AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

LEADERSHIP BEHAVIORS AT AIR WAR COLLEGE

by

Lista M. Benson, Major, USAF

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Advisor: Major John D. Garvin

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Contents

Illustrations

Tables

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Abstract

As the level of job responsibility increases, leaders may need to emphasize different leadership behaviors (Jacobs and Jacques, 1987). These behaviors tend to be hierarchical, with different behaviors needed at the direct, organizational, and strategic levels (Yukl, 1992). Is the same true in the Air Force? The purpose of this investigation is to determine the critical hierarchical leadership behaviors required at the senior level of responsibility in the United States Air Force (USAF). A sample of Air War College Students were administered a survey based on Yukl's Managerial Practices Survey (MPS). Each officer was asked to rate the importance of 11 different behaviors to their most recent job. The behaviors included informing, consulting and delegating, planning and organizing, problem solving, clarifying roles and objectives, monitoring operations, motivating, recognizing and rewarding, supporting and mentoring, managing conflict and team building, and networking. The three most important behaviors identified for Air War College students reflecting on their most recent job were planning ($\underline{M}$=4.2), informing ($\underline{M}$=4.6), and problem solving ($\underline{M}$=4.1). Least important was networking ($\underline{M}$=3.6). With these behaviors identified, what to groom and mentor in future strategic leaders becomes evident. Additionally, professional military education can be tailored to focus on those critical behaviors for effective leadership.

Chapter 1

Introduction

Lives of great men all remind us we can make our lives sublime, and departing, leave behind us footprints on the sands of time.

—Henry Wadsworth Longfellow

The fly, fight, and win philosophy of our traditional Air Force will soon transition to a new philosophy of an Air and Space Force. With a new space emphasis, how do senior leaders adapt and prepare? What special skills are required to lead this large Air Force (AF) organization to a new role and vision? Grooming strategic leaders for the future is critical to any large organization. To that end, the AF formally instituted a mentoring program designed to develop officers as they progress in their careers and to groom the top-level leaders. Additionally, leaders are developed using the AF Professional Military Education (PME) system, starting as a Captain and continuing through the rank of Lieutenant Colonel. However, we are left with the question of exactly what to mentor and develop. Are there specific leadership behaviors at various levels of responsibility that should be developed for AF officers, and if so, are there different behaviors required for different types of jobs? The AF has not fully addressed this problem. The purpose of this study is to further articulate the skills required for the top or executive level of leadership.

It has been suggested that the leadership skills required in the military are of a hierarchical nature as they are for any organization in general.[1] The requirements for effective leadership varies according to where the leader's position is on the hierarchy.[2] The behaviors needed at the lower direct levels of leadership may not be the same behaviors needed at the top echelon of strategic leadership. For example, in a hospital setting a nurse at the lowest level of the hierarchy may need to focus on directly motivating her subordinates, while the hospital's Chief Executive Officer, at the top of the hierarchy, focuses on planning and strategy. Although some skills may transcend all levels of leadership, certainly there are specific skill emphases required at specific levels. If an AF model were derived identifying specific top-level leadership behaviors then the question of what to groom in our future strategic leaders could be more accurately defined and possibly measured.

Questions remain, however, of exactly what specific behaviors are needed at the strategic or top-level of organizational leadership. The purpose of this study is to investigate hierarchical leadership behaviors required at the strategic level of responsibility in the USAF. A survey given to Air War College (AWC) students will facilitate this investigation. Such a study may help AF officers focus on the leadership behaviors required at their current level of responsibility and identify behaviors to be groomed for the next level of leadership. These new behaviors can be mentored and developed ensuring effective strategic leadership for the Air and Space force of the future.

Notes

[1] Jaques Elliott, *Requisite Organization*. USA: Cason Hall, 1989, 11

Notes

[2] Jacobs, T Owen.   "A Guide to the Strategic Leader Development Inventory *Leadership and Ethics.* Edited by Gail Arnott et al. (Maxwell AFB, AL. Air University Press, 1997), 79-105.

Chapter 2

Literature Review

It's not what we know that hurts, its what we know that ain't so.

—Will Rogers

Overview

This chapter will define leadership, establish "what to measure" and discuss hierarchical structures. Hypotheses predicting the most needed behaviors for strategic leadership are developed.

What to Measure

Leadership development has been pursued for centuries. Many have studied the concept and have tried to simply define it, while others have attempted to determine what makes a leader effective. Despite numerous studies, finding a universally accepted definition of "leadership" is a difficult endeavor.[1] Trying to describe what makes a leader more effective seems even more elusive. Are leaders born with certain traits which make them effective, or are leaders effective because of what they do and or how they do it? Decades of scholarly research have pursued these questions with still no clear answers. This chapter provides a historical review of that literature and sets the stage for defining how to measure leadership.

"What to measure" is one of the fundamental questions for this study. Over the past 50 years, leadership study has primarily focused on three areas: traits, behaviors, and situational approaches.[2]

Traits

Leadership trait theory addresses specific traits which leaders bring to bear on an organization and the subordinates within that organization. The basic premise of this theory is effective leaders are born not made. They have certain "natural" inborn skills that make them more effective. The natural skills may relate to the leader's abilities (persistent, intelligent, creative) and/or to the leader's personality (self-confident, generous, sympathetic.)[3] The natural traits the leader possesses determine the effectiveness because those traits appeal to both the followers and the organizational culture.

Hundreds of trait studies were conducted to discover these elusive qualities, but the intense research effort failed to identify any traits that would guarantee leadership success. The results revealed that leaders and followers were not different.[4]

Behaviors

Behavior theory emphasizes the actions of leaders versus the trait approach of simply looking at the personality traits a leader brings to an organization. Fact gathering and processing is an example of behavior. An effective leader constantly searches for the facts relating to a problem, he or she identifies the sources of the information and then weighs these inputs to make a decision. Notice that the focus is on the behavior of collecting information, not on the traits of charismatic personality or strong intuition. The behavioral approach should prove most helpful to this study because behaviors can be

groomed and developed. This is an important point. The AF can groom desired behaviors in various ways, not the least of which is professional military education (PME) or mentoring on the job. Leadership behavior theory has been prominent for thirty years[5]; however, more recently situational leadership theories have received primary attention.

Situational

The situational approach to investigating leadership examines the situation surrounding the leader and the subordinates. This approach considers the different influences on the leader's effectiveness to include: the nature of the task being performed; the leader's authority and freedom of action; role expectations by superiors, subordinates and peers; and the nature of the external environment.[6] In other words, the same leader and the same set of followers must react differently to a different situation to be effective. The situation the leader finds her or himself in determines the leadership traits, skills, or behaviors which are relevant.[7] This theory is useful to this study because the situation may translate to where one's level is in the organization. The situational approach seems to tie several approaches together by recognizing a leader's actions are dependent on the situation.

Interim Summary

The behavioral theories can identify what skills or set of behaviors to examine. At the same time, the situational approach can help define control variables. Blending these two theories provides the approach for this study. In order to develop accurate hypotheses, we must take a closer look at the behavioral approach and situational controls.

Behavioral Approach

Ohio State University (1940's) pioneered behavioral leadership research. The goal of these studies was to identify those leadership behaviors necessary for effective leadership. The studies concentrated on relating specific leadership behaviors to attainment of group or organizational goals. Initially over 1800 behaviors were brainstormed as essential. This list was subsequently pared to a more manageable 150 behaviors, then factor analysis was used to further refine the behaviors into two large categories: Considerate and Initiating Structure.[8] Considerate behaviors are similar to group maintenance behaviors, while initiating behaviors resemble task-oriented behaviors. Ohio State University (OSU) sought to establish a relationship between leader behaviors and leader effectiveness. A questionnaire called the Leadership Behavior Description Questionnaire (LBDQ) was used to demonstrate the relationship.[9] The survey was given to subordinates of 57 production foremen. The hypothesis was that foremen could be considered the most effective leaders when they had low rates in both voluntary turn over and written grievances.[10] The findings weren't surprising; foremen with high levels of considerate behavior tended to have more favorable effectiveness rating while similarly, foremen with low initiating structure behavior had more favorable effectiveness ratings. The conclusion was that a relatively high degree of considerate behavior with a relatively low degree of initiating structure behavior led to the most effective leaders in the organization.[11]

The studies fell short, most notably in the lack of establishing a clear causal relationship. Did high considerate behavior cause more productive followers or did more productive followers cause higher considerate behavior from the leader? The more studies that were completed using the LBDQ, the more inconsistent the results. Lastly,

the most significant development to come out of the OSU studies was that effective leaders are considerate to their followers. This was not "an earth-shattering" revelation.[12] Shortly after Ohio State started examining behavioral leadership, the University of Michigan began similar studies.

The University of Michigan (1952) began to try and define leadership behaviors, and relate those behaviors to more effective leadership performance. Initially, the research looked at what patterns of leadership behavior led to effective group performance. The studies revealed that leaders who displayed task-oriented behavior, solid interpersonal skills with their subordinates and practiced participatory management were the most effective. Additionally, effective leaders displayed more supervisor-oriented task behaviors (planning, organizing, and scheduling) and didn't spend time doing the same work as their subordinates.[13] The effective leader would set general, overarching goals and allow followers to work through the issues to reach that goal. Finally, supervisors were considerate of their subordinates, taking time to listen to their needs and help them meet their personal goals. Overall, leaders who stressed participatory management and shared their leadership responsibilities were, in general, more effective in reaching the organizational goals. Generally, the Michigan studies supported the Ohio State studies in that considerate and initiating behaviors transcended all other behaviors but the results could not be correlated. However, these studies set the stage for the research to follow.

Various behavioral investigations were completed after the Ohio State and University of Michigan studies, all with at least one thing in common; each study used a different set of leadership behaviors to measure leadership effectiveness. While the previous investigations contributed to the body of knowledge in leadership behavior,

there is a lack of consistency in the types of behaviors investigated across the numerous studies. A universal set of leadership behaviors or a taxonomy did not exist so studies could not be compared or combined. This lack of a consistent set of leadership behaviors prevents the correlation of findings between the different investigations.[14]

Yukl's Taxonomy

Yukl (1979) was among the first to recognize the need of a single set, or taxonomy, of leadership behaviors. Yukl saw that much of the criteria had certain weaknesses and because of their variety there was difficulty in comparing results from one study with another. Therefore, he developed an integrated taxonomy of leadership behaviors designed to overcome the weaknesses in previous models, yet capitalize on their strengths, while being broad enough to apply in a variety of situations.[15]

Initially, his research led to a list of 21 behaviors. Through subsequent investigation and factor analysis, the behaviors were reduced and collapsed to 14, then finally, 11. The 11 behaviors are grouped within four categories: giving/seeking information, building relations, influencing, and making decisions (Figure 1).[16] More articulate definitions for each behavior are listed in Appendix A.
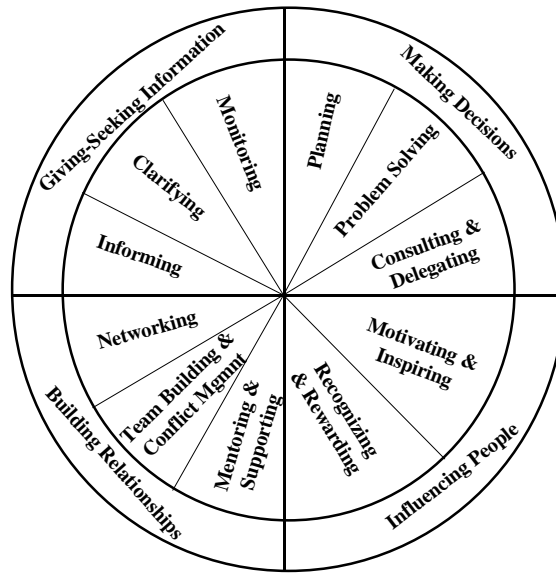
Figure 1. Yukl's Taxonomy of Leadership Behaviors

There are definite advantages to this approach. To begin with, the taxonomy "has a larger number of more specific behaviors than earlier, and it includes most behaviors found to be important in leadership research."[17] Additionally, this taxonomy has a high degree of correlation with taxonomies used in a number of previous studies (Appendix B).

A questionnaire known as the Managerial Practices Survey (MPS) was developed to measure the behaviors in Yukl's taxonomy. This psycho-metrics of the MPS have been thoroughly investigated over the past 15 years. These studies concentrated on assessing the validity, meaningfulness, and reliability of the MPS. Validity of the taxonomy was supported by studies on the following characteristics: (1) Stability: two measurements of a single behavior performed at different times should yield the same results; (2) Inter-rater Reliability: different raters observing the same thing will give similar ratings; (3) Discrimination of Contrasted Groups: the measurement of different subjects in a different set of circumstances should yield different results (a very important aspect in

determining leadership hierarchies); (4) Criterion-related Validity: "the capacity to…predict and explain managerial effectiveness."[18] The validation process for Yukl's MPS was "more intensive and comprehensive than the validation research done on any previous leader behavior questionnaire"[19] and resulted in a widely-accepted, perceived valid instrument for measuring leadership behaviors.

Interim Summary

Yukl has developed a universal taxonomy for leadership behaviors. By using this taxonomy he developed an instrument called the MPS that can be used to investigate leadership behaviors. The MPS is an off-the-shelf survey that applies across all situations. This survey has been widely used and is perceived as a valid instrument. Unless the same taxonomy is used to discover the importance of the various leadership behaviors at each level in the organization, the determination of how leadership behaviors change as one moves up the hierarchy cannot be mapped. This study will use the MPS to define the skills required for leadership.

Leadership Hierarchies

The leadership hierarchy provides the control for the situation in this particular investigation. One can think of a leadership hierarchy as a two dimensional model. On the vertical axis are the levels of management within the organization. On the horizontal axis are the leadership skills or behaviors. If the relative importance of a skill or behavior varies as a function of what level the leader is on in the organization, a leadership hierarchy is said to exist. Additionally, along the vertical axis the organization may have several layers or strata within each level. The hierarchical approach to the structure of an

organization has been deemed appropriate and quite possibly the most efficient for many large organizations. It is normally illustrated using a three level approach.

Three-level Models

Most three level models distinguish between the various organizational levels in the following way: at the bottom level are those who do the primary work of the organization, in the middle or organizational level are those who supervise the workers, at the top resides the executive level which cares for the organization as a whole.[20] Several of these models are descriptive, however, some have detailed analyses of factors which contribute to stratification within an organization. Mintzberg (1973) suggests an organization is divided up into functional departments and into levels of management such as horizontal and vertical specialization. Horizontal specialization occurs because like skills are grouped into departments. Vertical specialization actually creates the levels of management; the worker is the expert in performing the skill and the supervisor is the expert in the administration of it.[21] Therefore, an organization will have at least two levels. Additionally, as an organization expands, the administrative level becomes larger and a third level appears at the top. The people doing the primary tasks of the organization make up the "operating core", the supervisors are in the "middle line" and those at the top make up the "strategic apex." This formalization of an organization into hierarchies and the internal mechanisms of coordination and control is in reality a formalization of the behaviors people display in their jobs.[22] The three-level approach resembles AF structure, with company grade officers at the bottom, field grade officers at the middle line, and senior officers at the top (Figure 2). The three-level approach is further refined allowing a more specific control for the situation.
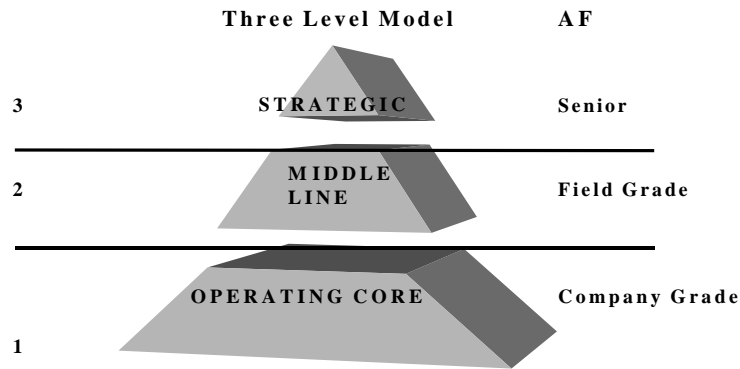
Figure 2. Three Level Model and AF Model

General Theory of Bureaucracy (GTB)

To determine the best number of levels in the organizational hierarchy, an analysis must be done of the types of tasks performed. GTB recognizes that some tasks are inherently more complex than others, but task complexity is difficult to directly measure. However, the length of time required to complete a task is commonly accepted as a reliable indicator of task complexity. The length of time is called the time-span of work.[23] At the lowest level are the workers with a time-span of work ranging from one day to three months. The next level consists of workers with time-spans of three months to one year. The range of time-spans continues with milestones at the two, five, ten, and fifteen-year marks. Although not confirmed empirically, a time-span boundary of twenty years has been hypothesized.[24] If an organization has all the distributions of time-spans, then all seven levels would be required, starting with less than three months and ending with twenty years. Why these specific milestones define effective organizational levels

are also explained. The idea of time span of work is relevant to this investigation. The officers at AWC predominantly fall into the 15 year and above level.

Stratified Systems Theory

GTB was refined and generalized to other organizations and eventually became known as the Stratified Systems Theory (SST). Jacobs and Jaques (1987) developed the SST, which describes leadership requirements at different levels of responsibility (or situations) within an organization. SST presents a model of leadership with seven strata and three domains. The lowest stratum represents the hands-on operators with no supervisory responsibilities (Figure 3). The highest stratum contains one or just a few individuals, which are involved in planning and executing strategic activities throughout the organization.[25] Similarities found within the strata, allowed them to be grouped into three domains. The Production Domain is the lowest stratum. The Organization Domain consists of Strata IV and V. The Systems Domain contain strata VI and VII. This domain includes individuals for whom all parts, including external relationships, of the organization comes into consideration.[26]

Stratified Systems Theory Functional Domains

Stratum	Time Span	Functional Domain
VII (Corporation)	20 years	**Systems Domain—Operates in a nearly unbounded world environment, identifies feasible futures, develops consensus of specific futures to create, and builds required resource bases to create whole systems that can function in the environment. Creates a corporate culture and value system compatible with social values and culture to serve as a basis for organizational policies and climate.**
VI (Group)	10 years	
V (Company)	5 years	**Organizational Domain—Individuals at stratum V operate bounded open systems thus created, assisted by individuals at stratum IV in managing adaptation of those systems within the environment by modification/maintenance/fine tuning of internal processes and climate and by oversight of subsystems.**
IV (Division)	2 years	
III (Department)	1 year	**Production Domain—Runs face-to-face (mutual recognition or mutual knowledge) sub-systems units, or groups engaged in specific differentiated functions but interdependent with other units or groups, limited by context and boundaries set within the larger system.**
II (Section)	3 months	
I (Shop Floor)		

Figure 3. Stratified Systems Theory

Jacques notes three points in regards to the benefits of the SST. First, he notes the need for a comprehensive theory is related to its power to allow the planning of leadership activities appropriate to each level. Second, he suggests leadership training can be developed to match the requirements for a given level in an organization. Third, he notes the SST is general enough to apply to any organization be it commercial, public, civic, non-profit, religious, or military.

Katz Studies

Katz (1940), working for the US Army at the time, identified a hierarchy consisting of three skills: technical, human, and conceptual.[27] He suggested that as an individual rises in the organization the need for technical skills decrease while the need for conceptual skills increase, and the need for human skills would be important at all levels.[28] Katz' theory is not empirically based and is, in fact, notional. While SST links the leader's functions to the domain in which he works, the theory fails to describe specific behaviors required within the domains. However, the Army expanded the SST,

by utilizing Katz' theory, in Department of the Army Pamphlet (DAP) 600-80, Executive Leadership.

DAP 600-80; Executive Leadership, identifies specific behaviors required at each level of leadership. The pamphlet describes how leaders progress through three levels of leadership, "each with systematic changes in the nature of leadership tasks."[29] Figure 4 describes how a mix of the three skill categories will vary according to the different levels as Katz described[30]. As one progresses through the levels, the need for technical competency and direct supervision of troops decreases while the ability to deal with abstract or "systems" difficulties increase. Moreover, the need for good interpersonal skills is constant throughout because although the senior officer may not have as many direct subordinates, the number of lateral relationships increases.[31] However, the behaviors identified in DAP 600-80 were not the result of empirical study; instead, they were "best guesses" based upon observations by the authors.
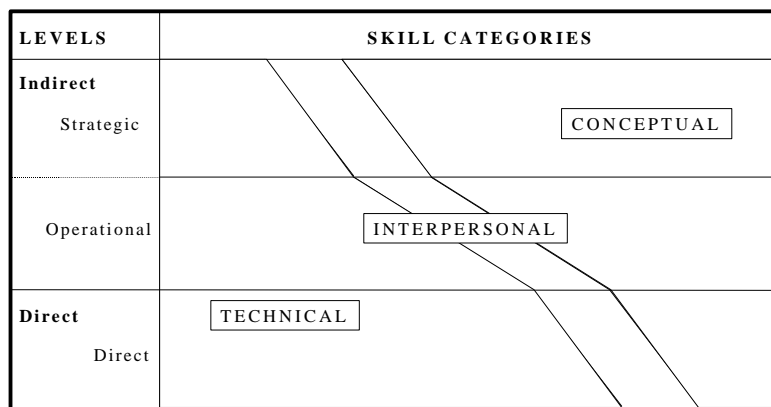

Figure 4. Army Levels of Leadership (DAP 600-80, p 14)

Strategic Leader Development Inventory

Jacobs continued the study of military leadership by developing the Strategic Leader Development Inventory (SLDI) in 1995. It is an empirical study designed to help strategic leaders in the army determine their strengths and weaknesses for the strategic level.[32] The SLDI is based primarily on the SST. Initially, 100 structured interviews of lieutenant generals and generals were conducted to determine the key requirements of their positions. Currently, the SLDI groups leadership requirements within three factors: Conceptual Skills and Abilities, Positive Attributes, and Negative Attributes (Appendix C). Conceptual Skills and Abilities relate to the conceptual skill category in the Army levels. The Conceptual Skills and Abilities refer to the leader's cognitive capabilities while the Positive and Negative Attributes refer to the leader's capacities in interpersonal relations or perceptions they may create in others. These behaviors are unique and are derived for just one level of leadership—the strategic level.

Defining Hierarchical, Situational Leadership Behaviors

By combining Yukl's MPS and the SST, we are able to define leadership behaviors appropriate for a military hierarchy. Yukl and Van Fleet postulate that different leadership behaviors are "likely by level (company grade officers, field grade officers, and general officers)"[33] in a military organization, yet those behaviors have not been defined in the USAF. Almost every study concluded "leader effectiveness rests on situational determinants, whether the leader attribute studied is a trait or a behavior."[34] The purpose of this investigation is to determine leadership behaviors required at the strategic level of leadership in the USAF. In order to facilitate the study, the following assumptions and hypotheses are established.

Assumptions and Hypotheses

There are two basic assumptions made in this study; first, AWC Students are at the Strategic Level of Leadership. Although DAP 600-80 identifies this level as Colonels and Generals,[35] the focus of the AWC's curriculum is at the strategic level and the time-span of work places these students in the higher strata (15 years). Second, the skills from the Army model correlate to Yukl's taxonomy as depicted in Table 1.

Table 1. Correlation of DAP 600-80 and Yukl's Behaviors

Conceptual Skills	Technical Skills	Interpersonal Skills
Planning and Organizing	Informing	Consulting and Delegating
Problem-solving	Clarifying	Motivating
	Monitoring	Recognizing
		Networking
		Supporting
		Mentoring

With the various studies performed at the strategic level, it is possible to predict which behaviors will be identified at the strategic level. Based on the assumptions and the works of the SST, Yukl, and the Army model (DAP 600-80), three hypotheses are presented.

H1: Conceptual Skills (Planning and Problem solving) importance ratings will be rated greater than all other importance ratings.
H2: Technical Skills (Informing, Clarifying, & Monitoring) importance ratings will be less than all other importance ratings.
H3: Conceptual Skills (Planning and Problem solving) will be the skills identified as needing the most improvement.

Summary

Yukl's taxonomy as presented in the MPS provides a relevant, valid set of behaviors. If we look at the SST, which recognizes the situational nature of leadership in a complex organization, and combine that with the MPS, we have a way to empirically examine the levels of leadership within the military hierarchy. The "what to measure" is the MPS

with the situational control of looking at a single level of hierarchical leadership. This

approach has not been fully explored in the Air Force. These theories can be used to

determine the specific behaviors necessary for senior officers to be effective leaders.

Notes

[1] Bennis, W.G., "Leadership Theory and Administrative Behavior: The Problem of Authority" (In *Administrative Science Quarterly,* 1959, vol 4), 259

[2] Yukl, Gary A., "Leadership in Organizations" (Englewood Cliffs, NJ: Prentice-Hall, 1989), 7

[3] *Ibid*, 8

[4] Hughes, Richard L. et al, "Leadership: Enhancing the Lessons of Experience" (Boston, MA: Irwin Press, 1993),141

[5] Zeidner, Joseph, "Human Productivity Enhancement," (New York: Praeger Publishing, 1987), 9

[6] Yukl, "Leadership in Organizations," 8

[7] *Ibid*, 8

[8] Yukl, "Leadership in Organizations," 106

[9] Fleishman, Edwin A. and Edwin F. Harris*, Patterns of Leadership Behavior Related to Employee Grievances and Turnover* (In "Readings in Organizational and Industrial Psychology, Yukl and Wexley, Oxford Univ Press, 1971), 282

[10] *Ibid.*, 287

[11] *Ibid.*

[12] Yukl, "Leadership in Organizations," 112

[13] *Ibid.,* 114

[14] *Ibid.,* 120

[15] *Ibid.* 65

[16] Yukl, G., S. Wall, and R. Lepsinger, R. "Preliminary Report on Validation of the Managerial Practices Survey." (In *Measures of Leadership*, Clark and Clark, 1990), 72.

[17] Yukl, "Leadership in Organizations," 128

[18] Yukl, Wall, and Lepsinger, 227-233

[19] *Ibid.*, 236

[20] Simon, H.A. *The New Science of Management Decision* (Englewood Cliffs, NJ: Prentice Hall, 1977, 110

[21] Mintzberg, Henry. *The Structuring of Organizations* (Englewood, NJ: Prentice Hall, 1979), 71

[22] *Ibid.,* 82

[23] *Ibid.,* 106-107

[24] *Ibid.,* 134

[25] Jaques, Elliott. *Requisite Organization* (USA: Cason Hall, 1989),10

[26] Jaques, E., S. Clement, C. Rigby, and T.O. Jacobs. "Senior Leadership Performance Requirements at the Executive Level ." Research report. (Alexandria, VA: Army Research Institute, 1985), 10

Notes

[27]Katz, R.L. "Skills of an Effective Administrator," *Harvard Business Review*, Jan-Feb 1995, 34-46

[28]*Ibid*,36-38

[29] Department of the Army Pamphlet (DAP) 600-80, "Executive Leadership" (HQ, Department of the Army), 4

[30] Department of the Army Pamphlet (DAP) 600-80, "Executive Leadership" (HQ, Department of the Army), 4-11

[31] *Ibid*, 14

[32]Jacobs, T. Owen. "A Guide to the Strategic Leader Development Inventory." In *Leadership and Ethics*. Edited by Gail Arnott et al. (Maxwell AFB, AL: Air University Press, 1997), 79-105

[33]Van Fleet, D. and G.A. Yukl. *Military Leadership: An Organizational Behavior Perspective.* (Greenwich, CT: JAI Press, 1986), 96

[34]Jacobs, T.O. and Elliott Jaques, *Leadership in Complex Systems* (In "Human Productivity Enhancement, Edited by Joseph Zeidner, New York: Praeger, 1987), 10

[35]DAP 600-80, 4-11

Chapter 3

Methodology

If you want some ham, you gotta go into the smokehouse.

—Huey Long

Sample and Population

The population of this study consisted of 136 AF active duty Air War College (AWC) students at the rank of Lieutenant Colonel. The sample size is 41. The participants in the study were voluntary. Table 2 shows the specific demographic information particular to this sample. This was a random sample; therefore, the results may be generalized to the AF active duty students in AWC class of 1998.

Table 2. Demographics for AWC Sample

	AWC % *(n=41)*
Male	82.9
Female	17.1
Line	85.4
Non-Line	14.6
Operations	41.4
Support	43.9

Instrument

The survey, attached as Appendix E, is an off-the-shelf version of Yukl's Managerial Practice Survey (MPS). The MPS has been widely used in civilian research and has been

extensively validated. It was chosen because it seemed a reliable instrument to define and measure leadership behaviors.

The survey was presented in four separate sections. Section I asked for the demographic data for each participant, including gender, number of people supervised, years of commissioned service, and primary job in the AF (AFSC). Section II asked the subject to rate the importance of each of the 11 leadership behaviors to their last job. A 5-point scale from the validated MPS (1= "not relevant", 5= "absolutely essential") was used. In Section III, the subjects were asked to identify the three most important and the three least important behaviors they deemed necessary to being an effective leader in their last job. Lastly, Section IV asked each participant to select one area in which he/she needed the most improvement.

Design and Procedures

The off-the-shelf survey was submitted to the Air Command and Staff College (ACSC) Evaluations Department (ACSC/CVV) in accordance with school procedures outlined in AFI 36-2601 (10 June 1994), AU Supplement 1 (10 March 1992), and ACSC OI 37-103 (18 August 1997). The survey was approved by the AWC Commandant and coordinated via a staff summary sheet (Appendix D). A pilot run of the survey was conducted with an ACSC seminar to validate instructions and the process for collecting data. The survey with instructions was then taken to AWC where AWC staff administered the survey during the week of 10 December 1997. Only active duty AF personnel were given a survey. The students completed the surveys, which were then collected at a centralized drop off point. The return rate was 30%. The timing of the survey could have influenced this return rate. AWC administered the survey right before

the Christmas Holidays, which may have adversely effected the rate of return. Additionally, although the survey was estimated to take 5-10 minutes to complete, a specific time was not scheduled to complete the survey. Lastly, even though the survey was fully coordinated through AWC, the students had just completed two previous surveys, so this survey may not have been a high priority.

Data from the completed surveys was inputted manually into the Statistical Package for the Social Sciences (SPSS) for analysis. Demographics were calculated using frequency and descriptive analysis. Importance was reported using means and standard deviations, with relative importance and improvement analyzed via frequency analysis. Hypothesis were tested using T-Tests (2-Tail Significance) with an $\underline{\alpha} = 0.05$.

There are some limitations to this study. One limitation is the relatively small sample size. This study can be viewed as a pilot study. Additionally, the survey does not include a "lie scale" although the directions printed with the survey explained the purpose and intent of the study. As previously mentioned, this survey was administered right before Christmas break, which may have influenced the return rate and the quality of the data as students were looking forward to the holidays. Furthermore, all the AWC students were considered to be operating at the strategic level for the purposes of this study. However, given the fact that the subjects were asked to relate the leadership behaviors to their last job, this population may be operating at the organizational level, albeit, perhaps, within the upper strata.

Chapter 4

Results

It is a capital mistake to theorize before one has data.

—Sir Arthur Conan Doyle

Results for this study are addressed in three sections. The first section addresses the self-reported importance of the 11 behaviors and their relative importance via the three most important and the three least important effective behaviors for leaders. The behaviors senior officers felt they needed the most improvement in are presented in the second section. Lastly, the third section looks at the comparison of responses across the operations versus support category.

Importance of the 11 Leadership Behaviors

Subjects rated the importance of each of Yukl's 11 leadership behaviors in relation to the last Air Force job. A 5-point scale was used with "1" being "not relevant" and "5" being "absolutely essential." Table 3 contains descriptive statistics showing how senior officers rated the importance and relevance of these behaviors. Overall, subjects reported informing (M = 4.6), motivating (M = 4.3), and recognizing (M =4.2) as important behaviors. The least important behaviors to this group were networking (M = 3.6), monitoring (M = 4.0), and managing (M = 4.0).

Table 3. Self-Reported Importance

Behavior	Mean	SD
Inform	4.6	1.0
Motivate	4.3	1.0
Recognize	4.2	0.9
Plan	4.2	0.7
Consult	4.1	0.8
Support	4.1	1.0
Problem	4.1	0.7
Clarify	4.0	1.0
Manage	4.0	0.9
Monitor	4.0	0.8
Network	3.6	1.0

(n = 41)

The subjects were then asked to rate the three most important (M1 = most important) and the three least important (L1 = least important behavior for effective leadership. Table 4 indicates the frequency statistics for this portion of the survey, with Σ_M being equal to the mean of the three previous frequencies. The most important behavior was planning (Σ_M=19.5), followed by informing (Σ_M= 18.7), then problem solving (Σ_M=12.2).

The least important behaviors were networking (Σ_L=23.6), managing conflict and teambuilding (Σ_L = 11.3), and clarifying (Σ_L = 10.6).

Table 4. Relative Importance

Behavior	M1	M2	M3	Σ_M	L1	L2	L3	Σ_L
Plan	34.1	9.8	14.6	19.5	7.3	4.9	0.0	4.1
Inform	10.5	14.6	22.0	18.7	2.4	0.0	9.8	4.1
Problem	9.8	19.5	7.3	12.2	7.3	2.4	7.3	5.7
Clarify	7.3	17.1	9.8	11.4	9.8	12.2	9.8	10.6
Network	2.4	2.4	4.9	9.7	43.9	12.2	14.6	23.6
Motivate	12.2	4.9	9.8	9.0	7.3	14.6	7.3	9.7
Manage	9.4	2.4	7.3	6.4	2.4	12.2	19.5	11.3
Support	0.0	7.3	9.8	5.7	9.8	17.1	2.4	9.8
Consult	4.9	2.4	7.3	4.9	0.0	9.8	7.3	5.7
Monitor	0.0	12.2	2.4	4.9	4.9	7.3	12.2	8.1
Recognize	0.0	7.3	4.9	4.1	4.9	7.3	9.8	10.6

Behavior Needing Most Improvement

After the participants rated the importance and relevance Yukl's behaviors, the subjects then choose one behavior in which they felt they needed the most improvement. The results indicate that these senior officers felt behaviors needing the most improvement were interpersonal (networking 19.4%) and conceptual behaviors (planning 17.1% and problem solving 17.1%). The frequency statistics can be seen in Table 5.

Table 5. Needs Improvement

Behavior	%	CUM
Networking	19.4	19.4
Planning	17.1	31.5
Problem	17.1	47.6
Manage	12.2	60.8
Consult	12.2	68.1
Recognize	7.3	75.4
Inform	6.2	81.6
Monitor	4.9	86.5
Support	4.9	91.4
Motivate	4.8	96.2
Clarify	3.8	100.0

(n = 41)

Comparison of Operations versus Support Responses

The last table shows the results from a comparison of the means between operations personnel and support personnel. This response was tested using a 2-tail significance test. A significant difference is defined as $p \geq 0.05$. No significant differences were noted between operations and support personnel. The operation's career track consist of pilots, navigators, space and missile operators, command and control, intelligence, weather and operations support. Support personnel consists of all other career tracks except medical and professional.

Table 6. Significance Tests (2-Tail): Operations versus Support

Behavior	Operations versus Support				
	Operations (n=17)		Support (n=18)		ρ
	Mean	Std Dev	Mean	Std Dev	
Inform	4.7	0.56	4.5	0.70	
Consult	4.0	0.71	4.3	0.75	
Plan	4.3	0.59	3.9	0.80	
Problem Solve	4.4	0.49	4.0	0.77	
Clarify	4.1	0.97	3.9	1.05	
Monitor Ops	3.8	0.95	4.0	0.69	
Motivate	4.1	0.97	4.3	1.05	
Recognize	3.9	0.66	4.3	1.19	
Support	3.9	1.05	4.2	1.10	
Manage Conflict	3.9	0.82	4.1	1.08	
Network	3.5	1.12	3.7	0.89	

Note: * indicates significance > 0.05 (no significant differences)

Chapter 5

Discussion

This part of the paper reviews the hypotheses and discusses overall trends and implications to the AF. The results of hypotheses testing are presented relating the results to theory. Lastly, recommendations identifying avenues for further study are explored.

Hypotheses

H1: Conceptual Skills (Planning and Problem solving) importance ratings will be rated greater than all other importance ratings.
H2: Technical Skills (Informing, Clarifying, & Monitoring) importance ratings will be rated less important than all other behavior.
H3: Conceptual Skills (Planning and Problem solving) will be the skills identified as needing the most improvement.

Overall Trends and Implications

Generally, hypotheses testing empirically supports DAP 800-60, Executive Leadership; however, there were some interesting trends and implications. The absolute data did not perfectly correlate to the relative data. The instrument first asked participants to rate the importance of the behaviors. The mean values were very close. In other words the subjects rated everything as important. This suggests the results were inflated for the absolute data. For example, supporting and problem solving both have a $\underline{M} = 4.1$. There isn't a way to deduce a significant importance between the behaviors.

However, when "forced" to rank the behaviors, conceptual behaviors ranked as the most important and interpersonal behaviors ranked as least important. DAP 800-60, Executive Leadership, postulates that the importance of conceptual behaviors will be high and interpersonal behaviors will remain steady at the strategic level. Perhaps, a more sensitive instrument is needed to distinguish between the behaviors. Additionally, interpersonal behaviors also rated high in the "needs improvement" category. This is consistent with the absolute data. Again the implications are on how the AF educates its officers and the associated professional military education curriculum.

The first hypothesis (H1) was supported in that Planning ($\underline{M}$=4.2) and Problem solving (M=4.1) ranked as most important to the sample both with absolute and relative data. These results are consistent with SST and the Army model from DAP 600-80, Executive Leadership. The conceptual behaviors of planning and problem solving are identified as the most important to effective leadership. According to DAP 600-80, the higher one rises in the hierarchy, the more important conceptual skills become. Additionally, according to the SST what distinguished one domain from another was an increase in the requirements for complex planning and problem solving ability (Jacques, 1989).

The implications of the results to the AF are twofold. This is the first time the theory from DAP-600-80, Executive Leadership, has been empirically validated using AF Officers. But, perhaps the larger implication is on the PME system and the mentoring program. AWC students at the 0-5 level believe planning and problem solving are the most important behaviors. Where does the AF start to groom these behaviors? It would seem prudent to start the development process long before the behaviors are actually

described as the most important. Should these behaviors be the foundation for PME? If so, emphasis on these conceptual behaviors should start in AF pre-commissioning programs and continue throughout the continuum of professional military education.

The second hypothesis (H2), that the technical skills would be least important, was not supported (Informing $\underline{M}$=4.6, Clarify $\underline{M}$=4.1, Monitoring $\underline{M}$=4.0). Informing was ranked high in both the absolute and relative ratings. This result is not consistent with behaviors at the strategic level according to DAP 600-80. In fact, according to Katz, whose theory was combined with the SST to formulate DAP 600-80, technical behaviors should become less important as one reaches the strategic level of leadership.

Why did this happen? Logically, there seems to be two alternatives and associated implications. First, perhaps technical skills do not have less emphasis as one reaches the strategic level. If this is true, then leaders need all the skills at the top. Their plate just keeps getting more and more full. Educational requirements keep expanding as one moves up the organizational hierarchy. A broad-brush approach to all behaviors would be needed. However, there is another possibility.

The assumption that AWC students are at the strategic level is subject to critique. Even though these officers are preparing for the strategic level via the AWC curriculum, the survey asked for inputs based on their last job, which was probably at the operational level. DAP 600-80 identifies the strategic level as Colonels and General Officers. Lieutenant Colonels are categorized at the organizational level. The results for this hypothesis support the suggestion that AWC students are at the organizational level, albeit at a somewhat higher strata. The technical skills at the organizational level are suggested to be more important than at the strategic level.

The third hypothesis (H3) that conceptual skills would be identified as needing most improvement was supported (planning 17.1%, problem-solving 17.1%). This finding is consistent with the SST. According to Jacobs a discriminator between domains (levels) is the ability to perform the more complex behaviors like the conceptual behaviors. As one moves to the strategic level, it makes sense that the leader would need improvement in the more complex conceptual behaviors. Figure 5 illustrates the three most important behaviors and the three behaviors needing most improvement.

MOST IMPORTANT BEHAVIORS
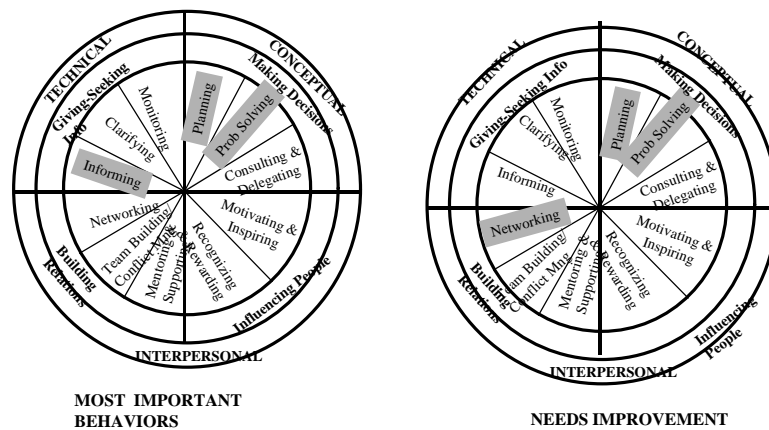
NEEDS IMPROVEMENT

Figure 5. Most Important and Needs Improvement Behaviors

The implications focus on the AF PME system and the mentoring program. Again the question of when and where to start grooming these skills comes into play. Based on a continuum approach to PME, the AF should foster these skills throughout the organizational hierarchy, starting in pre-commissioning and continuing through AWC. Additionally, mentoring, started early in one's career, could hone these skills. However, the mentor and the subordinate must be aware of what skills to focus on.

Recommendations

Overall, this study has added to the body of knowledge regarding leadership in the AF, however this study should be replicated using a random AF wide sample, a more sensitive instrument, and take into consideration a number of different variables.

First, a random sample of Lieutenant Colonels should be used to duplicate the study. The results could then be generalized to a larger population. This study should additionally be performed with AF Colonels and Generals to check for differences in behaviors or levels. Furthermore, to avoid inflation of results, a more sensitive instrument needs to be used to distinguish between the importance of behaviors.

The last recommendation involves looking at different variables. Is there a difference in leadership behaviors according to gender, job title, job type, span of control or nature of work? Similar studies to this one, incorporating different variables, are needed to answer these questions and produce a model of hierarchical leadership in the AF.

Conclusion

This paper has looked at the leadership behaviors self-reported by AWC students. All the behaviors were classified as important, but the most important behaviors were planning, informing, and problem solving. The least important behavior was networking. On the whole, these results empirically support the Army model found in DAP 600-80, Executive Leadership, albeit, there were some interesting exceptions. The reason for the exceptions may be because Lieutenant Colonels are not at the strategic level of leadership in the AF. However, overall trends supported DAP 600-80 in that conceptual skills were considered the most important.

Several implications can be drawn from this study. Most importantly, with a set of effective leadership behaviors identified, senior officers and supervisors can groom desired behaviors in future leaders. Similarly, PME programs can examine respective curricula to determine if these behaviors warrant special attention. Finally, this investigation suggests conceptual behaviors are most important to senior officers while interpersonal behaviors are less important.

Future research should continue to explore the relationship between leadership behaviors and effectiveness. Specifically, what differences exist across different career fields and why? What effect does a leader's situation (number of people supervised or officer's commissioning source) have on those behaviors needed for effective leadership? Finally, at what point do the effective behaviors change as the officer progresses through the organizational hierarchy (SST)? Answers to these questions will lead to fascinating insights, which will ultimately foster a more thorough understanding of this complex, multi-faceted concept enabling the AF to better groom strategic leaders for the Air and Space Force of the future.

Appendix A

Yukl's Taxonomy of Leadership Behaviors

Table 7. Yukl's Taxonomy

Making Decisions	**Planning and Organizing:** Determining long-term objectives/strategies, allocating resources according to priorities, determining how to use personnel/resources to accomplish a task efficiently, and determining how to improve coordination, productivity, and the effectiveness of the organizational unit.
	Problem Solving: Identifying work-related problems, analyzing problems in a timely but systematic manner to identify causes and find solutions, and acting decisively to implement solutions to resolve important problems or crises.
	Consulting: Checking with people before making changes that affect them, encouraging suggestions for improvement, inviting participation in decision making, incorporating ideas/suggestions of others in.
	Delegating: Allowing subordinates to have substantial responsibility and discretion in carrying out work activities, handling problems, and making important decisions.
Influencing	**Motivating and Inspiring:** Using influence techniques that appeal to emotion or logic to generate enthusiasm for the work, commitment to task objectives, and compliance with requests for cooperation, assistance, support, or resources; setting an example of appropriate behavior.
	Recognizing: Providing praise and recognition for effective performance, significant achievements, and special contributions, expressing appreciation for someone's contributions and special efforts.
	Rewarding: Providing or recommending tangible rewards such as a pay increase or promotion for effective performance, significant achievements, and demonstrated competence.
Building Relations	**Networking:** Socializing informally, developing contacts with people who are a source of information and support, and maintaining contacts through periodic interaction, including visits, telephone calls, correspondence, and attendance at meetings and social events.
	Team Building and Conflict Management: Facilitating the constructive resolution of conflict, and encouraging cooperation, teamwork, and identification with the work unit.
	Developing and Mentoring: Providing coaching and helpful career advice, and doing things to facilitate a person's skill acquisition, professional development, and career advancement.
	Supporting: Acting friendly, considerate, being patient, helpful, showing sympathy and support when someone is upset or anxious, listening to complaints and problems, looking out for someone's interests.
Give/Seek Info	**Monitoring:** Gathering information about work activities and external conditions affecting the work, checking on the progress and quality of the work, evaluating the performance of individuals and the organizational unit, analyzing trends, and forecasting external events.
	Clarifying Roles and Objectives: Assigning tasks, providing direction in how to do the work, and communicating a clear understanding of job responsibilities, task objectives, deadlines.
	Informing: Disseminating relevant information about decisions, plans, activities to people that need it to do work, providing written materials and documents, answering requests for technical information.
Source: Yukl, Gary A. *Leadership in Organizations* (Englewood Cliffs, NJ: Prentice Hall, 1994), 65.	

Appendix B

Correlation of Leadership Behavior Taxonomies

Table 8. Approximate Correspondence Among Major Taxonomies

Yukl (89)	Mintzberg (73)	Morse & Wagner (78)	Stogdill (63)	Bowers & Seashore (66)	House & Mitchell (74)	Luthans & Lockwood (84)	Page (85)
Supporting			Consideration	Leader Support	Supportive Leadership		
Consulting					Participative Leadership		
Delegating			Tolerance of Freedom			Motivating & Reinforcing	
Recognizing							
Rewarding							
Motivating	Leader Role	Motivating & Conflict Handling	Production Emphasis	Goal Emphasis	Achievement-oriented Leadership		Supervising
Managing Conflict & Team Building			Integration	Interaction Facilitation		Managing Conflict	
Developing		Providing Development				Training & Developing	
Clarifying							
Planning & Organizing	Resource Allocator; Entrepreneur	Organizing & Coordinating	Initiating Structure	Work Facilitation	Directive Leadership	Planning & Coordinating	Planning & Organizing: Strategic Planning
Problem Solving	Disturbance Handler	Strategic Problem Solving	Role Assumption; Demand Reconciliation			Problem Solving & Deciding	Decision Making
Informing	Disseminator	Information Handling				Exchanging Information	Consulting
Monitoring	Monitor					Monitoring & Controlling	Monitoring Indicators, Controlling
Representing	Spokesman; Negotiator; Figurehead		Representing; Influencing Superiors			Interacting with Outsiders;	Representing
Networking & Interfacing	Liaison	Managing Environment & Resources				Socializing & Politicking	Coordinating

Source: Bass, Bernard M., Bass & Stogdill's Handbook of Leadership, Theory, Research & Managerial Applications, 3rd Edition, Free Press, 1990, p.34

Appendix C

Strategic Leader Development Inventory

Table 9. Strategic Leader Development Inventory.

CONCEPTUAL SKILLS AND ABILITIES	POSTIVE ATTRIBUTES	NEGATIVE ATTRIBUTES
Professional Competence	Interpersonal Competence	Technical Incompetence
Conceptual Flexibility	Empowering Subordinates	Self-serving/Unethical
Future Vision	Team Performance Facilitation	Micromanager
Conceptual Competence	Objectivity	Arrogant
Political Sensitivity	Initiative/Commitment	Explosive/Abusive
		Inaccessible

Source: Jacobs, T. Owen. "A Guide to the Strategic Leader Development Inventory." In *Leadership and Ethics.* Edited by Gail Arnott et al. (Maxwell AFB, AL: Air University Press, 1997), 88.

Appendix D

Staff Summary Sheet

STAFF SUMMARY SHEET

	TO	ACTION	SIGNATURE (*Surname*), GRADE AND DATE		TO	ACTION	SIGNATURE (*Surname*), GRADE AND DATE
1	AWC/CC	Appr		**6**			
2	SOS/CC	Appr		**7**			
3				**8**			
4				**9**			
5				**10**			

SURNAME OF ACTION OFFICER AND GRADE	SYMBOL	PHONE	TYPIST'S INITIALS	SUSPENSE DATE
Berry, Maj	ACSC/Sem 40	3-2060	wdb	

SUBJECT	DATE
Leadership Behaviors Survey	17 Nov 97

SUMMARY

1. The Leadership Behaviors Survey at Tab 1 was approved by HQ AU for administration at all Air University schools. This package is requesting the AWC and SOS Commandants' approval to conduct this survey at their schools NLT 19 December 1997.

2. The survey supports an ACSC Research project attempting to define and characterize those critical leadership behaviors needed at the various levels of responsibility in a military organization. The target audience is the student body at each school. The survey, based upon a validated version of Dr. Gary Yukl's Managerial Practices Survey, should take only 5-10 minutes to complete. The survey will be administered by coordinating with the appropriate offices within each school, but will not require additional man-hours on the part of the faculty at either school. Results of the study and survey will be available through ACSC/DR o/a Jun 98.

3. RECOMMENDATION: AWC/CC and SOS/CC approve the administration of this survey by signing the SSS coordination block above.

FOR THE COMMANDANT

DAVID A. MILEWSKI, Lt Col, USAF
Director, Evaluation Division

         1 Tab
         Leadership Behaviors Survey (AU Control #XXX)

         AU SCN 97-47, Exp 31 Jan 98, Per HQ AU/XO

AF FORM 1760, SEP 04 *(EF-V4)*   *(FORM FL02)*   **PREVIOUS EDITION WILL BE USED.**

Appendix E

Survey Instrument

INFORMED CONSENT
Major John D. Garvin, ACSC/DEA, 3-6947

Purpose: This project is investigating how effective leadership skills may vary according to rank, career field, and branch of service. The leadership skills being investigated are those defined by Yukl's taxonomy (1990): informing, consulting and delegating, planning and organizing, problem solving, clarifying roles and objectives, monitoring operations and environment, motivating, recognizing and rewarding, supporting and mentoring, managing conflict and team building, and networking.

Status of Participants: The sample will consist of approximately 1,200 US military officers who are PME students at Air University. The company grade officers will be USAF students at Squadron Officer School (about 600). The field grade officers will be USAF, USN, USMC, and USA students (about 500) at Air Command and Staff College, and the USAF, USN, USMC, and USA students at Air War College (about 100).

Use of Data: All data will be kept confidential and are protected by the Privacy Act of 1974. All results will be reported as group summaries. No participant's name will appear in any reports, papers, or publications resulting from the study.

Risks to Participants: There are no risks associated with participation in this study. No known data or results will be submitted for inclusion in your personnel files.

Feedback to Participants: Copies of the final report will be available from ACSC/DER.

How to Participate: The entire survey requires about 5-10 minutes to complete. Your seminar leader or flight commander will provide instructions on distribution and collection of the surveys. Detach this sheet after completing, return to your flight commander/seminar leader.

Although this will take some of your valuable time, you will be helping to improve the leadership of those who will follow you. Therefore, your thoroughness and honesty are essential to obtaining valid results and is greatly appreciated.

Consent of Participant: Please read and initial each statement.

_____ I have read this page and agree to participate.

_____ I consent to the use of this information for the study.

_____ I understand that I can receive the results through the report of this study, obtainable through ACSC/DER.

| Participant's Printed Name | Participant's Signature | Date |

AFTER SIGNING, DETACH THIS PAGE, GIVE IT TO YOUR SEMINAR LEADER OR FLIGHT COMMANDER, AND CONTINUE THE SURVEY

LEADERSHIP BEHAVIORS SURVEY

PART I. DEMOGRAPHIC INFORMATION

In Part I, please circle the appropriate answer to each demographic category. If a particular demographic does not apply, please skip to the next question.

1. **Rank:**　　　　　　　　O-3　　　　　O-4　　　　　O-5　　　　　O-6

2. **Total Years Selected BPZ (All Grades):** N/A　　1　　2　　3　　4　　5

3. **Service:**　　　　　　　　Army　　　　Navy　　　　Air Force　　　Marines

4. **Component:**　　　　　　AD　　　　　Reserve　　　Guard

5. **School:**　　　　　　　　SOS　　　　ACSC　　　　AWC

6. **Total Years of *Commissioned* Service**:

　　< 4.0　　　　　4.0 to 7.0　　　　7.1 to 11.0　　　11.1 to 15.0　　　>15.0

7. **AFSC/Career Field (Air Force Only)**:

11XX (Pilot)	32XX (CE)	52XX (Chaplain)
12XX (Nav/EW)	33XX (Comm/Comp)	61XX (Sci/Research)
13XX (Space/C2/Missile)	34XX (Services)	62XX (Dev Eng)
14XX (Intel)	35XX (PA)	63XX (Acquisition)
15XX (Weather)	36/37XX (Personnel)	64XX (Contract)
16XX (Ops Support)	38XX (Manpower)	65XX (Finance)
21XX (Logistics)	4XXX (Medical)	71XX (OSI)
31XX (SP)	51XX (Law)	

8. **Gender:**　　　　　　　　Male　　　　　Female

9. **Number of People Supervised (Directly and Indirectly) in *Most Recent Job*?**

　　0　　　　1-5　　　　6-10　　　　11-20　　　　21-50　　　　51-100　　　　101+

Effective leadership requires many different types of behavior. Eleven categories of behavior required for effective leadership are listed below. Please use the **scale at right to RATE the importance** of each leadership behavior category according to its overall importance or relevance for effective performance in your **most recent job before becoming a student** at Maxwell AFB.

1 = Not Relevant
2 = Slightly Important
3 = Moderately Important
4 = Very Important
5 = Absolutely Essential

_____ **Informing**: Disseminating relevant information about decisions, plans, and activities to people that need it to do their work; answering requests for technical information and telling people about the organizational unit to promote its reputation.

_____ **Consulting and Delegating**: Checking with people before making changes that affect them, encouraging suggestions for improvement, inviting participation in decision making, incorporating the ideas and suggestions of others in decisions, and allowing others to have substantial responsibility and discretion in carrying out work activities and making decisions.

_____ **Planning and Organizing**: Determining long-term objectives and strategies for adapting to environmental change, determining how to use personnel and allocate resources to accomplish objectives, determining how to improve the efficiency of operations, and determining how to achieve coordination with other parts of the organization.

_____ **Problem Solving**: Identifying work-related problems, analyzing problems in a timely but systematic manner to identify causes and find solutions, and acting decisively to implement solutions and resolve important problems or crises.

_____ **Clarifying Roles and Objectives**: Assigning tasks, providing direction in how to do the work, and communicating a clear understanding of job responsibilities, task objectives, deadlines, and performance expectations.

_____ **Monitoring Operations and Environment**: Gathering information about work activities, checking on the progress and quality of the work, evaluating the performance of individuals and the organizational unit, and scanning the environment to detect threats and opportunities.

_____ **Motivating**: Using influence techniques that appeal to emotion, values, or logic to generate enthusiasm for the work; commitment to task objectives; and compliance with requests for cooperation, assistance, support or resources; also setting an example of proper behavior.

_____ **Recognizing and Rewarding**: Providing praise, recognition, and rewards for effective performance, significant achievements, and special contributions.

_____ **Supporting and Mentoring**: Acting friendly and considerate, being patient and helpful, showing sympathy and support, and doing things to facilitate someone's skill development and career enhancement.

_____ **Managing Conflict and Team Building**: Encouraging and facilitating the constructive resolution of conflict, and encouraging cooperation, teamwork, and identification within the organizational unit.

_____ **Networking**: Socializing informally; developing contacts with people who are a source of information and support; maintaining contacts through periodic interaction, including telephone calls, correspondence, and attendance at meetings and social events.

Based upon **your most recent job before becoming a student** at Maxwell AFB, rank order the **three MOST important/relevant** behaviors to being a successful leader in that job. Assign a "1" to the most important, a "2" to the second most important, and a "3" to the third most important.

_____ **Informing**

_____ **Consulting and Delegating**

_____ **Planning and Organizing**

_____ **Problem Solving**

_____ **Clarifying Roles and Objectives**

_____ **Monitoring Operations and Environment**

_____ **Motivating**

_____ **Recognizing and Rewarding**

_____ **Supporting and Mentoring**

_____ **Managing Conflict and Team Building**

_____ **Networking**

Based upon **your most recent job before becoming a student** at Maxwell AFB, rank order the **three LEAST important/relevant** behaviors to being a successful leader in that job. Assign a "1" to the least important, a "2" to the second least important, and a "3" to the third least important.

_____ **Informing**

_____ **Consulting and Delegating**

_____ **Planning and Organizing**

_____ **Problem Solving**

_____ **Clarifying Roles and Objectives**

_____ **Monitoring Operations and Environment**

_____ **Motivating**

_____ **Recognizing and Rewarding**

_____ **Supporting and Mentoring**

_____ **Managing Conflict and Team Building**

_____ **Networking**

Based upon **your most recent job before becoming a student** at Maxwell AFB, check **(X)** the one
behavior in which you feel you need the most improvement.

       _____   **Informing**

       _____   **Consulting and Delegating**

       _____   **Planning and Organizing**

       _____   **Problem Solving**

       _____   **Clarifying Roles and Objectives**

       _____   **Monitoring Operations and Environment**

       _____   **Motivating**

       _____   **Recognizing and Rewarding**

       _____   **Supporting and Mentoring**

       _____   **Managing Conflict and Team Building**

       _____   **Networking**

All responses should be based upon *your most recent job*

Please return your completed survey to your seminar leader or flight commander.

Thank you for your time and cooperation

Appendix F

Supporting Table

Table 10. Importance of Yukl's Behaviors

Importance of Behavior (In Order of Precedence)	Descriptive	Frequency (M1)	Results (Sum)
1 Informing	1	8	9
2. Planning & Organizing	4	14	18
3. Problem Solving	7	4	11
4. Consulting & Delegating	5	2	7
5. Clarifying Roles	8	3	11
6. Motivating	2	5	7
7. Monitoring Operations	10	0	10
8. Recognizing & Rewarding	3	0	3
9. Managing Conflict	9	4	13
10. Supporting & Mentoring	6	0	6
11. Networking	11	1	12

Glossary

ACSC   Air Command and Staff College
AFB   Air Force Base
AFI   Air Force Instruction
AFPC   Air Force Personnel Center
AFSC   Air Force Specialty Code (job task or career field)
ANOVA   Analysis of Variance
AWC   Air War College

DAP   Department of the Army Pamphlet
DoD   Department of Defense

GTB   General Theory of Bureaucracy

HQ   Headquarters

LBDQ   Leadership Behavior Description Questionnaire

MBS   Managerial Behavior Survey
MPS   Managerial Practices Survey

OI   Operating Instruction
OSU   Ohio State University

SLDI   Situational Leadership Development Instrument
SOS   Squadron Officer School
SPSS   Statistical Package for the Social Sciences
SST   Stratified Systems Theory
STD DEV   Standard Deviation

USAF   United States Air Force

$\underline{\Sigma}$ Average

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