respondents used the glossary sheet whenever they were unsure of the meaning of one of the descriptive word items. I scored the instrument utilizing the professional manual and the four-page scoring booklet. I encouraged the respondent to complete all unanswered items prior to scoring the instrument. The scoring booklet was then used to complete the scoring of the completed instrument.

Finally, I administered the participants the WAS. Most respondents completed this instrument in approximately 10 minutes. Upon completion, I asked the individual if he has any further questions and reminded him that all of his data was confidential and

anonymous. Administration of all forms and surveys took approximately 25-30 minutes. Individuals participating in the research are able to obtain results of the study by contacting me via e-mail. Coded results may be shared with interested parties.

Exploratory Data Analysis

I performed a preliminary analysis for descriptive information on the sample, including: (a) participant's unit type, (b) military rank, (c) age, and (d) years in pararescue. I then analyzed demographic variables to determine potential confounding variables. For conducting my data analysis, I used Statistical Package for the Social Sciences (SPSS) 20.0. Before beginning hypothesis testing, I performed a data analysis to ensure that statistical threats to validity were resolved. This preliminary test included analyses of the assumptions and reliability of the instruments for the sample population.

Hypothesis Testing

$H1_o$: The personality variable of dominance/submission, as measured by the Interpersonal Adjective Scales, will not significantly predict a greater proportion of variation in perceived autonomy, as measured by the Work Autonomy Scale, than hierarchical level (operationalized by military rank).

$H1_a$: The personality variable of dominance/submission, as measured by the Interpersonal Adjective Scales, will significantly predict a greater proportion of variation in perceived autonomy, as measured by the Work Autonomy Scale, than hierarchical level (operationalized by military rank).

The hypothesis was tested with a multiple linear regression and post hoc logistic regression models.

Protection of Human Participants

In accordance with Walden University's Internal Review Board (IRB), approval number 10-17-11-0036526, and the United States Air Force IRB policies and procedures, approved protocol number FWR20100123E Version 1.01, this study ensured that the ethical standards pertaining to the protection of human participants was strictly upheld and maintained. Informed consent (see Appendix A) was administered to all potential participants in the study. However, per the United States Air Force IRB approval letter, "the Pararescuemen field is relatively select and a breach in confidentiality, although remote, could cause potential harm, no identifying information will be collected. In fact, the informed consent documentation will be waived in accordance with 32 CFR 219.117(c)(1-2) to further anonymize the participants." Furthermore and also stated within the United States Air Force IRB approval letter, this proposal meets the criteria for exemption in accordance with 32 CFR 219.101(b)(2) which exempts "research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) Any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation."

I administered the informed consent form for informational purposes and advised the individuals that participation was completely voluntary, that there were no known

risks and minimal benefits to participation, that there was no penalty for withdrawal from the study, and it specified contact procedures for reaching my advisor and/or myself regarding questions or comments for the study. The decision to participate in this research did not affect an individual's status in the military. In addition, participant data remained confidential and only I have access to the data. In order to preserve the integrity of the study, the participant's forms and surveys, as well as the data analyses will be stored for no less than 7 years, on an encrypted hard drive in my possession, as per Creswell (2003). No other individuals were or will be permitted access to this hard drive, at any time.

Dissemination of Findings

Results from this research will be used for publication in military journals. Aside from those publications that I initiate, there are specific limitations on further dissemination. As previously identified, I obtained permission to conduct this study from both Walden University and the United States Air Force. However, while approved by the United States Air Force to collect data on Air Force participants, I fully funded, developed, and completed this research on off-duty time, and this research is therefore my copyrighted material and governed by United States copyright law. My conclusions drawn from the results of this dissertation may not represent the conclusions drawn by the United States Air Force or the Department of Defense. Data collected and commensurate analysis of the data from this study will therefore remain anonymous and confidential. Raw data is restricted from release to all civilian and governmental departments and agencies and is not governed by research conducted by military psychologists in which

anonymity, confidentiality, and release of data collection and analysis is less restrictive. Coded data that includes the demographic form to verify military rank (all other information will be redacted to enhance anonymity), the IAS booklet to verify relative dominance score, and the relevant WAS form to verify perceived autonomy score will be available for release upon a fully executed agreement between the requesting agency and I and solely for the purpose of study verification.

Summary

In Chapter 3, I have outlined and discussed the research design and methodology for this quantitative, predictive study. In Chapter 4, I will outline the findings from the multiple linear regression and post hoc logistic regressions. Finally, in Chapter 5, I will discuss these findings to answer the research question and hypothesis, as well as discuss the theoretical and social change implications from this study.

Chapter 4: Results

The purpose of this study was to discover if either the personality variable of dominance/submissiveness or the hierarchical variable of military rank is the prevalent construct that influences perceived autonomy for United States Air Force pararescuemen. In this chapter, I provide the results of my study in order to answer the research question and hypothesis. These results include an initial data screening, descriptive statistics, the results of the multiple linear regression, the results of the logistic regressions, and a brief summary of my findings.

Data Screening

Seventy-five cases were included in the original data set. Prior to analysis, data were transferred into Statistical Pack for the Social Sciences (SPSS) 20.0 for analysis (SPSS, 2011). Descriptive statistics were run to screen data for accuracy, missing cases, and outliers or extreme cases. Descriptive statistics and frequency distributions showed that responses were within the possible range of values. Data were examined for cases that were missing in non-random patterns. No cases were missing, and all cases were retained. To assess outliers, I analyzed standardized residuals prior to executing the multiple linear regression. Using the baseline of two standard deviations from the mean, three cases were identified as outliers and removed from the dataset ($N = 72$). At this point all standardized residuals were within accepted limits (see Table 2). Upon the removal of these three cases ($N = 72$), z scores were created within the data set for the logistic regressions. The z scores were examined to be certain none of the values were above 3.29 or below -3.29 (Tabachnick & Fidell, 2006). All further values were cross-

checked with Cook's distance and leverage values. No further cases were excluded as none of the remaining cases (*N* =72) were evaluated as influential points. Therefore, the remainder of cases were retained and the assumption of the absence of outliers was met.

Table 2

Residual Statistics for Dependent Variable: Work Autonomy Composite

Statistics	Min	Max	*M*	*SD*	*n*
Predicted Value	31.60	49.80	41.62	4.202	72
Residual	-14.679	12.507	.000	7.332	72
Std. Predicted Value	-2.385	1.945	.000	1.000	72
Std. Residual	-1.974	1.682	.000	.986	72

Note. M = mean; SD = standard deviation.

Upon removing the three outliers (*N* = 72), internal consistency of each variable was analyzed in terms of data collected on military rank, relative dominance (as measured by the Interpersonal Adjective Scales [IAS]), and perceived autonomy (as measured by the Work Autonomy Scale [WAS]). All reliability coefficients as indicated by Cronbach's alpha were above acceptable limits (DeVellis, 1991). Specifically, military rank indicated very high reliability at .86 (see Table 3). Furthermore, all of the eight dimensions measured by the IAS were acceptable, ranging from .66 to .89 (see Table 4). Of particular note is that only one dimension was minimally acceptable at .66, with the primary dominance/submissiveness dimensions of Assured-Dominant (PA) and Unassured-Submissive (HI) showing very high reliability at .82 and .85, respectively. Overall, the circumplex model of the IAS for measuring relative dominance indicated

high internal consistency. Finally, the reliability of all components of the WAS ranged from respectable to very high (.71 to .90) (see Table 5).

Table 3

Reliability Statistics: Military Rank

Variable	Cronbach's Alpha	*n* of Items	*n*
Military Rank	.86	2	72

Table 4

Reliability Statistics: Interpersonal Adjective Scales

Dimensions of IAS	Cronbach's Alpha	*n* of Items	*n*
Assured-Dominant (PA)	.82	8	72
Arrogant-Calculating (BC)	.84	8	72
Cold-hearted (DE)	.84	8	72
Aloof-Introverted (FG)	.89	8	72
Unassured-Submissive (HI)	.85	8	72
Unassuming-Ingenuous (JK)	.66	8	72
Warm-Agreeable (LM)	.78	8	72
Gregarious-Extraverted (NO)	.88	8	72

Note. IAS = Interpersonal Adjective Scales.

Table 5

Reliability Statistics: Work Autonomy Scale

Dimensions of WAS	Cronbach's Alpha	*n* of Items	*n*
Work Method Autonomy	.90	3	72
Work Scheduling Autonomy	.75	3	72
Work Criteria Autonomy	.71	3	72
Work Autonomy Composite	.83	9	72

Note. WAS = Work Autonomy Scale.

Descriptive Statistics

Dependent Variable

The dependent variable (and its three subset dependents) in the proceeding multiple linear regression (MLR) and logistic regression analyses are: work method autonomy, work scheduling autonomy, work criteria autonomy, and the work autonomy composite (comprised of the former three). I answered the research question and hypothesis by using a MLR that I conducted on the work autonomy composite, as well as 12 logistic regressions conducted on work method autonomy, work scheduling autonomy, work criteria autonomy, and the work autonomy composite. The post hoc logistic regressions were conducted using the separate work autonomy facets (method, scheduling, and criteria) for deeper interpretation of the results from the MLR.

For the multiple linear regression, Work Autonomy as a composite was considered a continuous dependent variable. For the post hoc logistic regressions, work

method autonomy, work scheduling autonomy, work criteria autonomy, and the work autonomy composite were considered ordinal and categorical dependent variables. Frequencies and percentages for the variables are presented in Table 6.

Table 6

Frequencies and Percentages for Work Autonomy Facets and Composite

Variable	*n*	%
Work Method Autonomy		
6	2	3
9	3	4
10	3	4
11	1	1
12	5	7
13	4	6
14	3	4
15	11	15
16	7	10
17	10	14
18	10	14
19	4	6
20	2	3
21	7	10

(*table continues)*

Variable	*n*	%
Work Scheduling Autonomy		
5	1	1
7	1	1
8	3	4
9	3	4
10	3	4
11	8	11
12	5	7
13	7	10
14	5	7
15	10	14
16	8	11
17	7	10
18	6	8
19	1	1
20	2	3
21	2	3
Work Criteria Autonomy		
3	1	1
4	1	1
5	3	4
6	1	1
7	3	4

(table continues)

Variable	*n*	%
8	6	8
9	4	6
10	4	6
11	8	11
12	9	13
13	6	8
14	5	7
15	4	6
16	9	13
17	2	3
18	4	6
19	2	3
Work Autonomy Composite		
26	3	4
27	1	1
28	1	1
29	1	1
30	1	1
31	2	3
32	2	3
33	4	6
34	1	1
35	2	3

(table continues)

Variable	*N*	%
36	4	6
38	4	6
39	6	8
40	1	1
41	5	7
42	1	1
43	5	7
44	1	1
45	1	1
46	1	1
47	3	4
48	5	7
49	3	4
50	3	4
52	3	4
53	3	4
54	2	3
58	2	3
59	1	1

In order to properly execute the post hoc logistic regressions, I recoded the dependent variable of Work Autonomy for use in the analyses. Data for work method autonomy, work scheduling autonomy, work criteria autonomy, and the work autonomy composite scores were recoded into categories of low, medium, and high. To recode data, the mean of each variable was calculated. Data that were one standard deviation below the mean were considered low autonomy, data that were within negative one and positive one standard deviation were considered medium autonomy, and data that were one standard deviation above the mean were considered high autonomy. The cut points for recoding the dependent variables are presented in Table 7. Frequencies and percentages were also conducted on the recoded variables of the Work Autonomy facets as well as the work autonomy composite score and are presented in Table 8.

Table 7

Cut Points for Recoded Dependent Variables

Variable	*M*	*SD*	Lower threshold	Upper threshold
Work Method Autonomy	15.61	3.56	12.05	19.17
Work Scheduling Autonomy	14.00	3.47	10.53	17.47
Work Criteria Autonomy	12.01	3.86	8.15	15.87
Work Autonomy Composite	41.63	8.45	33.18	50.08

Table 8

Frequencies & Percentages for Recoded Work Autonomy Facets & Composite

Variable	*N*	%
Work Method Autonomy		
Low	14	19
Medium	49	68
High	9	13
Work Scheduling Autonomy		
Low	11	15
Medium	50	69
High	11	15
Work Criteria Autonomy		
Low	15	21
Medium	40	56
High	17	24
Work Autonomy Composite		
Low	15	21
Medium	46	64
High	11	15

Note. Total of percentages are not 100 for every variable because of rounding.

Independent Variables

I also conducted descriptive statistics for the independent variables of military rank and dominance/submissiveness. Military rank was treated as a continuous variable for the multiple linear regression and was based upon a Likert scale that equates to the participant's rank (E-1 through E-9). Military rank was treated as categorical for the logistic regressions based upon the airman (Amn; E-1 through E-4), noncommissioned officer (NCO; E-5 through E-6), and senior noncommissioned officer (SNCO; E-7 through E-9) categories. Dominance/submissiveness was treated as a continuous variable for both the MLR and logistic regressions based upon the calculations derived from the Interpersonal Adjective Scales. Throughout the remainder of the results section, the independent variable of dominance/submissiveness will simply be termed *dominance* or *relative dominance*, since it is a continuous variable from relative submissiveness to relative dominance. Frequencies and percentages are presented for military rank category in Table 9. In order to protect the anonymity of participants, I did not include the frequencies of military rank as a continuous variable within this dissertation.

Table 9

Frequencies and Percentages for Military Rank Category

Military Rank Category	*n*	%
Airmen	25	35
NCO	23	32
SNCO	24	33

Note. NCO = non-commissioned officer; SNCO = senior non-commissioned officer.

For relative dominance, scores ranged from -4.60 to 5.90 with a mean of 1.77 (*SD* = 2.20). Mean and standard deviation for dominance are presented in Table 10.

Table 10

Mean and Standard Deviation for Dominance

Variable	*M*	*SD*
Dominance	1.77	2.20

Research Question

Does hierarchical level, as compared to dominance/submissiveness, predict greater variation in perceived autonomy for United States Air Force pararescumen?

$H1_o$: The personality variable of dominance/submissiveness, as measured by the Interpersonal Adjective Scales, will not significantly predict a greater proportion of variation in perceived autonomy, as measured by the Work Autonomy Scale, than hierarchical level (operationalized by military rank).

$H1_a$: The personality variable of dominance/submissiveness, as measured by the Interpersonal Adjective Scales, will significantly predict a greater proportion of variation in perceived autonomy, as measured by the Work Autonomy Scale, than hierarchical level (operationalized by military rank).

Hypothesis Testing

To assess the research question and to determine if hierarchical level, as compared to dominance/submissiveness, significantly predicts a greater proportion of variation in perceived autonomy for United States Air Force pararescuemen, I conducted a multiple linear regression (MLR), as well as 12 post hoc logistic regression analyses. Prior to analysis, I assessed the assumptions of both a MLR and a logistic regression -- sample size, absence of multicollinearity, and absences of outliers. For the MLR, the sample size of 72 satisfied the minimum sample size of 60 participants as calculated prior to data collection using a power of .80 and an alpha of .05, being able to detect effect sizes down to .17 (Cohen, 1988; Green 1991; Maxwell, 2000). Furthermore, for the post hoc logistic regressions, LeBlanc and Fitzgerald (2000) indicate large sample sizes ($N >$ 30 per predictor) are required. With a sample size of 75, the required minimum sample size of 60 was met for all analyses. To assess for outliers, I analyzed standardized residuals prior to executing the MLR. Using the baseline of two standard deviations from the mean, three cases were removed from the dataset ($N = 72$). Upon the removal of these three cases ($N = 72$), z scores were created within the data set for the logistic regressions. The z scores were examined to be certain none of the values were above 3.29 or below -3.29 (Tabachnick & Fidell, 2006). All further values were cross-checked with Cook's distance and leverage values. No further cases were excluded as none of the remaining cases ($N = 72$) were evaluated as influential points. Therefore, the remainder of cases was retained and the assumption of the absence of outliers was met.

To assess for multicollinearity among the independent variables, both a Durbin-Watson for the multiple linear regression and a Spearman's rho correlation for the logistic regressions was calculated. The result of the Durbin-Watson was not significant at 1.97 (see Table 13), being above the threshold of 1.68 at $p < .05$, and Spearman's rho correlation was not significant, r_s (72) = -.027, p = .824, indicating the relationship between military rank and dominance, as well as between military rank category and dominance, respectively, was not significant and the assumption of the absence of multicollinearity was met. Finally, the test of parallel lines assumption was conducted and assessed with each logistic regression analysis.

Multiple Linear Regression Analysis

Immediately prior to accomplishing the multiple linear regression analysis, zero order correlations were computed between non-aggregated raw data of military rank, relative dominance, and all facets of work autonomy (see Table 11). Results indicated that relative dominance was significantly and positively related to: (a) work method autonomy, r(72) = .32, p = .006; (b) work scheduling autonomy, r(72) = .26, p = .030; (c) work criteria autonomy, r(72) = .27, p = .024; and (d) work autonomy composite, r(72) = .36, p = .002. Comparatively, military rank was significantly and positively related to: (a) work method autonomy, r(72) = .28, p = .016; (b) work scheduling autonomy, r(72) = .29, p = .013; and (c) work autonomy composite, r(72) = .34, p = .003. The independent variables of relative dominance and military rank were uncorrelated.

Table 11

Zero-Order Correlations

Variable		Dominance	Rank
Dominance	Correlation	-	.00
	Sig. (2-tailed)	-	.995
Rank	Correlation	.00	-
	Sig. (2-tailed)	.995	-
Work Method Autonomy	Correlation	.32**	.28*
	Sig. (2-tailed)	.006	.016
Work Scheduling Autonomy	Correlation	.26*	.29*
	Sig. (2-tailed)	.030	.013
Work Criteria Autonomy	Correlation	.27*	.22
	Sig. (2-tailed)	.024	.060
Work Autonomy Composite	Correlation	.36**	.34**
	Sig. (2-tailed)	.002	.003

Note. $N = 72$. * $p < .05$. ** $p < .01$.

Upon analysis of the multiple linear regression with only relative dominance, the adjusted $R^2 = .119$, indicating that approximately 12% of the variability in Work Autonomy can be uniquely explained by relative dominance. Upon inclusion of both military rank (as a continuous variable) and relative dominance into the multiple linear regression, the adjusted $R^2 = .225$, indicating that approximately 23% of the variability in Work Autonomy that can be uniquely explained by both relative dominance and military rank (as a continuous variable) (see Table 12 and Table 13).

Table 12

Multiple Linear Regression: Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1 [a]	.362	.131	.119	7.93
2 [b]	.497	.247	.225	7.44

Note. Dependent variable: Work Autonomy Composite.
[a]Predictors: (Constant), Relative Dominance.
[b]Predictors: (Constant), Relative Dominance, Rank.

Table 13

Multiple Linear Regression: Model Summary Continued

Change Statistics					Durbin-Watson
R^2 Change	F Change	df1	df2	Sig. F Change	
.131 [a]	10.57	1	70	.002	
.116 [b]	10.64	1	69	.002	1.97

Note. Dependent variable: Work Autonomy Composite. [a]Predictors: (Constant), Relative Dominance. [b]Predictors: (Constant), Relative Dominance, Rank.

Furthermore, the ANOVA model with both military rank and relative dominance is significant ($p < .001$), meaning that at least one of the regression coefficients is statistically significant different from zero (see Table 14).

Table 14

Multiple Linear Regression: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	p
	Regression	665.14	1	665.14	10.57	.002*
1[a]	Residual	4405.74	70	62.94		
	Total	5070.88	71			
	Regression	1253.90	2	626.95	11.33	.000*
2[b]	Residual	3816.98	69	55.32		
	Total	5070.88	71			

Note. Dependent Variable: Work Autonomy Composite. a. Predictors: (Constant), Relative Dominance. b. Predictors: (Constant), Relative Dominance, Rank.
*p < .05.

In order to determine relative influence of each independent variable, the standardized coefficients for both relative dominance and military rank were analyzed. Relative dominance was significant (p = .001) with a standardized coefficient of .36. Military rank was also significant (p = .002) with a standardized coefficient of .34. In effect, results suggest that for every one standard deviation increase in dominance, a .36 standard deviation increase in total work autonomy occurs, and for every one standard deviation increase in rank (as a continuous variable), a .34 standard deviation increase in total work autonomy occurs (see Table 15).

Table 15

Multiple Linear Regression: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	Std. Error	Beta		
1[a]	(Constant)	39.16	1.20		32.52	.000*
	Relative Dominance	1.39	0.43	.36	3.25	.002*
2[b]	(Constant)	29.34	3.22		9.13	.000*
	Relative Dominance	1.39	0.40	.36	3.47	.001*
	Rank	1.73	0.53	.34	3.26	.002*

Note. Dependent Variable: Work Autonomy Composite. a. Predictors: (Constant), Relative Dominance. b. Predictors: (Constant), Relative Dominance, Rank.
*$p < .05$.

Furthermore, from the partial-R^2 of relative dominance and military rank, results indicate that relative dominance uniquely accounts for approximately 13% ($.36^2$) of variance within total work autonomy when military rank is held constant, and military rank accounts for approximately 12% ($.34^2$) of variance within total work autonomy when relative dominance is held constant (see Table 16, Part Correlations).

Table 16

Multiple Linear Regression: Coefficients Continued

Model		95% CI for B		Correlations		
		Lower Bound	Upper Bound	Zero-order	Partial	Part
1[a]	(Constant)	36.76	41.56			
	Relative Dominance	0.54	2.25	.36	.36	.36
2[b]	(Constant)	22.93	35.75			
	Relative Dominance	0.59	2.19	.36	.39	.36
	Rank	0.67	2.79	.34	.37	.34

Note. Dependent Variable: Work Autonomy Composite. a. Predictors: (Constant), Relative Dominance. b. Predictors: (Constant), Relative Dominance, Rank.

Post hoc Logistic Regression Analyses

The multiple linear regression (MLR) model was able to answer the research question, resulting in the inability to reject the null hypothesis but highlighting an important finding -- that relative dominance and military rank (as a continuous variable) predicted a relatively equal proportion of significant variation in perceived autonomy for United States Air Force pararescuemen within this study. To further examine the result of the MLR, logistic regressions were conducted to ascertain the underlying meaning of the relationships. To accomplish these analyses, military rank was recoded as categorical (airmen, noncommissioned officer, and senior noncommissioned officer). Work

autonomy was also recoded as categorical into high, medium, and low categories, as well as separated into its facets (work method, work scheduling, work criteria, and work autonomy composite). Relative dominance was kept as a continuous variable. Using this construct, 12 logistic regressions were accomplished to discover the underlying influence of military rank (as a categorical variable) and relative dominance on perceived autonomy for United States Air Force pararescuemen.

Prior to conducting the logistic regressions, a Bonferroni correction was applied in order to reduce the likelihood of Type I error. The reason for this implementation is because the same dependent variable(s) were used for multiple comparisons during the logistic regressions, and it is important to reduce the chances of incorrectly rejecting the null hypothesis. However, different Bonferroni corrections were applied dependent on the family-wise level of the logistic regression accomplished. This was done in order to prevent a Type II error, in that a non-modified Bonferroni correction is too conservative given the power of the sample size ($N = 72 > 60$) and overall representation of the sample within the entire pararescue population was approximately 15%. The standard Bonferroni corrections would have risked a Type II error of failing to reject the null hypothesis when it should actually be rejected.

The results of the combined (dominance and rank) logistic regressions only answered one hypothesis with two independent variables and one dependent variable. Therefore, the logistic regression with work autonomy composite as the dependent

variable used an alpha of .05, and the regressions with the three Work Autonomy facets as the dependent variables used an alpha of .0167 (.05/3) (see Figure 3).

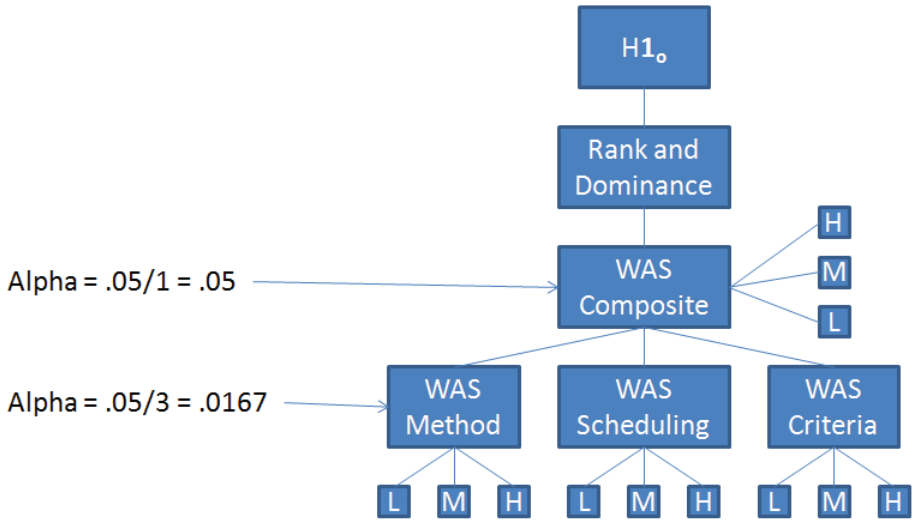

Figure 3. Bonferroni Depiction of Ordinal Regressions with Rank and Dominance.

However, because two tests were run on the same hypothesis when dominance and military rank were tested separately, the results of these logistic regressions for the work autonomy composite used an alpha of .025 (.05/2) and the results of the regressions for the three Work Autonomy facets when dominance and rank were tested separately used an alpha of .00833 (.05/6) (see Figure 4). These are the levels that were used to determine significance in the regression models (as supported by Tabachnick & Fidell, 2006).

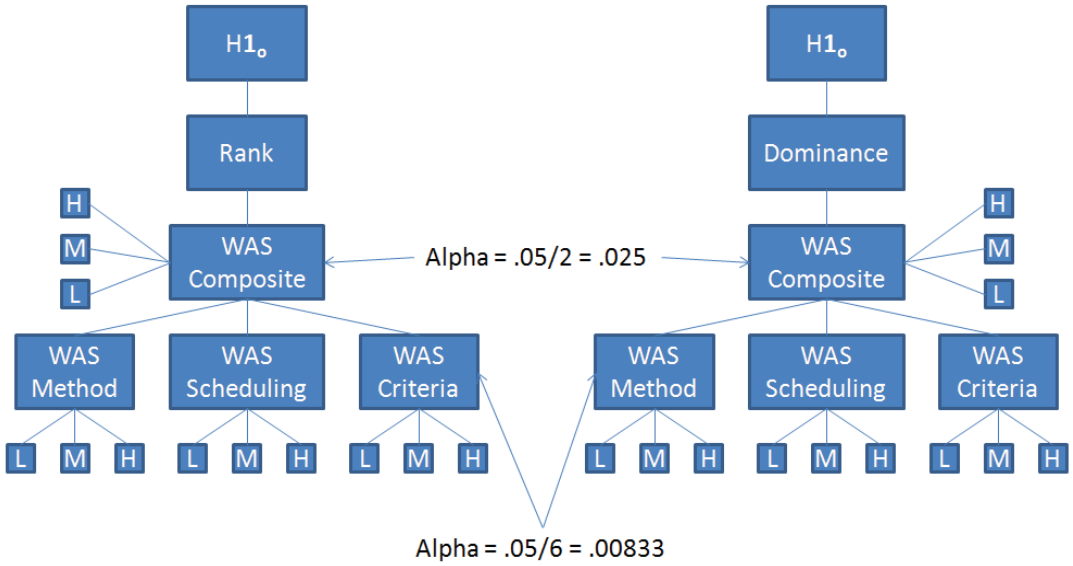

Figure 4. Bonferroni Depiction of Ordinal Regressions with Rank or Dominance.

The first set of logistic regression analyses was conducted with military rank category predicting the three work autonomy facets and the work autonomy composite. One regression was conducted for each dependent variable (work method, work scheduling, work criteria, and work autonomy composite) for a total of four logistic regressions.

The regression with military rank category predicting work method autonomy was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (2) = 3.06, p = .217, indicating the assumption was met. The result of the logistic regression with military rank category predicting work method autonomy was not significant (alpha = .00833), χ^2 (2) = 2.92, p = .232, indicating military rank category does not significantly predict work method autonomy. The result of the regression is presented in Table 17.

Table 17

Ordinal Regression with Military Rank Category predicting Work Method Autonomy

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Method Low]	-1.91	.51	0.15	0.06	0.40	14.17	.000
[Method Medium]	1.58	.48	4.86	1.90	12.43	10.90	.001
Military Rank Amn	-0.31	.62	0.73	0.22	2.45	0.26	.612
Military Rank NCO	-1.06	.64	0.35	0.10	1.20	2.78	.095

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (2) = 2.92, p = .232.
$p < 00833$.

The regression with military rank category predicting work scheduling autonomy was assessed to be certain it met the test of parallel lines assumption. The result of the test was significant, χ^2 (2) = 8.44, p = .015, indicating the assumption was not met. Furthermore, the result of the logistic regression with military rank category predicting work scheduling autonomy was not significant (alpha = .00833), χ^2 (2) = 5.76, p = .056, indicating military rank category does not significantly predict work scheduling autonomy. The result of the regression is presented in Table 18.

Table 18

Ordinal Regression with Military Rank Category predicting Work Scheduling Autonomy

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Scheduling Low]	-2.81	.59	0.06	0.02	0.19	23.07	.000
[Scheduling Medium]	0.88	.43	2.42	1.04	5.62	4.22	.040
Military Rank Amn	-1.44	.66	0.24	0.07	0.86	4.80	.028
Military Rank NCO	-1.31	.67	0.27	0.07	0.99	3.88	.049

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (2) = 5.76, p = .056.
p < .00833.

The regression with military rank category predicting work criteria autonomy was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (2) = 0.38, p = .826, indicating the assumption was met. The result of the logistic regression with military rank category predicting work criteria autonomy was not significant (alpha = .00833), χ^2 (2) = 2.36, p = .308, indicating military rank category does not significantly predict work criteria autonomy. The result of the regression is presented in Table 19.

Table 19

Ordinal Regression with Military Rank Category predicting Work Criteria Autonomy

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Criteria Low]	-1.80	.46	0.17	0.07	0.41	15.05	.000
[Criteria Medium]	0.78	.41	2.19	0.98	4.88	3.66	.056
Military Rank Amn	-0.86	.56	0.42	0.14	1.28	2.33	.127
Military Rank NCO	-0.38	.57	0.68	0.23	2.07	0.45	.500

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (2) = 2.36, p = .308.
p < .00833.

The regression with military rank category predicting work autonomy composite was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (2) = 0.91, p = .633, indicating the assumption was met. The result of the logistic regression with military rank category predicting work autonomy composite was not significant (alpha = .025), χ^2 (2) = 5.53, p = .063, indicating military rank category does not significantly predict work autonomy composite. The result of the regression is presented in Table 20.

Table 20

Ordinal Regression with Military Rank Category predicting Work Autonomy Composite

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Composite Low]	-2.26	.53	0.10	0.04	0.29	18.39	.000
[Composite Medium]	1.01	.43	2.75	1.18	6.40	5.46	.019
Military Rank Amn	-1.05	.61	0.35	0.11	1.17	2.91	.088
Military Rank NCO	-1.41	.64	0.24	0.07	0.85	4.95	.026

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (2) = 5.53, p = .063.
p < .025.

The second set of logistic regression analyses was conducted with dominance predicting the three work autonomy facets and the composite. The regression with dominance predicting work method autonomy was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (2) = 0.16, p = .688, indicating the assumption was met. The result of the logistic regression with dominance predicting work method autonomy was not significant (alpha = .00833), χ^2 (2) = 6.69, p = .010, indicating dominance does not significantly predict work method autonomy. The result of the regression is presented in Table 21.

Table 21

Ordinal Regression with Dominance predicting Work Method Autonomy

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Method Low]	-1.01	.33	0.37	0.19	0.70	9.08	.003
[Method Medium]	2.63	.47	13.89	5.48	35.16	30.81	.000
Dominance	0.30	.12	1.35	1.07	1.71	6.31	.012

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (2) = 6.69, p = .010.
p < .00833.

The regression with dominance predicting work scheduling autonomy was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (2) = 0.48, p = .488, indicating the assumption was met. The result of the logistic regression with dominance predicting work scheduling autonomy was not significant (alpha = .00833), χ^2 (2) = 2.47, p = .116, indicating dominance does not significantly predict work scheduling autonomy. The result of the regression is presented in Table 22.

Table 22

Ordinal Regression with Dominance predicting Work Scheduling Autonomy

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Scheduling Low]	-1.43	.36	0.24	0.12	0.49	15.73	.000
[Scheduling Medium]	2.10	.42	8.20	3.58	18.80	24.70	.000
Dominance	0.19	.12	1.21	0.96	1.52	2.52	.112

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (2) = 2.47, p = .116.
p < .00833.

The regression with dominance predicting work criteria autonomy was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (2) = 1.04, p = .309, indicating the assumption was met. The result of the logistic regression with dominance predicting work criteria autonomy was not significant (alpha = .00833), χ^2 (2) = 4.89, p = .027, indicating dominance does not significantly predict work criteria autonomy. The result of the regression is presented in Table 23.

Table 23

Ordinal Regression with Dominance predicting Work Criteria Autonomy

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Criteria Low]	-0.98	.33	0.38	0.20	0.72	8.93	.003
[Criteria Medium]	1.68	.37	5.34	2.58	11.05	20.37	.000
Dominance	0.23	.11	1.26	1.02	1.56	4.63	.031

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (2) = 4.89, p = .027.
p < .00833.

The regression with dominance predicting work autonomy composite was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (2) = 0.04, p = .853, indicating the assumption was met. The result of the logistic regression with dominance predicting work autonomy composite was significant (alpha = .025), χ^2 (2) = 8.80, p = .003, indicating dominance correctly predicted between 7 and 14% of the variance in work autonomy composite (per McFadden, Cox and Snell, and Nagelkerke's Pseudo R-Square calculations). For every one unit increase in relative dominance (as measured by the Interpersonal Adjective Scales), the odds of being high work autonomy composite versus the combined medium and low categories is 1.40 times greater. The result of the regression is presented in Table 24.

Table 24

Ordinal Regression with Dominance predicting Work Autonomy Composite

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Composite Low]	-0.88	.33	0.41	0.22	0.79	7.13	.008
[Composite Medium]	2.49	.45	12.00	4.95	29.11	30.21	.000
Dominance	0.34	.12	1.40	1.11	1.77	8.08	.004

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (2) = 8.80, p = .003.
p < .025.

The third set of logistic regression analyses was conducted with military rank category and dominance predicting the three work autonomy facets and the composite. The regression with military rank category and dominance predicting work method autonomy was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (3) = 3.17, p = .366, indicating the assumption was met. The result of the logistic regression with military rank category and dominance predicting work method autonomy was not significant (alpha = .0167), χ^2 (3) = 9.28, p = .026, indicating the model with military rank category and dominance does not significantly predict work method autonomy. The result of the regression is presented in Table 25.

Table 25

Ordinal Regression with Military Rank Category and Dominance predicting Work Method Autonomy

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Method Low]	-1.53	.53	0.22	0.08	0.62	8.33	.004
[Method Medium]	2.22	.57	9.21	3.03	27.95	15.34	.000
Dominance	0.30	.12	1.35	1.06	1.71	5.95	.015
Military rank Amn	-0.42	.62	0.65	0.19	2.22	0.46	.496
Military rank NCO	-1.03	.65	0.36	0.10	1.27	2.55	.111

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (3) = 9.28, p = .026.
$p < .0167$.

The regression with military rank category and dominance predicting work scheduling autonomy was assessed to be certain it met the test of parallel lines assumption. The result of the test was significant, χ^2 (3) = 9.90, p = .019, indicating the assumption was not met. Furthermore, the result of the logistic regression with military rank category and dominance predicting work scheduling autonomy was not significant (alpha = .0167), χ^2 (3) = 7.82, p = .050, indicating the model with military rank category and dominance does not significantly predict work scheduling autonomy. The result of the regression is presented in Table 26.

Table 26

Ordinal Regression with Military Rank Category and Dominance predicting Work Scheduling Autonomy

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Scheduling Low]	-2.50	.60	0.08	0.03	0.27	17.34	.000
[Scheduling Medium]	1.29	.50	3.64	1.36	9.78	6.56	.010
Dominance	0.18	.12	1.19	0.94	1.50	2.17	.141
Military rank Amn	-1.43	.66	0.24	0.07	0.87	4.69	.030
Military rank NCO	-1.20	.67	0.30	0.08	1.11	3.26	.071

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (3) = 7.82, p = .050.
$p < .0167$.

The regression with military rank category and dominance predicting work criteria autonomy was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (3) = 1.38, p = .710, indicating the assumption was met. The result of the logistic regression with military rank category and dominance predicting work criteria autonomy was not significant (alpha = .0167), χ^2 (3) = 7.98, p = .046, indicating the model with military rank category and dominance does not significantly predict work criteria autonomy. The result of the regression is presented in Table 27.

Table 27

Ordinal Regression with Military Rank Category and Dominance predicting Work Criteria Autonomy

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Criteria Low]	-1.43	.49	0.24	0.09	0.62	8.69	.003
[Criteria Medium]	1.31	.48	3.72	1.46	9.50	7.54	.006
Dominance	0.26	.11	1.29	1.04	1.60	5.31	.021
Military rank Amn	-0.97	.57	0.38	0.12	1.16	2.89	.089
Military rank NCO	-0.31	.57	0.73	0.24	2.25	0.30	.584

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (3) = 7.98, p = .046.
$p < .0167$.

The regression with military rank category and dominance predicting work autonomy composite was assessed to be certain it met the test of parallel lines assumption. The result of the test was not significant, χ^2 (3) = 1.08, p = .781, indicating the assumption was met. The result of the logistic regression with military rank category and dominance predicting work autonomy composite was significant (alpha = .05), χ^2 (3) = 14.44, p = .002, indicating the model with military rank category and dominance correctly predicted between 11 and 22% of the variance in the work autonomy composite (per McFadden, Cox and Snell, and Nagelkerke's Pseudo R-Square calculations). For every one unit increase in rank from medium to high, the odds of being high work autonomy composite versus the combined medium and low categories are 0.25 times

greater. In another context, this means that for every one unit increase in rank category from medium (noncommissioned officer) to high (senior noncommissioned officer), the odds of being in the combined medium and low work autonomy composite categories versus high work autonomy composite is 4.00 (1/0.25) times greater. With respect to relative dominance, for every one unit increase in relative dominance (as measured by the Interpersonal Adjective Scales), the odds of being high work autonomy composite versus the combined medium and low categories is 1.42 times greater. The result of the regression is presented in Table 28.

Table 28

Ordinal Regression with Military Rank Category and Dominance predicting Work Autonomy Composite

Variable	Estimate	SE	OR	95% CI for OR		Wald	*p*
				Lower	Upper		
[Composite Low]	-1.84	.55	0.16	0.05	0.46	11.37	.001
[Composite Medium]	1.76	.53	5.83	2.08	16.39	11.19	.001
Dominance	0.35	.12	1.42	1.11	1.80	8.05	.005
Military rank Amn	-1.17	.62	0.31	0.09	1.05	3.54	.060
Military rank NCO	-1.41	.65	0.25	0.07	0.88	4.69	.030

Note. SE = standard error; OR = odds ratio; CI = confidence interval.
χ^2 (3) = 14.44, p = .002.
$p < .05$.

Supplementary Analyses

Participants from Active Duty, the Reserve, and the Guard components were surveyed from around the United States. While equal distributions were not attained for each component, there was extensive representation from each in the overall survey, providing generalizability to all components (see Table 29).

Table 29

Demographics: Unit Type

Unit Type	Frequency	Percent	Cumulative Percent
Active Duty	20	27.8	27.8
Reserve	38	52.8	80.6
Guard	14	19.4	100.0

Attempts were made to attain sufficient representation for both full time and part time pararescuemen. This was achieved with approximately two-thirds of the participants being full time and one-third being part-time, reflecting a sufficient cross-section of employment statuses as shown in Table 30.

Table 30

Demographics: Employment Status

Employment Status	Frequency	Percent	Cumulative Percent
Full Time	50	69.4	69.4
Part Time	22	30.6	100.0

Of importance is the number of pararescuemen that have completed at least some college or university credits (88%) as shown in Table 31. This supplementary finding will be discussed in Chapter 5.

Table 31

Demographics: Education Level

Education Level	Frequency	Percent	Cumulative Percent
High School/GED Diploma	9	12.5	12.5
Some College/University	33	45.8	58.3
2 year College/University Degree	20	27.8	86.1
4 year College/University Degree	10	13.9	100.0

Table 32 reflects the frequency distribution of ethnicity within pararescue. The results highlight an apparent disparity between White/Caucasian personnel in pararescue

and all other ethnicities. This will be briefly discussed in Chapter 5 regarding recommendations for future research.

Table 32

Demographics: Ethnicity

Ethnicity	Frequency	Percent	Cumulative Percent
Black/African American	1	1.4	1.4
Hispanic	4	5.6	6.9
Latino	1	1.4	8.3
Pacific Islander	2	2.8	11.1
White/Caucasian	61	84.7	95.8
Mixed	3	4.2	100.0

The demographic descriptive statistics in Table 33 reflect a range of participants, indicating sufficient representation in three core areas – years as a pararescueman (PJ), years of military service, and age of participant.

Table 33

Demographics: Years as a PJ, Years of Military Service, Age

	Minimum	Maximum	Mean	Std. Deviation
Years as a PJ	0.50	25.00	6.47	6.23
Years of Military Service	3.00	27.00	10.54	6.51
Age	21.00	49.00	31.13	6.58

Summary of Findings

The null hypothesis, that the personality variable of dominance/submissiveness, as measured by the Interpersonal Adjective Scales, will not significantly predict a greater proportion of variation in perceived autonomy, as measured by the Work Autonomy Scale, than hierarchical level (operationalized by miltary rank), cannot be rejected. However, an important finding was discovered that contributes to scientific literature on the implications of personality versus environment across psychological disciplines. Results from this study indicate that both personality and environment are important to the amount of autonomy that people experience in their jobs. Specifically findings from this study provide empirical evidence that the personality variable of relative dominance is just as strong as military rank in predicting perceived autonomy for United States Air Force pararescuemen. This primary finding is supported by the results from both the multiple linear regression and post hoc logistic regressions. A discussion on the primary and supplementary findings as well as the overall demographics of the participants is reflected in Chapter 5.

Chapter 5: Discussion, Conclusions, Recommendations

This chapter reviews the purpose of the study and summarizes the conclusions and interpretations of the research question. It further discusses the implications of this research for supporting positive social change, the limitations of this research, as well as recommendations for action and future research. Finally, I present a brief summary of the entire study.

Review of the Purpose and Study Design

Seminal organizational psychology theories, such as job characteristics theory, have established links between greater employee autonomy and increases in job satisfaction, motivation, and performance (Freedman, Leary, Ossorio, & Coffey, 1951; Hackman & Oldham, 1975; LaForge, Leary, Naboisek, Coffey, & Freeman, 1954; Leary, 1957; Sims, Szilagyi, & Keller, 1976; Wiggins, 1980; Wiggins, 1982). However, few studies have focused on the variables that influence autonomy in organizations. Furthermore, extensive organizational efforts have not yet been able to effectively mitigate between control and autonomy or between organizational efficiency and effectiveness (Christensen & Laegreid, 2007). The importance of autonomy within organizations has been linked to numerous areas that impact organizational effectiveness. Specifically, low levels of perceived autonomy has been found to lead to a higher incidence of turnover and work exhaustion and decreased organizational commitment (Ahuja, Chudoba, Kacmar, McKnight, & George, 2007; Eby, Freeman, Rush, & Lance, 1999; Ito & Brotheridge, 2005; Tangirala & Ramanujam, 2008). Furthermore, high levels of perceived autonomy lead to higher levels of work commitment (Parker, Jimmieson,

Amiot, & Parker, 2010). To begin building a foundation for future research into this important area, a study on the relative influence of military rank versus the personality construct of dominance/submissiveness on perceived autonomy for United States Air Force pararescuemen has been accomplished. This was important because this research begins to address a gap in literature that has failed to adequately address the relationship between control, autonomy, hierarchy, and personality. Results indicated that the personality construct of dominance/submissiveness, as well as military rank, are critical components in predicting perceived autonomy for pararescuemen, and in turn, of great significance in increasing their ability to save lives, do so more safely, reduce organizational costs, and enhance recruitment and retention of future pararescuemen. In this study, I also explored these variables as an influence over policy at the sociopolitical level and its generalization to organizational psychology as a whole.

Overview

The purpose of this quantitative study was to discover if either the personality variable of dominance/submissiveness or the hierarchical variable of military rank is the prevalent construct that influences perceived autonomy for United States Air Force pararescuemen. I administered a demographic survey, the Interpersonal Adjective Scales (IAS), and the Work Autonomy Scale (WAS) to each participant at several Active Duty, Reserve, and National Guard Rescue Squadrons from across the United States. The demographic survey was used to measure the participant's military rank, unit type, employment status, years as a pararescuemen, total years in the military, age, ethnicity, and education level. I used the IAS to measure the participant’s level of relative

dominance. Finally, I used the WAS to measure the participant's level of perceived autonomy. To analyze the data, I used Statistical Package for the Social Sciences (SPSS) 20.0 for conducting a multiple linear regression and 12 post hoc logistic regressions (SPSS, 2011). The hypothesis was used to examine the relative influence of rank as both a continuous variable (E-1 through E-9) and as a categorical variable (airman, noncommissioned officer, and senior noncommissioned officer) as compared to the personality construct of dominance/submissiveness on perceived autonomy for pararescuemen.

Discussion of Sample Demographics

In this study, I used a convenience sample of 75 United States Air Force pararescuemen, but ensured that there was equal distribution in each of the three military rank tiers, with 25 airmen, 25 noncommissioned officers, and 25 senior noncommissioned officers. Upon exploratory analysis, three outliers were excluded from the data, resulting in a total sample of 25 airmen, 23 noncommissioned officers, and 24 senior noncommissioned officers ($N = 72$).

Interpretation of Hypothesis

Research Question: Does hierarchical level, as compared to dominance/submissiveness, predict greater variation in perceived autonomy for United States Air Force pararescuemen?

Multiple Linear Regression Interpretation

The multiple linear regression results indicated that relative dominance and military rank equally and significantly influenced perceived autonomy for

pararescuemen. This is a very important finding even though the null hypothesis could not be rejected. Specifically, the current military structure is rank-centric and follows a rigid linear hierarchy. Since results indicated that relative dominance is of equal importance to military rank when predicting variation in perceived autonomy, and that positive work related experiences and outcomes are positively correlated with higher autonomy, it appears that the current military system may not be using the best structural model. In particular, higher levels of autonomy are positively correlated with higher levels of work motivation, job satisfaction, and reduction in turnover (see Chapter 2). By incorporating qualitative factors such as relative dominance when defining the military hierarchy and shifting from a rank-centric to position-centric hierarchy, it would appear that the United States Air Force would save money and be able to streamline the command and control process, which would increase the ability of pararescuemen to save lives. However, in order to fully interpret the meaning of the multiple linear regression analysis, 12 logistic regressions were accomplished.

Logistic Regression Interpretations

For this study, I accomplished 12 logistic regressions in three sets. The first set of four logistic regressions analyzed military rank's categorical influence as a sole predictor on perceived autonomy for pararescuemen, in terms of work methods, work scheduling, work criterion, and work autonomy as a composite. None of the results were significant, indicating that military rank as a categorical variable did not significantly predict any facet of perceived autonomy for pararescuemen. This finding was interesting in that it suggested that rank is concomitant with relative dominance when interpreted in concert

with the multiple linear regression analysis. In addition, the results support the multiple linear regression recommendation that a rank-centric hierarchy may not be the best model to support higher levels of autonomy, and in turn positive work related variables and outcomes.

The second set of four logistic regressions analyzed relative dominance's influence as a sole predictor on perceived autonomy for pararescuemen, in terms of work methods, work scheduling, work criterion, and work autonomy as a composite. The only significant result was that relative dominance significantly and positively influenced total perceived autonomy (as a composite) for pararescuemen. This finding not only supports the multiple linear regression analysis, but highlights the importance of relative dominance as a critical variable for pararescue. It also highlights the importance of relative dominance as a critical variable when attempting to influence autonomy, and in turn, positive work related variables and outcomes. This result further supports the recommendation that qualitative factors such as relative dominance are of great importance to hierarchies, and a paradigm shift to a position-centric military may be necessary in order to maximize organizational effectiveness.

Finally, the third set of four logistic regressions analyzed relative dominance and military rank's influence as concomitant predictors on perceived autonomy for pararescuemen, in terms of work methods, work scheduling, work criterion, and work autonomy as a composite. The only significant result was that relative dominance and military rank significantly influenced total perceived autonomy (as a composite) for pararescuemen. This may have been the most important finding of the entire study. Not

only were the results of the multiple linear regression analysis validated, but a deeper and more profound meaning was discovered within the data. Specifically, relative dominance indicated a significant and positive influence on perceived autonomy, while military rank indicated a significant and negative influence on perceived autonomy. In effect, with an increase in rank from noncommissioned officer (NCO) to senior noncommissioned officer (SNCO), the odds of having low or medium perceived autonomy instead of high autonomy was four times greater. Therefore, not only did higher levels of dominance indicate higher levels of perceived autonomy, but higher levels of rank indicated lower levels of perceived autonomy. In sum, higher levels of relative dominance positively influenced total perceived autonomy for pararescuemen while the highest levels of rank negatively influenced total perceived autonomy for pararescuemen. This finding highlights an apparent flaw within the military system, in that the highest ranking pararescuemen had the highest chance of lower autonomy as compared to lower ranking pararescuemen. Since the results indicated that the senior leaders in pararescue have a higher likelihood of lower perceived autonomy, and research indicates that there is a commensurate likelihood of low work motivation and job satisfaction, as well as increased turnover, the financial cost to the Air Force appears to be a primary concern. Furthermore, and more importantly, these results call into question the traditional command and control structure of the military, when the ability of senior leaders in pararescue may not be relegated enough autonomy to make time-sensitive decisions that would lead to greater organizational effectiveness and positive social change.

Summary of Interpretations

The negative influence of the highest levels of military rank on perceived autonomy for pararescuemen highlights an important assumption of military organizations. Specifically, it is globally assumed that a rigid and authoritarian rank-centric hierarchy within militaries is necessary for organizational effectiveness and ensuring mission success (Hall, 2011). Within the current structure, dialectic has been created in which members are expected to function at their highest potential but simultaneously limited by the rigidity of the rank-centric hierarchy. Specifically and as supported by Hall (2011), several characteristics highlight this dialectic: (a) the military establishes a clear set of rules, but these rules can at times impose severe limitations on actions that inhibit missions – this occurs when individuals in dynamic positions are forced to abide by rules imposed by individuals with rank who may or may not have the requisite experience to properly enact those rules; and (b) the military specifically discourages individuals participating in actions that would result in an increase in autonomy due to the rank-centric hierarchy. Therefore, a rigid and rank-centric hierarchy may be counterintuitive to the military's organizational efficiency and effectiveness. Specifically, the results from this study suggest that noncommissioned officers (NCOs) may have more perceived autonomy due to fewer controls imposed upon them by Senior NCOs (SNCOs), while SNCOs may have less perceived autonomy due to more controls imposed upon them from higher authorities such as Commissioned Officers. Given the findings from this study, a preliminary foundation has been established for a shift from a rank-centric to positional-centric military structure, in which qualitative constructs such

as relative dominance supersede rank as the primary factor in personnel/resource management in order to increase such important organizational variables as job satisfaction, motivation, performance, recruitment and retention.

Theoretical Implications

In this study, I have synthesized a multitude of past and current constructs involving interpersonal, boundary, contingency, social competition/rank, self-determination, social exchange, affect control, and job characteristics theories as well as the job demands-control model. This synthesis was possible due to their reliance upon autonomy as a central component. Since this study began in 2008, further research has not countered the implications of my findings, but served to further its importance in that rigid hierarchical structures such as the military must evolve to meet the changing social dynamic. In effect, the result that the qualitative construct of relative dominance positively and significantly influenced variation in perceived autonomy, while a rigid and purely quantitative military rank structure negatively and significantly influenced variation in perceived autonomy for pararescuemen is indicative of a currently non-sustainable organizational structure within the military.

However, this conclusion is not to indicate that rank is unnecessary. Specifically, even the current research attests to the importance of hierarchies. Hierarchies are necessary systems in which status and power are rank-ordered, enabling individuals to quickly process command and control associations, and are liked for their predictability and familiarity (Zitek & Tiedens, 2012). I do not postulate however, that qualitative constructs such as relative dominance may be superordinate to rank, and should therefore

be the primary component when analyzing recruitment, retention, promotions, and overall personnel/resource management.

Dating back to the late 1970s and early 1980s, Michel Foucault advanced a concept that power (i.e. relative dominance) is not destructive or prohibitive to an organization but is productive (see Foucault, 1980a, 1980b). Furthermore and directly implicated within this study is the principle that power is not relegated to a specific rank within the military hierarchy (Ettlinger, 2011). Ettlinger directly supports this study's findings in terms of United States Air Force pararescuemen. Specifically, an individual's relative dominance is of equal importance to his rank with respect to influencing perceived autonomy for pararescuemen and has far reaching theoretical implications. If an individual's relative dominance is of equal significance to rank in terms of influencing perceived autonomy, and increases in perceived autonomy have been shown to increase job satisfaction, work commitment, and overall well-being, as well as decreased burnout and turnover (see Chapter 2), then it would appear the using a rigid rank structure within the military is counterproductive to organizational effectiveness and therefore combat effectiveness.

While rank is necessary for order, results suggest the need for a positional-centric hierarchy, in which an individual is recruited, promoted, and retained through the positional hierarchy similar to a corporate model, rather than through a rigid rank-based hierarchy that is based on a social caste model. This is similar to Ford's (2011) discussion on the medieval introduction of guilds, which encouraged intellect and position-based hierarchies, as compared to older and less developed caste structures.

In terms of relative dominance as a power construct, conceiving it as dynamic rather than static provides a better understanding of why the results indicate that it has a significant influence over perceived autonomy, as compared to the significant negative influence of military rank over perceived autonomy. According to current research, power (relative dominance) synergistically interacts with stability, finding that the unstable power and stable powerlessness produce greater stress on the structure than stable power and unstable powerlessness (Jordan, Silvanathan, & Galinsky, 2011). A structure focused on military rank rather than personality variables such as dominance/submissiveness is forced to conform to a rigid structure that is unable to cope with unstable power and stable powerlessness. If the structure in pararescue was position-centric rather than rank-centric, then the organization would be better postured to realign individuals into the best positions to avoid these issues, rather than be forced to manage personnel based upon rank. This would align relative dominance into a vertical hierarchy (Lakens, Semin, & Foroni, 2011) that would not take the place of the rank hierarchy, but superimpose upon it. This is in concert with the circumplex framework, in which a vertical hierarchy based upon relative dominance would align positions not with respect to a positive or negative valence, but in terms of person-job congruence (Warr & Inceoglu, 2012).

A hierarchy based upon a person-job congruence, or fit, supports the definition of an autonomy orientation, which refers to one's dispositional tendency "to be self-regulating and to orient toward the interest value of the environment and contextual supports for self-initiation (Baard, Deci, & Ryan, 2004, pp. 2048–2049; Liu, Zhang,

Wang, & Lee, 2011). In another theoretical context, results support a semantic (relative dominance) versus syntactical (rank-based) approach to hierarchies, in that the meaning of the organizational structure defines the meaning of the organization. Furthermore, a semantic ordering of the hierarchy never exists in a static form, but is a dynamic environment in which order is maintained more through referent authority (position) than through legitimate authority (rank) and is in concert with those interpersonal, boundary, contingency, and control theories utilized in this study (Ford, 2011; Mamali & Păun, 2011). Instead of attempting to stratify in terms of synthetic and subjective scales such as rank, stratification would occur in terms of an analytic and objective scale such as one based on relative dominance within pararescue. Research supports this proposed paradigm shift, indicating that synthetic-subjective, synthetic-objective, and analytic-subjective scales have serious problems of validity, and especially of construct validity while analytic-objective scales provide a clear definition and appropriate method for structure based on transparency through factual and empirically supported data (Bukodi, Dex, & Goldthorpe, 2011).

The above discussion on the significance of relative dominance and military rank on perceived autonomy for pararescue is further implicated in leadership theories. Specifically, a basic discussion on transactional, pseudo-transformational, and transformational leadership is important within the context of this study. First, the current hierarchical structure within the military primarily follows transactional leadership styles, in that it focuses on a pragmatic and methodical approach to leadership with a clear set of rewards, but it does not effectively support a meaningful connection between leaders and

subordinates (Hansbrough, 2012). Second, and much more dangerous, is pseudo-transformational leadership, which is a self-serving and egotistical approach to leadership in which charisma is used to manipulate rather than empower subordinates. Finally, transformational leadership does not necessarily focus upon a rigid hierarchy, but instead is a means through which leaders use their position to inspire and empower subordinates, irrespective of rank (Christie, Barling, & Turner, 2011).

From this study's findings on the significant influence of relative dominance and military rank on perceived autonomy within pararescue, a transformational and positional approach to leadership would be superordinate to a transactional and rank-centric approach to leadership. In further support of this supposition is that an effective leader is able to manage knowledge in such a way that encourages creativity and knowledge sharing -- the definition of transformational leadership (Hsin-Kuang, Chun-Hsiung, & Dorjgotov, 2012). Therefore, focusing on relative dominance, in terms of supporting a positional-centric hierarchy, is more intuitive than a rank-centric hierarchy when attempting to increase perceived autonomy within pararescue and in turn, overall organizational effectiveness of pararescue. Regardless of the form of leadership style, organizational outcomes are dependent upon the manner in which leaders and their subordinates pursue rank, with this interaction between leaders and their subordinates a significant predictor of group performance (Kelly, Zuroff, Leybman, & Martin, 2011). In effect, the finding that relative dominance in pararescue significantly and positively influenced their perceived autonomy is indicative that relative dominance may be able to predict group performance better the current military rank structure. However, this cannot

be concluded as part of this study, but is recommended for future research. What can be concluded from this study is that an increase in relative dominance significantly and positively influences perceived autonomy for pararescuemen, and an increase in military rank significantly and negatively influences perceived autonomy for pararescuemen. In practical application, this study showed an example of an important distinction between status rank (military rank) and status respect. Current research has found that individuals with higher status have more autonomy, increased self-esteem, and overall better mental and physical health (Anderson, Wilier, Kilduff, & Brown, 2012). Unlike certain levels of military rank, status can be attained by all individuals and in any position within pararescue. This concept can also be extended to all military careerfields and civilian organizations.

In other terms, status rank is subordinate to status respect. Individuals may prefer lower status rank so long as they are able to maintain high status respect; however, these same individuals are not concerned about harming group success by being placed in higher status rank, indicating that rank is subordinate to respect and that hierarchies based upon a rank-centric approach do not take status respect into consideration (Anderson, Wilier, Kilduff, & Brown, 2012). This is supported by the significant negative influence of military rank upon perceived autonomy for pararescuemen. Therefore, in line with interpersonal, boundary, and control theories, status respect may increase an individual's wellbeing and health above that of rank, and in effect increase overall organizational effectiveness (Anderson et al., 2012).

Implications for Social Change

The results from this study call into question centuries of the traditional military system and suggest that a paradigm shift is necessary. While this shift is not meant to undermine the rank structure, it does emphasize the importance of personality variables such as relative dominance in creating a positional-centric hierarchy that embraces autonomy within the ranks. Furthermore, results indicate that relative dominance should be used in concert with rank as a complimentary approach through which recruitment, promotion, retention, and reassignment occur, as well as with respect to an individual's position when exercising overall command and control. Given the finding that both relative dominance and rank significantly influence perceived autonomy, and the subsequent individual and organizational benefits from higher levels of autonomy, an evolution from a rank-centric to position-centric military has far reaching implications for positive social change. This paradigm shift would support higher work motivation, job satisfaction, and reduction in turnover which would directly save the United States Air Force money. Furthermore, a shift from a rank-centric to position-centric military would modify the current structure into one that would better support pararescue's mission to save lives through streamlined command and control. This implication for positive social change may not only apply within pararescue, but future research may determine that the results from this study can be extended to the entire military.

Over the course of more than 60 years, autonomy has only been indirectly addressed in interpersonal and job characteristics theories (Freedman, Leary, Ossorio, & Coffey, 1951; Hackman & Oldham, 1975; LaForge, Leary, Naboisek, Coffey, &

Freeman, 1954; Leary, 1957; Sims, Szilagyi, & Keller, 1976; Wiggins, 1980; Wiggins, 1982). This study provided data on the relationship of military rank and relative dominance on perceived autonomy for United States Air Force pararescuemen. It does not appear that any previous research has been accomplished that directly addresses the influence of these variables on perceived autonomy, not only within pararescue, but within any military or civilian organization. Not only will military leaders find these results provocative and catalyzing for social change, but so too will civilian organizations.

In the context of command and control hierarchical organizations that are top-down instead of bottom-up have begun to be reevaluated in terms of their effectiveness, and instead have begun to focus on subordinates instead of those in positions of authority (Larsen, 2011). This study provides a solid foundation for this reevaluation, implicating the importance of relative dominance and its positive influence on autonomy at all levels within the hierarchy, rather than only the importance of higher levels of rank. Specifically, rigid hierarchical systems, such as the military, stratify individuals and impede participation based upon military rank, rather than fluid hierarchical systems that retain the necessity of rank, but emphasize the importance of hierarchical functions (Mamali & Păun, 2011).

As previously identified, military rank is an important tradition and is necessary for proper order and discipline. However, without evolving organizational structure to meet changing social structures, the military may risk minimizing its organizational effectiveness. Specifically, and in accordance with Unger's constructive social theory,

since society constructs organizations, society is equally capable of reconstructing them to meet changing demands (Crawford & Mills, 2011).

Using a model that selects pararescuemen based upon relative dominance, as well as manages their career and places them into positions based upon qualitative factors rather than only focusing upon military rank would increase their perceived autonomy. In turn, this would save the United States Air Force money by motivating individuals to stay in the military with an understanding that they would not be limited by rank but able to promote based upon capability. This would further increase retention as well as decrease turnover and burnout. Given that training one pararescuemen costs several hundred thousand dollars and that training takes two to three years per individual, the Air Force would not only save money through retention, but also afford to pay individuals more money based upon their position in the hierarchy, rather than a pay scale that is only based on rank. Even with additional special pays for careerfields such as pararescue, this study shows that the basic hierarchal rank structure may negatively influence perceived autonomy, while a qualitative factor such as relative dominance positively influences perceived autonomy. Since special pays are still tied indirectly to military rank, the ability to provide a positive incentive is limited by the inability to address qualitative differences that a positional-centric hierarchy would be able to provide. This study further provides demographic data that will enable leaders to better analyze pararescue in terms of qualitative factors, rather than focus upon quantitative variables that are not able to unilaterally measure organizational effectiveness (i.e. rank).

In terms of retention, current promotions within pararescue are based upon the quantitative factor of number of years in that rank and numerical designation of skill level. This approach does not take into consideration relative dominance. If implemented, a dominance hierarchy that is position-centric may support the beneficial competitive nature of social living as a positive selective force (Moosa & Ud-Dean, 2011). Therefore, the current construct of a rank-centric hierarchy may not be as effective as a position-centric hierarchy.

In terms of autonomy within the context of self-determination theory, an individual's autonomy orientation and autonomic support from the organization directly correspond to their perceived and actual levels of empowerment, and in turn decreases turnover and burnout while motivating them toward positive progression (Liu, Zhang, Wang, & Lee, 2011). In the context of this study, it would appear to be good practice for the military to switch from an authoritarian approach (rank-centric) to one that encourages an autonomy-supportive environment (positional-centric). Current research indicates that an autonomy-supportive leadership strategy also requires leaders to harness subordinates' relative dominance through a constant reevaluation of the individual, and in such a way as to ensure they are rewarded with social status (as compared to rank status) for their positive contributions (Flynn, Gruenfeld, Molm, & Polzer, 2011; Halevy, Chou, Cohen, & Livingston, 2012; Kavaliauskiene, 2012; Wu & Griffin, 2012). From the above, it is evident that this study implicates a paradigm shift from a rank-centric to a positional-centric hierarchy that highlights the importance of qualitative variables such as relative dominance when attempting to influence perceived autonomy in pararescue. If

this shift occurs, it is likely that the United States Air Force would save money through recruitment and retention as well as increasing an individual's overall job satisfaction and well-being.

Limitations of the Research

As previously indicated, this study has the potential to initiate a paradigm shift within current military doctrine from a rank-centric to positional-centric hierarchy. However, it is important to note some factors that may prevent generalizability and maximizing positive social change. Self-report bias may have been possible if the participants attempted to increase their social desirability. This was mitigated by making the surveys anonymous, as well as the fact that I am a member of the careerfield, which further mitigated this possibility due to the rapport I had established with the participants. An additional limitation may be that the research was based upon volunteers, which may prevent the results from being accurately generalized to the entire special operations and/or military community. However, given that relative dominance and military rank are variables that are common to all military careerfields, it is likely that future studies will be able to confirm the results. Furthermore, both relative dominance and some form of rank exist in all organizations, making this study a foundation for replication within civilian organizations as well. Finally, results indicated that relative dominance and military rank only predicted approximately 25% of the variance for perceived autonomy in pararescuemen. This indicates a limitation in that other unknown variables are influencing perceived autonomy. Specifically, two possible confounding variables within this study are the cultural backgrounds of the participants as well as the emotional state of

the pararescuemen at the time of their participation in this study It is recommended that future research not only replicate this study, but also expand the study to control for possible confounding variables such as culture and emotion.

Recommendations for Action

This study looked at the relative influence of dominance/submissiveness versus military rank on perceived autonomy for United States Air Force pararescuemen. While the results cannot be directly applied outside of the pararescue careerfield, this study does provide preliminary indications that a paradigm shift is necessary with respect to the military system and specifically its rank-centric hierarchy. Throughout this dissertation, greater perceived autonomy has been shown to improve organizational effectiveness through an increase in job satisfaction and wellbeing, as well as through a decrease in turnover and burnout. Current research recommends that organizations select individuals who have positive self-evaluation traits that show they are willing to take initiative and an active role in improving the organization (Seibert, Wang, & Courtright, 2011). Since this study showed that relative dominance positively and significantly influenced perceived autonomy for pararescuemen, selecting individuals for pararescue based partially upon their relative dominance is indicative of their willingness to take initiative and an active role in improving pararescue. Furthermore, selecting individuals based upon relative dominance would not only influence their perceived autonomy, but by selecting individuals with higher levels of relative dominance, the pararescue careerfield would be able to increase organizational commitment and decrease turnover (Lambert, Cluse-Tolar, Pasupuleti, Prior, & Allen, 2012). Comparatively, selecting individuals into certain

positions within pararescue because of that position's rank requirement may only serve to increase the likelihood that the individual decreases his perceived autonomy, and in turn increases the rate of turnover and the cost to the United States Air Force to train a replacement.

An additional recommendation for action is to focus on all aspects of perceived autonomy within pararescue (method, scheduling, and criteria). For example, current research has shown that the interaction effects of scheduling autonomy and availability of work-life balance programs is positively associated with job satisfaction and overall well-being (Soo Jung, Rhokeun, & Zippay, 2011). While there are instances where this is not possible, maximizing the extent to which pararescuemen are able to self-mitigate between work and personal schedules will maximize that aspect of autonomy, and assist in maximizing satisfaction with the job.

As shown in this study, relative dominance is of equal importance to military rank when attempting to influence perceived autonomy within pararescue. It is important to note that shifting to a position-centric hierarchy would not be difficult. For example, the current structure within pararescue already supports a position-centric hierarchy, in which the Team Leader can be a non-commissioned officer and a Team Member can be a senior non-commissioned officer. While this is rare, the structure is already able to support this apparent dialectic. However, in order to fully implement the positional-centric hierarchy, it is recommended for action to modify the current rank structure within pararescue such that an individual who has achieved a certain position is also awarded the rank commensurate with that position. Furthermore, it is recommended that the pay scales are

not based upon military rank, but based upon an individual's position and additional duties (as determined/selected from his relative dominance and other qualitative factors). With the current rank structure, pararescuemen do not have an incentive to promote to the next rank, as incentives are based upon military rank, not on the individual's position(s). In fact, current studies have found that organizations which reward performance trends (current military structure) may encourage their employees to artificially lower their performance to leave room for future improvement, and if an individual perceives that promotions, incentives, and/or increased responsibility are based upon the performance mean rather than exceptional performance, they may seek employment elsewhere (Barnes, Reb, & Ang, 2012; Dunford, Shipp, Boss, Angermeier, & Boss, 2012; Kosteas, 2011). Therefore, it is recommended that a positional-centric hierarchy is developed and implemented for pararescue.

Recommendations for Future Research

The purpose of this study was to identify the relative influence of military rank versus the personality construct of dominance/submissiveness on perceived autonomy for United States Air Force pararescuemen. The results conclusively indicated that relative dominance and military rank equally and significantly influenced perceived autonomy for pararescuemen. Given these findings, there are several areas that warrant extensive future research.

First and foremost is the recommendation to extend this study to all careerfields within the military. While not generalizable at this point to the entire military, it is probable that the current rigid hierarchy within the military does not adequately address

the qualitative factors that would maximize organizational effectiveness. Specifically, relative dominance has been shown to significantly and positively influence perceived autonomy for pararescuemen, and in turn, relative dominance can be seen as a variable that should be used in conjunction with military rank when constructing an organizational hierarchy. Furthermore and as indicated in the limitations to this research, other unknown variables are influencing perceived autonomy. While relative dominance cannot be considered a sole qualitative variable that influences perceived autonomy, it does imply that the current syntactical rank-centric structure of Officer, Warrant Officer, and Enlisted personnel may not be as effective as a semantically positional-centric structure of Strategic (i.e. S-1 thru S-10), Operational (i.e. O-1 thru O-10), and Tactical (i.e. T-1 thru T-10) personnel. Future research into this paradigm shift would not minimize the importance of rank, but highlight the superordinate importance of position and functionality that is necessary for command and control. It would also eliminate a social caste system that does not effectively mitigate between rank and position.

Furthermore, historic military rank structures were dependent upon measurable differences between ranks and within ranks. For example, the minimum requirement for a Commissioned Officer to receive a commission is a bachelor's degree from a college or university. As indicated by this study, 88% of enlisted pararescuemen have some college education. This would appear to imply that the baseline for entrance into the Officer corps is no longer a measurable distinction. This is supported by current research, indicating an evident paradox -- in current society, those individuals that are most likely to benefit from a college education are least likely to obtain it (Brand & Xie, 2010). In

effect, this supports the need for future research into the reasoning behind an educational baseline that does not appear to exist in today's society. Furthermore, Green (2012) found a strong connection between the need for a higher education level for entry into careerfields, attributed to the technological revolution during 1997 through 2006. Since it is given that technology advances exponentially, the need for higher educational levels for entrance into the military is not an understatement. However, the disparity between requiring higher educational levels for all ranks within the military would further appear to relegate a college degree a poor indicator of leadership/followership ability. In addition, technology has relegated conventional warfare obsolete. The asymmetrical nature of the conflicts in the Middle East call into question the manner in which the current United States military operates. For example, cluster analysis has become a useful means through which terrorist networks can be understood (Helfstein & Wright, 2011). However, traditional military hierarchies do not require cluster analysis due to its linear, predetermined, and rigid hierarchy. Therefore, it is recommended that future research not only analyze the current hierarchical structure of the military, but also the entrance requirements into each sub-hierarchy (strategic, operational, and tactical).

Finally, with respect to supplementary results based upon demographic data, a recommendation for future research is to perform cross-sectional analyses on demographics when developing recruitment and retention strategies. Current research has found that older workers were more satisfied with their jobs and therefore a lower incidence of turnover; furthermore, race and educational level were unrelated to turnover intent (Lambert, Cluse-Tolar, Pasupuleti, Prior, & Allen, 2012).

Summary and Conclusions

This may be the first study that not only addresses the importance of autonomy within the military, but also the importance of autonomy as the primary construct in organizations. Furthermore, this may be the first study that questions the current military structure, not in terms of the need for rank, but in terms of the need for a paradigm shift from a syntactical rank-centric structure to a semantic positional-centric structure that emphasizes organizational qualitatives (relative dominance) as well as quantitatives (military rank). In this study an analysis was accomplished on United States Air Force pararescuemen in order to determine the relative influence of military rank versus the personality construct of dominance/submissiveness on perceived autonomy for pararescuemen. This was accomplished using a demographic survey, the Interpersonal Adjective Scales to measure relative dominance, and the Work Autonomy Scale to measure perceived autonomy. The results are not only important to the United States military, but civilian organizations as well. Finding that relative dominance and military rank equally and significantly influenced perceived autonomy for pararescuemen has shown that qualitative factors are just as important as quantitative factors when analyzing and developing organizational hierarchies.

However, as previously indicated, there is a need for further research to enhance the generalizability of results. It is important to emphasize that the implications from the results are not meant to change military traditions, only a change in mindset from a transactional and rank-centric hierarchy to a transformational and positional-centric hierarchy. It is understandable that positive social change can be opposed, criticized,

and/or attacked due to a perceived threat of the social system in which the change is being proposed, unless that proposed change is legitimized and stability of the organization itself is ensured (Wakslak, Jost, & Bauer, 2011). Therefore, this study provides a reasonable foundation for a legitimate and stable paradigm shift from a rank-centric to positional-centric military structure, a shift that is likely to support positive social change by improving personnel/resource management and reducing organizational costs for military personnel such as pararescuemen and with future research, the possibility to affect this same positive social change in all organizations.

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Appendix A

Informed Consent Form

You are invited to take part in a research study to measure your perceived autonomy as a Pararescueman. You were chosen for the study because you have graduated the Pararescue training pipeline at some point in your career and have earned your beret. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Kevin Deibler, who is a doctoral student at Walden University. He is also a Combat Rescue Officer [redacted].

Procedures:
If you agree to be in this study, you will be asked to:

- Complete a Demographic Form, which will take approximately 5 minutes
- Complete the Interpersonal Adjective Scales survey, which will take approximately 10 minutes
- Complete the Work Autonomy Scale survey, which will take approximately 5 minutes

Voluntary Nature of the Study:
Your participation in this study is voluntary. Everyone will respect your decision of whether or not you want to be in the study; no one in Pararescue will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind during the study. If you feel stressed during the study you may stop at any time. You may skip any questions that you feel are too personal.

Risks and Benefits of Being in the Study:
The researcher is not aware of any risks for participating in this study. A study of the assessment of hierarchy, dominance/submissiveness, and autonomy benefits society and is valuable to the special operations community (i.e. Pararescue) within the United States military by identifying variable relationships that may enhance operational success within an asymmetric threat environment. Identification of these variable relationships could lead to better personnel/resource management. Specifically, identification of these relationships could enable Pararescuemen to save more lives with reduced organizational costs. Dependent upon the outcome of the data, autonomous individuals could be selected and placed within organizations based upon their rank or by their relative dominance/submissiveness. It is likely that this study will result in positive social change by increasing job satisfaction, decreasing financial overhead, minimizing turnover, and more importantly, increasing the ability of Pararescuemen to save lives in combat.

Compensation:
There will be no compensation for participation in this study.

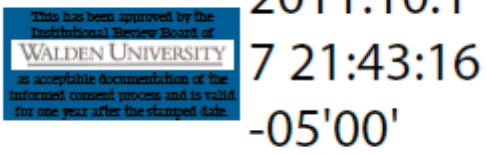
Confidentiality:

Any information you provide will be kept strictly confidential. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in any reports of the study without your written consent.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via phone at [redacted]. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 1210. Walden University's approval number for this study is **10-17-11-0036526** and it expires on **October 16, 2012**.

Statement of Consent:
I have read the above information and I believe I understand the study well enough to make an informed decision about my involvement. To protect your privacy signatures are not being collected, your completion of the survey would indicate your consent, if you choose to participate.

Please keep the consent form.



Demographic Form

(For Reference Only)

What is your current rank and unit type?

_____ Rank _____ Unit Type (Active Duty, Reserve, Guard)

What is your current employment status?

___Full-Time ___Part-Time

How many years have you been a Pararescueman and how many total years have you been in the military (count both full-time and part-time years)?

_____ Years as Pararescueman _____ Years of Military Service

What is your age in years?

_____ Age

What level of education have you completed?

___High School/GED diploma
___Some College/University
___2 year College/University Degree
___4 year College/University Degree
___Master's Degree
___Doctoral Degree

Would you describe your ethnicity/racial background as:

___Black / African American
___Hispanic
___Latino
___Asian
___South Asian
___Middle Eastern
___Native American
___Pacific Islander
___White / Caucasian

For Researcher Use Only: Participant Number: _____

Appendix B: Interpersonal Adjective Scales

(For Reference Only)

Please rate how accurately each of the words describes you as a person. Circle every item at the appropriate level from 1 (*Extremely Inaccurate)* to 8 (*Extremely Accurate).*

1. IAS example of a dominant self-rating:

   Self-assured 1 2 3 4 5 6 7 8

2. IAS example of a submissive self-rating:

   Timid 1 2 3 4 5 6 7 8

3. IAS example of a negation to counter other self-ratings:

   Undemanding 1 2 3 4 5 6 7 8

A separate glossary can be referenced for definitions for the entire 64-item IAS.

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16204 N. FLORIDA AVENUE • LUTZ, FLORIDA 33549
Telephone: 813.968.3003 • Fax: 813.968.2598 • Web: www.parinc.com

Sent Via Email: [redacted]

June 24, 2010

Kevin Deibler
[redacted]

Dear Mr. Deibler:

In response to your recent request, permission is hereby granted to you to include up to a total of three (3) sample items from the Interpersonal Adjective Scales (IAS) Test Booklet in the appendix of your Dissertation titled, *The effect of military rank and personality on perceived autonomy for United States Air Force Pararescuemen.* If additional material is needed, it will be necessary to write to PAR for further permission.

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TWO COPIES of this Permission Agreement should be signed and returned to me to indicate your agreement with the above restrictions. I will then sign it for PAR and return a fully executed copy to you for your records.

Sincerely,

Vicki M. McFadden
Permissions Specialist
vmark@parinc.com
1-800-331-8378 (phone)
1-800-727-9329 (fax)

ACCEPTED AND AGREED:

BY: _____
KEVIN DEIBLER

DATE: 24 JUN 10

ACCEPTED AND AGREED:

BY: Vicki M. McFadden
VICKI M. MCFADDEN

DATE: June 24, 2010

Appendix C: Work Autonomy Scale

Circle every item at the appropriate level from 1 (*Strongly Disagree)* to 7 (*Strongly Agree*).

1. I am allowed to decide how to go about getting my job done (the methods to use).

   1 2 3 4 5 6 7

2. I am able to choose the way to go about my job (the procedures to utilize).

   1 2 3 4 5 6 7

3. I am free to choose the method(s) to use in carrying out my work.

   1 2 3 4 5 6 7

4. I have control over the scheduling of my work.

   1 2 3 4 5 6 7

5. I have some control over the sequencing of my work activities (when I do what).

   1 2 3 4 5 6 7

6. My job is such that I can decide when to do particular work activities.

   1 2 3 4 5 6 7

7. My job allows me to modify the normal way we are evaluated so that I can emphasize some aspects of my job and play down others.

   1 2 3 4 5 6 7

8. I am able to modify what my job objectives are (what I am supposed to accomplish).

   1 2 3 4 5 6 7

9. I have some control over what I am supposed to accomplish (what my supervisor sees as my job objectives).

   1 2 3 4 5 6 7

Deibler, Kevin A [redacted]

From: Breaugh, James [jbreaugh@umsl.edu]
Sent: Tuesday, June 22, 2010 2:13 PM
To: Deibler, Kevin A [redacted]
Subject: RE: Permission for Work Autonomy Scale

Permission granted.

-----Original Message-----
From: Deibler, Kevin A [redacted]
Sent: Tuesday, June 22, 2010 4:12 PM
To: Breaugh, James
Subject: Permission for Work Autonomy Scale

Dr. Breaugh,

Per our phone conversation, I am requesting permission to use and administer your Work Autonomy Scale to participants in my dissertation for a PhD in Organizational Psychology. This will also include a copy of the WAS as an Appendix. The dissertation will pertain to the effect of hierarchal level (military rank) as compared to personality in predicting variance in perceived autonomy. Thank you for your support and when I am completed with the dissertation I would be more than happy to provide you a copy.

V/r

Kevin A. Deibler [redacted]
[redacted]

Kevin A. Deibler
Curriculum Vitae

ACADEMIC DEGREES

PhD, Organizational Psychology — December 2012
Walden University, Minneapolis, Minnesota

MA, Human Relations — June 2004
University of Oklahoma, Norman, Oklahoma

BS, Computer Science — May 2002
Bloomsburg University, Bloomsburg, Pennsylvania

PROFESSIONAL EXPERIENCE

Aide-de-Camp to the Chief of Air Force Reserve — November 2012 – Present
Aide-de-Camp to the Commander,
United States Air Force Reserve Command
Headquarters, United States Air Force
Washington, District of Columbia

Deputy Chief, Standardization/Evaluations — July 2011 – November 2012
Additional Duty: Unit Diving Officer
United States Air Force Reserve Command
943rd Rescue Group – Tucson, Arizona

Director of Operations — June 2010 – July 2011
Additional Duty: Unit Diving Officer
United States Air Force Reserve Command
306th Rescue Squadron – Tucson, Arizona

Officer in Charge, Aircrew Flight Equipment — February 2009 – June 2010
Additional Duty: Unit Diving Officer
United States Air Force Reserve Command
306th Rescue Squadron – Tucson, Arizona

Chief, Plans and Programs — June 2008 – February 2009
United States Air Forces Southern Command
612th Theater Operations Group – Tucson, Arizona

Combat Rescue Officer Select — June 2006 – June 2008
United States Air Force Reserve Command
306th Rescue Squadron – Tucson, Arizona

Flight Commander, Mission Support Flight — May 2005 – June 2006
Headquarters Air Intelligence Agency
690th Intelligence Support Squadron – San Antonio, Texas

Information Assurance and Action Officer for — June 2004 – May 2005
National Security Agency Certification and Accreditation
Headquarters Air Intelligence Agency
690th Intelligence Support Squadron – San Antonio, Texas

Systems Control Director for Command, Control, — June 2003 – June 2004
Communications, Computers, and Intelligence Systems
United States Pacific Air Force Command
607th Air and Space Communications Squadron – Osan AB, South Korea

DEPLOYED MILITARY EXPERIENCE

Guardian Angel Battle Captain and Team Commander — January 2012 – June 2012
Operation Enduring Freedom
46th Expeditionary Rescue Squadron
Bastion Air Field, Afghanistan

Director of Operations — June 2011 – October 2011
Operation Unified Protector
48th Expeditionary Rescue Squadron
Kalamata Air Base, Greece

Guardian Angel Team Commander — March 2010
Balikatan 2010
306th Rescue Squadron
Clark Air Base, Philippines