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Executive Leadership: Requisite Skills and Developmental Processes for the U.S. Army's Civilian Executives

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Research Note

EXECUTIVE LEADERSHIP: REQUISITE SKILLS AND DEVELOPMENTAL PROCESSES FOR THE U. S. ARMY'S CIVILIAN EXECUTIVES

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DISCLAIMER

Informal comment from the SES Management Office indicates that there may be inaccuracies in the classification of SES grades by positions in the analyses reported in this document. However, it was not possible to substantiate these informal comments at the time it was necessary to proceed with the printing of the report. It therefore is possible that some comparisons between SES and supposedly equivalent General Officers could be in error. The decision was made to publish with possible inaccuracies because the number of such comparisons is small in relation to the total volume of analyses done.

ABSTRACT

During 1985-86, an extensive data base was assembled from interviews of Three- and Four-star Army General Officers. During the 1989-90 time frame, these were supplemented with interviews of One- and Two-star General Officers. Those interviews were subjected to extensive content analysis to identify critical task performance requirements, and skills, knowledges, abilities, and other attributes requisite to effective performance of those tasks. The results of analyses of these interviews have been published elsewhere. The present report details parallel analysis of interviews with twenty-seven civilian members of the Executive (ES) and Senior Executive Services (SES). General findings were that members of the SES reported similar task performance requirements and the need for similar skills and abilities as their General Officer counterparts. Nearly half of the sample was performing duties judged to be strategic in scope and scale. However, there were indications that the potential of some members of the SES exceeded their duty position requirements, i.e., they were not being fully challenged by the complexity and responsibility inherent in their jobs.

FOREWORD

While work on executive performance requirements dates from the mid-fifties, systematic work on complexity dimensions and consequently required executive capacities dates only from the mid-seventies. Work done since that time strongly points to the importance of complex cognitive/conceptual skills for successful executive performance.

In the mid-eighties, the U.S. Army Research Institute (ARI) initiated a research program with the objective of documenting the performance requirements and necessary capabilities of U.S. Army senior and strategic leaders. Over 125 interviews with both uniformed and civilian senior and strategic leaders were obtained. While other skills and attributes clearly are important, the body of work provides strong evidence supporting the presumed importance of cognitive/conceptual skills, and for their sequential and progressive growth over time in the face of increasing challenge from progressively more senior position assignments.

The findings bearing on uniformed senior and strategic leaders have been published as separate Technical Reports. The present report is a companion piece to them. It confirms the importance of cognitive/conceptual skills for civilian executives as well, and provides information relevant to policy issues on developmental processes and the interface between civilian and uniformed senior and strategic leaders.

This work was accomplished as a part of the program of the Strategic Leadership Technical Area (SLTA) of the Manpower and Personnel Research Division of the U.S. Army Research Institute for the Behavioral and Social Sciences.

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Director

EXECUTIVE LEADERSHIP: REQUISITE SKILLS AND DEVELOPMENTAL PROCESSES FOR THE U. S. ARMY'S CIVILIAN EXECUTIVES

EXECUTIVE SUMMARY

Requirement:

This research was performed as a part of a broad program of research initiated by DCSPER, DA in 1985, to improve the development of senior and strategic leaders in the U.S. Army. To achieve this objective, an extensive series of interviews with General Officers was conducted between 1985 and 1989. However, mobilization plans envision and current practice recognizes the interchangeability of civilian and uniformed decision makers at the highest levels of the Department of Army. It thus was essential to include civilian executives in the research. This report provides findings from analysis of civilian executive interviews paralleling companion reports containing findings from interviews with uniformed members.

Procedure:

Interviews were conducted with 27 members of the Executive and Senior Executive Services. As was done in the parallel general officer research, the tape-recorded interviews were transcribed verbatim and content analyzed to describe the nature of incumbent assignments, requisite skills, working relationships, and developmental processes.

To a large extent, the content analysis was guided by Stratified Systems Theory (Jaques, 1976). Organizational mission, requisite work, and leadership issues were described and compared to developmental sequences and level-specific organizational requirements.

Findings:

! Nature of Work. The nature of the work in most SES assignments was found to be in the executive domain, as described by SST. Twelve of the 23 SES incumbents appeared to be functioning at the executive level according to the measures applied; the same was not found to be true of the Executive Service incumbents interviewed.

! Required Skills. The profiles of required skills differed substantially from that found with uniformed senior and strategic leaders. A smaller proportion of ES/SES members spoke to the need for international understanding, though equal proportions were concerned with need for understanding of issues of Joint and Unified matters. With a caution stemming from the small number in the sample, a much smaller

proportion cited risk-taking and innovation as required skills. On the other hand, a larger proportion emphasized the importance of consensus building and professed longer time frames for planning.

! Reporting Relationships. The higher-level ES/SES members of the sample had substantially fewer dual-reporting relationships -- a measure of complexity and authority of position -- than their military counterparts. In addition, reporting relationships occasionally appeared to be "inverted" with a higher-ranking (by protocol code) civilian executive reporting to a lower-ranking uniformed member. Authority relationships and protocol levels thus may not accurately reflect the level of work performed by these ES/SES members.

! Development Needs. Most of the sample had been trained as professional or technical specialists, and thus required little or no development in that regard. However, development to improve generalist management and leadership skills was seen as a clear requirement. While civilian leader development programs have been implemented since the interviews in this research were done, the development process for officers clearly remains more systematic and highly organized than for civilians.

Utilization of Findings:

These findings have been provided to the Senior Executive Service Management Office (SESMO), ODCSPER, DA, for utilization in policy decision-making and ES/SES member development.

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INTRODUCTION

Philosophical and Theoretical Underpinnings

In a free and democratic society, the value and place of a national military can change swiftly as world conditions change. Though obviously essential for survival in time of war -- and many would say in time of peace as well -- armies based in democratic societies inevitably suffer in peacetime as other national priorities compete for resources. To ensure that the needs, policy directions, and priorities of the society would indeed be preeminent, the founding fathers prescribed Constitutionally that the Executive Branch of the government would exercise command of the military forces of the nation. In current practice, that command flows through members of the Executive Service (ES) who are politically appointed and (many of whom are) confirmed by the Congress. The uniformed members of the military services report to these appointees as appropriate by level, respond to their policy guidance, and provide expert military advice bearing on the strategic employment of force and/or the strategic resourcing of the military services.

The federal government's executive (ES) and Senior Executive (SES) Services were established in 1978 as a result of the Civil Service Reform Act. These executive services are themselves complex. There are six pay positions, devised in conjunction with the Office of Management and Budget, and six protocol codes designated by the U. S. Department of State. For the civilian executives in the Department of Defense, there are the additional constraints of authority and protocol relationships with a rigid and distinctive hierarchy of grades and ranks that place civilian leadership either above or below but in only one instance exactly equal to the ranks of their uniformed counterparts, from Colonel through and beyond General. Thus, for example, ES-2 positions, which comprise the Deputy Under Secretaries of the military services, are equivalent in privilege and protocol with the rank of General, but ES-3 positions, which comprise the Principal Deputies (formerly, the Assistant Secretaries) are above the rank of Lieutenant General but below the rank of General. Further, in the 1980s, positions in the executive services replaced top GM grades -- 16, 17, and 18. The majority of conversions were to SES positions 4 and 5, with some conversions of Grade 15 to SES position 6, the bottom of that range. There is the added distinction of political appointments, ES positions 1 through 3, from career field executives, SES positions 4 through 6. Political appointees work for four to eight years, leaving the task of maintaining institutional history, continuity, and stability to the career field civilian and military leadership. And reducing the base for institutional continuity even further, among the career field professionals are scientists, lawyers, logisticians, and other professionals with specialized skills. In consequence, civilian executive developmental histories, professional backgrounds, duties and responsibilities, levels of authority, and spans of control vary greatly.

It is a principal purpose of this study to examine this military-civilian contretemps at the highest levels of leadership.

Context of the Research

As part of its ongoing research program on executive and senior leadership development, the United States Army Research Institute for the Behavioral and Social Sciences (ARI) in 1984 conducted a series of over 70 interviews with U. S. Army Three- and Four-star General Officers and members of the Army's executive services. The objectives of the research were to:

(a) develop an understanding of the nature of work at senior and strategic leadership levels; and,

(b) test a theory of organizational structure that was seen as potentially useful for facilitating executive development.

A limited content analysis of the interviews confirmed the utility of Stratified Systems Theory (Jaques, 1976) as a template for assessing and describing broad categories of performance that are required of senior and executive Army leaders. A research report, *Senior Leadership: Performance Requirements at the Executive Level* (Jaques, Clement, Rigby, and Jacobs, 1985), presented an overview of the levels of Army leadership and requirements. A second, in-depth analysis of the data was then designed to identify the specific knowledges and skills that are required to accomplish the work at uniformed executive Army levels.

The results of the analysis for uniformed strategic and senior leaders were described in two earlier, related reports, *Executive Leadership: Requisite Skills and Developmental Processes for Three- and Four-Star Assignments* (Harris and Lucas, 1991) and *Senior Leadership in a Changing World Order: Requisite Skills for U. S. Army One- and Two-star Generals* (Lucas and Markessini, 1992). This research note presents the corresponding results of an analysis of interviews of incumbents of the Army's executive and senior executive positions.

Because this study is a companion to the two earlier documents, the theoretical basis for the research will not be repeated. The research procedures and findings are presented in the following three sections:

* Method
* Results and Discussion, and
* Discussion.

Research Objectives

The specific objectives of the interview analysis results were to:

(a) Characterize the work of the civilian executive and senior executive leaders

(b) Describe the knowledges and skills required to accomplish the work at those levels, and

(c) Compare the skills and developmental experiences of the Army's civilian executive and senior executive leadership with those of its uniformed counterpart.

METHOD

Sample Selection, Size, and Composition

Strategic leadership positions in the U. S. Army's uniformed service were defined, at least initially, as Three- and Four-star assignments. In conjunction with the Management Office of the Senior Executive Service and the Deputy Assistant Secretary for Civilian and Personnel Policy, twenty-seven ES or SES positions were identified as potentially equivalent to uniformed executive assignments. Criteria included reporting patterns, span of control, level of uncertainty in decision making, and limits of decision authority.

Four ES and 23 SES civilian executives were interviewed. These executives were distributed across protocol codes, which reflect civilian leadership status, and organizational sectors of the U. S. Army. Those in the executive service, political appointees, were all at protocol code 3; those in the senior executive service, career field civilian leaders, were concentrated at protocol code 5. There were five incumbents with the protocol code 4; 16 with the protocol code 5; and, two with the protocol code 6. Subjects worked in either the Office of the Secretary of the Army (14), the Army Staff (5), or the Department of the Army (8). One was in a dual-reporting position under primarily the Secretary of the Army (SA) and secondarily the Deputy Chief of Staff for Personnel (DCSPER). Two others were found to have dual-reporting responsibilities within their own organizations. Table 1 shows the interview sample and the relationships just discussed.

Interview Protocol

The same interview protocol was used for both the uniformed and the civilian samples. Topics included:

* principal duties and functions

* time span of work
* organizational structure and resourcing
* key relationships
* attributes and development of civilian and uniformed military leadership
* successful and unsuccessful outcomes
* impact of national objectives, and
* utilization and development of the civilian leadership.

Additional questions under each topic area were designed to gather detailed information on the nature and complexity of work performed by each respondent.

Interview Procedure

The interviews were conducted on-site by a team of scientists versed in stratified systems theory (SST). The interviews were tape-recorded in their entirety and verbatim transcripts were prepared for each completed interview. To protect anonymity, identification numbers were assigned to each individual record and all references to personal names were removed.

Design and Analysis

The models and principles of stratified systems theory were used to develop hypotheses to be tested by a content analysis. An application of the SST model to U. S. Army organizations is shown in Table 2.

Response categories were developed to describe:

* the nature of SES and ES positions
* requisite skills for levels of SES and ES work, and
* developmental patterns and opportunities.

The interviews were prepared for analysis in a three-step process. First, the transcripts were reconstructed to conform to the protocol. Then, a computer program was written to sort the responses by category. As a third step, variables were defined for critical incident analysis.

Results of the content analysis were then organized by category, using both percentages of responses and individual examples of critical incidents. Percentages of responses were compared across categories, and summary tables were prepared to facilitate discussion and comparison to the earlier analyses of General Officer interviews.

Table 1
U. S. Army Civilian Executive Positions Selected for the ARI Subject Sample

Office of the Secretary of the Army, United States
The Executive Service

1. Under Secretary of the Army, Office of the Secretary of the Army.
2. Assistant Secretary of the Army for Financial Management, Office of the Secretary of the Army.
3. General Counsel, Office of the Secretary of the Army.
4. Assistant Secretary of the Army, Research, Development, and Acquisitions, Office of the Secretary of the Army.

The Senior Executive Service

Protocol Code 4

5. Deputy Under Secretary, Office of the Secretary of the Army.
6. Principal Deputy and General Counsel to the Chief of Legal Services, Office of the Secretary of the Army.
7. Principal Deputy Assistant Secretary for Manpower and Reserve Affairs, Office of the Secretary of the Army.
8. Administrative Assistant to the Secretary of the Army, Office of the Secretary of the Army.

Protocol Code 5

9. Deputy Assistant Secretary, Financial Systems, Financial Management, Office of the Secretary of the Army.
10. Deputy Assistant Secretary for Financial Management, Office of the Secretary of the Army.
11. Deputy Under Secretary, Operations Research, Office of the Secretary of the Army.
12. Assistant Deputy Under Secretary, Operations Research, Office of the Secretary of the Army.
13. Deputy General Counsel for Military and Civil Affairs, Office of the Secretary of the Army.
14. Deputy Assistant Secretary for Civilian and Personnel Policy and Equal Opportunity Employment, Manpower and Reserve Affairs, Office of the Secretary of the Army.

The Army Staff, United States

Protocol Code 4

15. Deputy Comptroller of the Army, Office of the Chief of Staff, U. S. Army

Protocol Code 5

16. Special Assistant and Safety Officer to Deputy Chief of Staff for Logistics, The Army Staff.
17. Director and Deputy Executive, Research, Development, Testing, and Evaluation, Directorate of Army Research and Technology, The Army Staff.
18. Deputy Director of the Budget, The Army Staff.
19. Technical Advisor, Office of the Deputy Chief of Staff for Operations and Plans, The Army Staff.

Department of the Army, United States

20. Assistant Deputy for Resources and Management, Office of the Commanding General, Army Materiel Command, Department of the Army.
21. Assistant Deputy Chief of Staff, Personnel, Army Materiel Command, Department of the Army.
22. Assistant Deputy for Science and Technology and Director of Laboratories, Army Materiel Command, Department of the Army.
23. Director, U. S. Army Concepts Analysis Agency, FOA
24. Deputy, Finance and Accounting Center, Department of the Army.
25. Deputy Chief of Staff for Information Management, Army Materiel Command, Department of the Army.

Protocol Code 6

26. Chief, Construction Division, Engineering and Construction, Army Corps of Engineers
27. Civilian Personnel Officer, U. S. Army, Europe

Note: Interviews were conducted before a major reorganization of the Department of Defense in which, for example, Information Management was moved from the Army Staff to the Secretariat. Protocol codes and position titles have been validated by the U. S. Army's Senior Executive Service Management Office.

Table 2
Functional Domains in the Requisite Stratified Systems Theory Organization

Time Span	Stratum	Functional Domain
		Systems
	VII ARMY	Operates in a nearly unbounded world environment,
20+ yrs.	----------	Identifies feasible futures, develops consensus on specific futures to create, and builds required resource bases for whole systems which can function in the
	VI CORPS	environment.
10+ yrs.	----------	Conditions environment to be "friendly" to systems thus created.
		Creates a corporate culture and value system compatible with societal values and culture, to serve as a basis for organizational policies and climate.
		Organizational
	V DIVISION	At Stratum V, operates bounded open systems thus created, assisted by individual at Stratum IV in
5+ yrs.	----------	managing adaptation of those systems within the environment by modification/maintenance/fine tuning
	IV BRIGADE	of internal processes and climate, and by oversight of subsystems.
2+ yrs.	----------	
		Production
	III BATTALION	Runs face-to-face (mutual recognition or mutual knowledge) subsystems -- units or groups
1+ yrs.	----------	engaged in specific differentiated functions but interdependent with other units or groups, limited by
	II COMPANY	context and boundaries set with the larger system.
3+ mos.	----------	
	I PLATOON	

RESULTS

The results are presented in four sub-sections:

Nature of SES and ES Work
Requisite Knowledge and Skills
Developmental Processes, and
Levels of SES and ES Work.

First is a description of the nature of work in SES and ES positions, including reporting channels and time span of work. The second sub-section lists stated skills for SES and ES positions and compares them to skills identified by and for uniformed executive leaders. In the third sub-section, developmental processes are discussed, including potential opportunities for increased understanding of the civilian-military interface. Finally, criteria based upon the nature of SES and ES work and its skill requirements are presented as a composite picture of SES and ES levels of work. For the sake of brevity, the subject sample is at times referred to as ES/SES respondents.

Nature of SES and ES Work

Reporting Channels

The low number of dual-reporting assignments for SES and ES subjects -- there were three -- contrasts sharply with the relatively high number of such assignments found in both Three- and Four-star positions (Table 3). This difference probably reflects the division between the U. S. Army's operational and provisioning functions. Even though the Army fights in Joint and Unified Commands, individual services maintain their own support functions. Because the Army's civilian work force is totally in the role of provisioning, which is an intra-service function, fewer civilians would have the requirement for inter-service, or multiple, reporting channels.

The reporting channels of SES and ES members assigned to the Secretariat seemed to be generally clear-cut. Respondents noted their authority relationships with the Secretary, the Under Secretary, a Deputy, or an Assistant Secretary depending on the scope of their responsibilities.

By contrast, reporting relationships in the Department of the Army (DA) were more confused. These respondents reported directly to a variety of General Officer ranks, from Two- through Four-star. Two respondents represented Four-star Generals as their "real boss," seven worked for Three-star Generals, and four reported working for

Table 3

Dual-Reporting Channels for U. S. Army General Officers and Members of the Civilian Executive and Senior Executive Services

	Total	No. Dual Reporting	% Dual Reporting
Four-star General Officer	13	10	77%
Three-star General Officer	47	21	45%
SES and ES	27	3	11%

Two-star Generals. However, those working for Two-star Generals reported their own positions as Two-star equivalent. Part of the confusion arises from the discrepancy between SES pay positions and protocol levels, a topic that will be addressed later in this report.

Time Span of Work

Figure 1 shows the reported time spans for the work of the 27 SES and ES respondents. Time frames ranged from one year to 20 years and beyond. Time spans for work reported by One-, Two-, Three-, and Four-star Generals are also presented in Figure 1 for the purpose of direct comparison, with the caveat that two different constructs may be operative and that interview procedures used in the earlier data collection appear to have confounded the two. For the civilian leaders and for One- and Two-star Generals, proportions are based on the number of responses made in a given planning time frame. For the Three- and Four-star Generals, proportions are based on the number of General Officers responding in a given time span.

Two different constructs may be at play here: (a) the time span needed for the accomplishment of objectives, with or without the guidance of the author of the task; and, (b) the "time horizon" with which one can envision or anticipate events in the future. The one may encompass the other. For example, typically, the time span for work is briefer than that for a plan. Moreover, an executive could implement a predecessor's plan ably without any requirement whatsoever to envision or forecast future events or conditions; the emphasis is typically upon means to completion rather than the other way around, upon the objectives. Both constructs appear to demand mental mapping, in order to encompass the processing of multiple cause and effect relationships as explained in stratified systems theory. Operational definitions for envisioning horizons, planning time frames, and time spans for work appear in Appendix A.

A post hoc analysis was performed on the data using a more refined method of content analysis. All SES and ES comments speaking to the time span for work, the time frame of planning, whether their own or those of others, and the horizon for envisioning were extracted and the number of comments tallied for each respondent. Seventy percent of the SES and ES commented on the time frames for planning with which they had direct or indirect experience in comparison to fifty percent -- 21 of 42 -- of the Brigadier Generals and seventy percent -- 14 of 20 -- of the Major Generals. The mean, modal, and maximum planning time frames for the ES/SES and the General Officers are presented in Table 4. Table 7, Appendix B, presents subject-by-subject tabulations of the citations of the terms of years for work, planning, and envisioning.

As can be seen, the modal planning time frame for the civilian executives was five years; six of the 27 ES/SES respondents (22%) reported that planning time frame. This time span corresponds to the planning and budgeting cycle that drives much of the work of both uniformed and civilian executive leaders. Two ES/SES respondents (7%) indicated that either their work or plans were framed in time periods greater than 20 years, beyond the year 2000.

The mean planning time frame reported by and for the Brigadier Generals is that predicted by the Jaques theory. But the mean planning time frame reported by and for the Major Generals falls below the theoretical prediction of five to ten years, and that for the Three- and Four-star Generals is even more so. The modal responses all fall at five years. What appeared to constrain the planning outlook of these General Officers as well as the ES/SES is the five year POM, a critical task requirement for them all.

On that hypothesis, a second post hoc analysis was performed. Only the *maximum* time frames at which each General Officer and ES/SES claimed he worked were computed, on the thesis that the stated maximum would represent individual performance capability as opposed to the task requirements of particular assignments. The means derived on this basis are higher and more varied. In addition, for the Four-, Three-, and Two-stars, the means are indeed those or close to those predicted by stratified systems theory -- more than 20 years, more than ten years, and more than five years, respectively. Only the Brigadier Generals violate the theoretical prediction[1]. For

[1]Lucas and Markessini (1992) offer an explanation for this. The cohort of Brigadier Generals from which the sample was drawn may be exceptional for any number of possible reasons, or the sample itself may have been unrepresentative. Possibly, the *proportion* itself, (50%) of the sample, speaking to the issue -- substantially smaller than those at the higher ranks, which were virtual two-thirds majorities -- was unrepresentative of the sample as a whole. More probably, a high achieving group spoke out. Three of the Brigadier Generals were in billets at times that demanded they function at a long planning outreach. If their scores, which are outliers in the distribution, are excluded, the performance capability mean is 9.4.

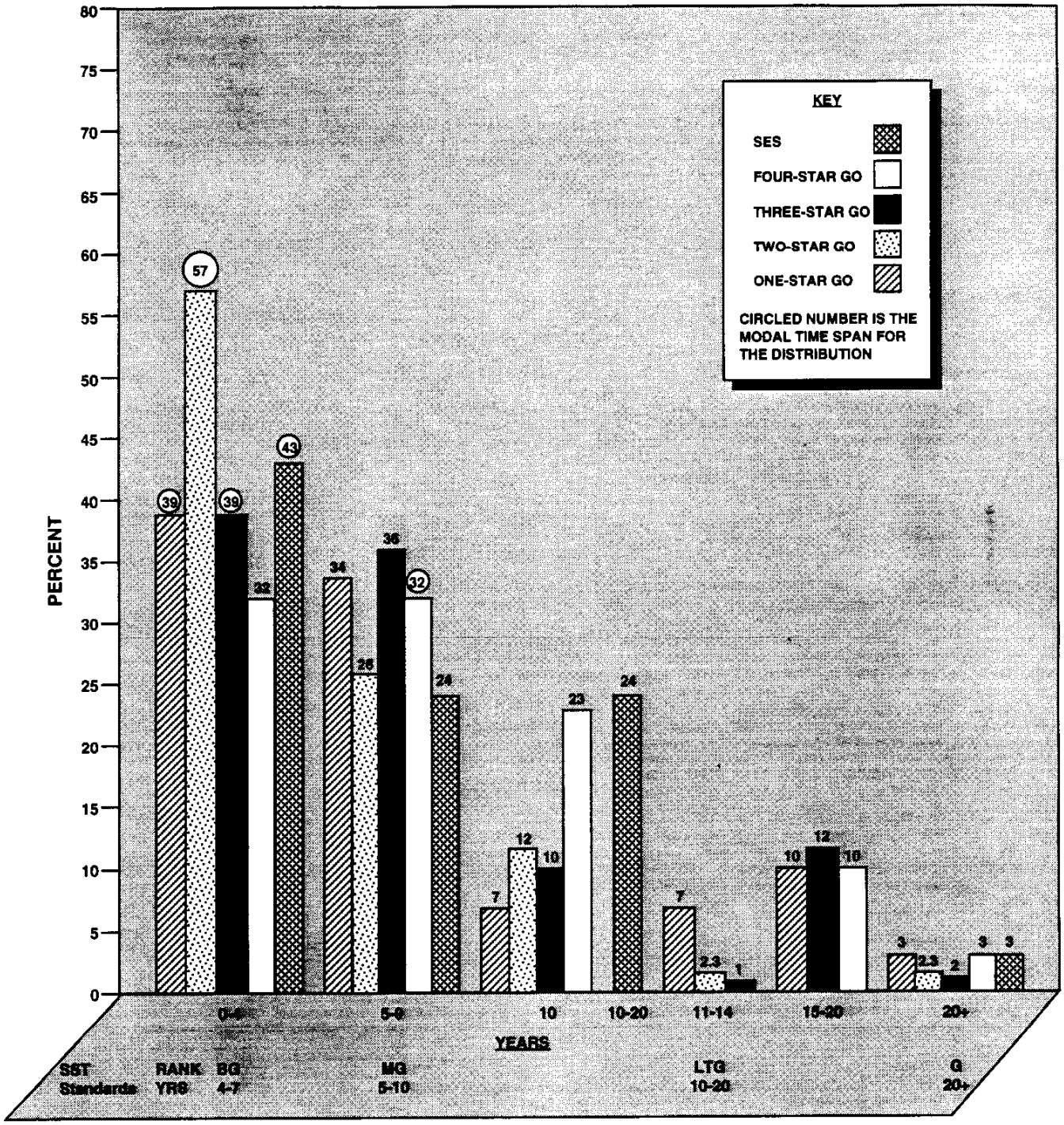

Figure 1. Reported Stated Time Spans of Work for U. S. Army SES Members and One-, Two-, Three-, and Four-Star Generals

Table 4

U.S. Army General Officers and Civilian Executives Citing Term of Years for Planning: Means and Modes

	Task Requirements			Performance Capability	
GO and ES/SES Rank	% Responding	Mean	Primary Mode	Secondary Mode	Mean
ES/SES	70	8.52	5	15	13.6
Four-stars	63	6.95	5	10	19.0
Three-stars	71	6.63	5	1	11.5
Two-stars	70	4.71	5; 1 (tied)	2	8.6
One-stars	50	6.72	5	2	11.2

the ES/SES, the mean number of years for planning time frames is that predicted by the theory for level VI of strategic leadership: beyond ten but less than 20 years.

Organizationally mandated time frames similarly constrained the reported time spans for work, but to three years, the canonic period of service in a high-level government office, as opposed to the organizationally determined planning time frames of one year for the budget process and five years for the Planning Objectives Memorandum (the "POM"). A former Director and Deputy Executive of the Directorate of Army Research and Technology for the Army Staff commented specifically on just how much organizationally mandated time spans for work may constrain the individual's conception of the length of time necessary to perform particular tasks. Conceivably, while such concepts may transcend institutional limitations in some instances, more individuals than not might well be expected to succumb to limits they would otherwise not accept as reasonable.

> Typically speaking, we do not even see a two-year tenure for General Officers; we see more between one and two. That is simply insufficient for most Two-star jobs. The reason why I think a man like [name deleted] was very effective as the DCSRDA is that he was here for four years. Really, five if you count his year as an aid to the DCSRDA, because he had a year plus to watch as a close colleague, and then hopefully he will

stay here for two or three years. That will be good. When you look at the extraordinary turnover in some parts of the Army, it is very depressing. They should almost force a person to sign up and stay on the job when assigned for two or three years and just require that.

There were pronounced differences in the reported terms of years for work, planning, and envisioning among the ES/SES respondents employed by the Department of the Army, the Secretariat, and the Army Staff. Table 5 presents the data.

The time spans for work on all measures -- mean, mode, and maximum -- were substantially shorter than those for planning, which in turn were shorter than those for envisioning. In essence, those ES/SES on the Army staff and in the Secretariat were operating at the executive level and those in other positions within the Department of the Army were not. The latter ones reported substantially shorter time spans for work and planning than the others did, and did not speak to envisioning at all. The ES/SES in the Office of the Secretary had the longest envisioning horizons and those on the Army staff had the longest planning time frames.

It would seem that many ES/SES had not been involved up to and through the senior level of leadership in the formulation and execution of plans extending beyond one to two years. On the other hand, it also appears that many or most have developed performance capability that exceeds their positional task requirements.

Requisite Knowledge and Skills -- Comparisons Between Uniformed and Civilian Executives

Categories of knowledges and cognitive skills identified as requisite by Three- and Four-star General Officers included the following:

* Scope of the Mental Map

    Multinational knowledge and understanding
    Joint or Unified knowledge and relationships
    Knowledge of the total Army and its systems

* Consensus building
* Envisioning
* Risk-taking and Innovation, and
* Analysis and Synthesis.

These knowledges and cognitive skills were also identified by the ES/SES.

Table 5
U. S. Army Civilian Leadership by Organizational Assignment: Mean, Mode, and Maximum Terms of Years for Work, Planning, and Envisioning

Organizational Assignment	Work				Planning				Envisioning			
	% Responding	Mean	Mode	Maximum	% Responding	Mean	Mode	Maximum	% Responding	Mean	Mode	Maximum
All (n=27)	74	4.50	3.0	7.3	70	8.52	5.0	13.6	19	16.8	3.0	17.2
Army Staff (n=5)	83	6.39	3.0	13.0	83	10.61	1;20 tied	18.4	50	13.7	10;15;16 tied*	13.6
Office, Secretary of the Army (n=14)	69	4.26	2.3	7.0	54	10.27	20.0	15.1	15	18.3	15;20 tied	22.5
Dept. of the Army (n=8)	75	2.64	3.0	3.1	83	6.05	5.0	10.0	0	0.0	0.0	0.0

***These were the only three mentions in this category.**

The first segment of the analysis involved comparing the Army's uniformed and civilian leader responses on those dimensions identified above. The results are shown in Figure 2. Similarities and differences in each area are discussed below.

Scope of the Mental Map

Multinational Knowledge. Nine respondents, 33%, indicated that their jobs required detailed knowledge and understanding of international issues and foreign cultures. This proportion is substantially lower than those Three-star and Four-star General Officers expressing views of the importance of this dimension (61 and 88 percent, respectively). One explanation for this difference may be found in mobility and out-of-country experience. Unlike the military respondents whose careers take them around the globe, only one of the ES/SES respondents was located in a foreign country. Two others reported extensive experience in foreign assignments.

The more parsimonious explanation, however, is that respondents were in effect

reporting that multinational knowledge was not requisite for a large proportion of them in performing the duties of their positions. The nine ES and SES who reported a need for international knowledge were usually involved in coordinating functions with NATO allies or in local activities that were impacted by international events. Those who noted this requirement were aware of worldwide interdependencies that impacted the country, the Army, and their own work.

Joint and Unified Understanding. Twenty-one of the 27 respondents (77.8%) noted the importance of working knowledge and relationships across service boundaries. This proportion is comparable to that for the Four-star Generals (75%) and substantially higher than that for the Three-star Generals (54.4%).

The high proportion of ES/SES responding in this category cannot be explained by the Joint assignments that are common to uniformed executives. While a small number of respondents had worked in other services, the majority have spent their careers in the Army. It seems likely that the stated importance of tri-service working relationships reflects two interrelated factors: (a) the relatively long tenures of many SES that have allowed inter-service working relationships to develop with their peers in other services, and (b) the often assigned ES "deputy" positions that have coordinating and integrating as primary tasks.

Understanding the Total Army and Its Systems. Nineteen of the 27 ES/SES respondents (70.4%) noted the need to understand the interdependencies of the systems that comprise the Army. This proportion is substantially higher than those for both the Four-star and Three-star Generals (37.5 and 42.4 percent, respectively).

Again, it seems likely that these support the contention of the value of the continuity and institutional memory often provided by long-term civilian leadership. Civilians who have spent their professional careers working for the Army have witnessed the effects of earlier changes on organizational functioning. They have had both the time and the opportunity to develop an understanding of the components of the Army, and an appreciation for a systems focus.

Consensus Building

All but two of the Army's civilian executives (92.6%) noted the importance of consensus building and interpersonal skills in accomplishing their work. Three- and Four-star Generals also observed the importance of consensus building; 88% at each of the executive ranks did so, noting that directive leadership by itself was not effective at those ranks.

However, the civilian executives appeared to feel more strongly about the issue as indicated by the substance of their observations. ES/SES lack the formal and informal command authorities that accompany military rank. As a result, they must rely

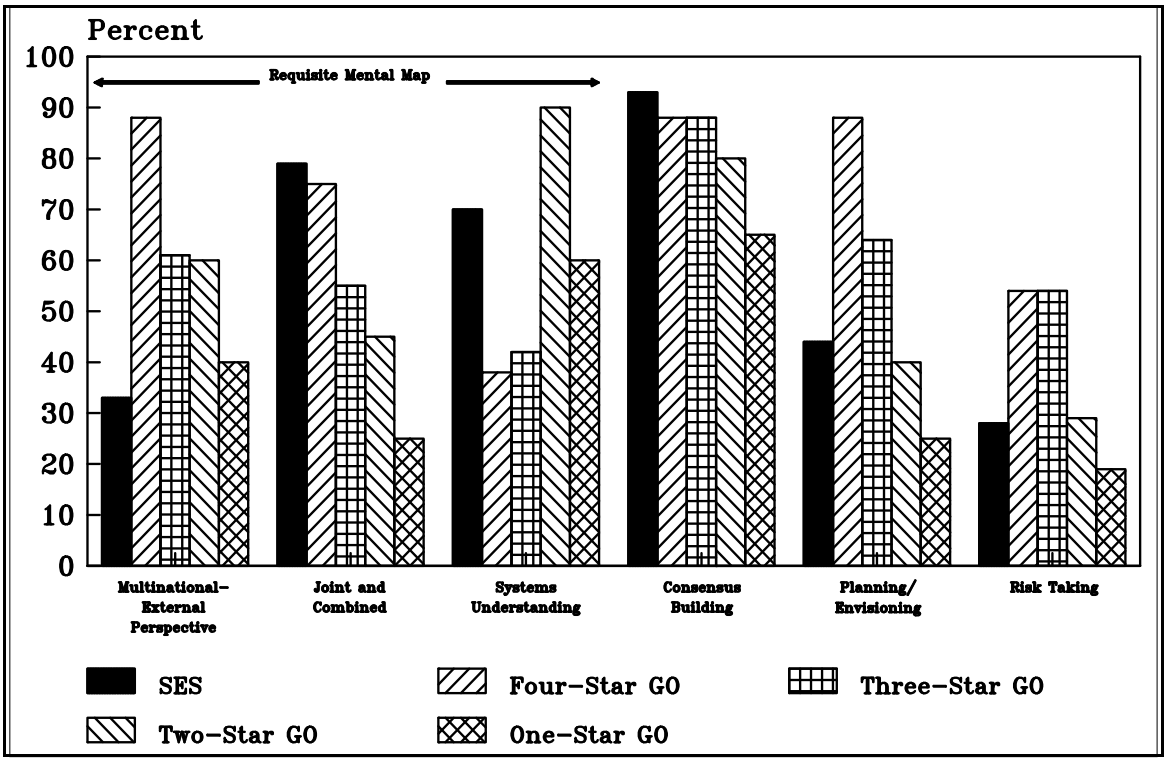

Figure 2. Knowledges and Skills Stated as Requisite for U. S. Army Civilian Leadership and One-, Two-, Three-, and Four-Star Generals

[1] For the U. S. Army Three- and Four-star Generals, the phrase "Systems Understanding" was defined as "Total Army Systems." For the One- and Two-star Generals, it was defined as their understanding of their particular sector of the Army

[2] For the U. S. Army Three- and Four-star Generals, the "Joint and Combined" category was defined as "Joint and Unified Relationships."

[3] For the U. S. Army Three- and Four-star Generals, the "Multinational/External Perspective" category was defined as "Multinational Knowledge." For the One- and Two-star Generals, it was defined as "External Perspective."

on persuasion and ability to build an influence base to accomplish their work. As two long-time civilian leaders noted:

> "What happens in this building is all based on personal influence and credibility."
>
> "Networks are what this is all about. If I sat here in relative isolation in the Pentagon, as many people do, I would lose over 75% of whatever confidence I feel I am personally given."

ES/SES members working in other locations reported the same processes:

> "There is a tremendous informal network that is used to build consensus, to scheme, and to support projects."

The recognized importance of personal influence and informal negotiation may have been one reason why ES/SES felt strongly about such issues as not having access to a General Officer mess and military-only social functions. They correctly perceived that the business conducted during those functions is often the "real" business of the organization.

Envisioning

A key executive leadership function described by stratified system theory is providing "vision." This is a complex process of creating long-term organizational goals and characterizing them in ways that permit realistic planning. At the executive level, these goals may be far-reaching and must reflect consideration of the organization's relationship to a changing environment. It was thus anticipated that civilian executives would be dealing in time spans of five years and beyond, certainly in longer time frames than those of managers at the direct level.

Twelve of the 27 ES/SES respondents (44.4%) specifically mentioned the need to anticipate and envision the future. This finding is consistent with the time-span figures reported earlier, insofar as envisioning is assumed to extend more than ten years into the future. Those who reported more than that time frame were included in the response category of envisioning, in addition to three other respondents who reported time-spans of from five to ten years.

By comparison, 40% of the Two-star Generals reported the importance of envisioning/long-term planning (Lucas and Markessini, 1992). On this basis, it can be argued that the Army's civilian executives, overall, performed at a level comparable to that of their uniformed counterparts at the senior level of leadership. These percentages are also compared in Figure 2 to those found for the Army's uniformed executives, the Three- and Four-star Generals (Harris and Lucas, 1991).

Like the One- and Two-star Generals, the ES/SES reported a broad range of planning time frames. Nevertheless, the mid-term dominated the rhetoric of the majority of ES/SES; planning was typically a reflection of the POM cycle. Still, many of the ES/SES spoke to their interest in and ability to operate in longer time frames. While plans were often framed in terms of the Army's various budget cycles, the chains of cause-and-effect emanating from those decisions were seen to extend far beyond that time frame.

Risk-Taking and Innovation

Seven of the 27 ES/SES respondents (25.9%) highly valued the ability to find innovative solutions and willingness to take risks to accomplish their jobs. This is a considerably lower level of response than the 44.4% registered by the General Officers. However, if one recognizes that a defining component of the executive task of creating organizational structure (identified below, p. 19) must be the generic cognitive task of innovation (Markessini, 1991), the proportion of asserted recognition rises to at least one-third of the sample. Nevertheless, that proportion, too, remains substantially lower than that for the General Officers.

One explanation (or possibly, rationalization) for the discrepancy between military and civilian responses was offered:

> "The [corporate] culture is for the civilians to defer to the Generals. This tends to keep them [the civilian executives] from being creative, from being risk takers."

Both the ES/SES and General Officers who noted the value of risk-taking and innovation also stated that they encouraged risk-taking and innovation in their subordinates.

Complex Analysis and Synthesis

The ability to analyze and synthesize information as a precursor to decision making was identified by 11 ES/SES respondents (40.7%) as crucial to their work. Respondents often observed that their earlier preparation and experience in using analytical tools and logical processes had not been sufficient for their current jobs. Many had compensated for this lack through intensive individual study or coursework. Respondents noted that even though executive decision processes involve conceptualizing and integrating, analytical tools are still important to the process.

These findings second those from research with the Army's uniformed executives (Markessini and Lucas, 1993a; Markessini and Lucas, 1994). Markessini and Lucas (1994) found that for four General Officer ranks combined, the order of emphasis among higher-order cognitive skills spontaneously identified by the respondents was, from most to least: evaluation, synthesis, information processing, and analysis. Moreover, all the skills were said to be cognitive requisites of General Officer jobs and to distinguish performance among the ranks. Nevertheless, there was strong emphasis on the continuing importance of analytic skill all the way through the executive level; in fact, the Four-star Generals cited analysis most and the Three-star Generals cited evaluation and analysis more than synthesis. Finally, despite the perceived importance of these skills, the opinions voiced about the capacity of the Army's institutions of higher education to teach analysis, synthesis, and evaluation
were virtually all negative.

Requisite Leadership Tasks

In addition to comparing requisite skills between uniformed and civilian executive leaders, other criteria of complexity were analyzed for their contributions to levels of ES/SES work. Substantial minorities of the respondents asserted the importance of the *tasks* of formulating policy and strategy and creating organizational structure (44.4% and 33.3%, respectively).

Formulating Policy and Strategy

A content analysis category was developed to identify the Army's civilian executives who are specifically involved in formulating policy for the larger organization. Twelve of the 27 respondents (44.4%) identified this as one of their primary tasks. They were nearly evenly divided between the Secretariat and the Army Staff, with six in the Secretariat, five in the Army Staff, and one elsewhere in the Department of the Army. Again, if one recognizes that the generic cognitive tasks of planning in the abstract and innovation (Markessini, 1991) are defining components of the executive task of formulating policy and strategy, the proportion probably should be substantially higher.

This level of response illustrates one of the discrepancies in the current executive services ranking systems. Formulating organizational policy is the work of executive leaders -- in the case of the Army, its Three- and Four-star General Officers and equivalent civilian leaders. At the time of the interviews, all of the 12 respondents who formulated policy and strategy were in the senior executive service, and four of the five SES, Three-star General equivalents were also in that group. By contrast, the four ES respondents held positions equivalent to Four-star General, and five other SES respondents were in positions designated as Three-star General equivalent. None of these was in the group formulating policy and strategy. Thus, nine of the respondents holding protocol codes 3 and 4 were not functioning at the executive level, by this criterion. However, the majority of the higher-level career field executives were, and eight of the

other SES respondents were operating above their designated position requirements. This dimension of civilian executive work was only one area where the pay positions and protocol codes assigned were apparently inconsistent with the level of work performed.

Creating Organizational Structure

The theoretical basis for the research includes the principle that a primary task for executive leadership is creating or changing organizational structure to respond to current or future requirements. Nine of the 27 ES/SES respondents (33.3%) either stated that their work involved this task or gave examples of structural changes that had been their responsibility.

Developmental Processes

The results of a content analysis of ES/SES education, training, and experience identified five general patterns or perceptions:

* ES/SES respondents generally have been responsible for their own developmental processes.

* The majority of ES/SES respondents have specialized professional skills, among them law, finance, accounting, personnel management, and applied science.

* There is a perceived need to broaden SES specialists into generalist managers and leaders.

* Mentoring is seen as a critical component for developing future civilian executive leadership.

* While problems with the interface between uniformed and civilian executive leaders were commonly noted, there was a lack of consensus on the role of education and training as a means to address the problem.

Education and Training for Leadership and Management Skills

Fifteen of the 27 ES/SES respondents (55.6%) reported that SES members need to be specifically trained to acquire the generalist skills of leadership and management required at executive levels. All respondents noted the lack of career development programs for civilians, and the sharp contrast between this lack and the programmed development of their military counterparts.

Scattered development efforts were noted. A relatively small number of respondents reported that they had sought or been offered executive training programs in the private sector. Three programs were noted specifically as useful training for current and future SES members, presented below. Note that absolute and relative frequencies are given in terms of ***responses***, and not respondents.

Training Program	Number of Responses	% of Responses
Harvard Executive Development Program	8	29.6%
Federal Executive Institute (FEI)	6	22.2%
Brookings Institute	3	11.1%

Six respondents (22.2%) reported having attended the Industrial College of the Armed Forces (ICAF). Considering the wide array of military institutions of higher learning, the absence of greater variety in such schooling for these civilians is striking. However, efforts such as the LOGAMP program for logisticians and the executive development program for financial managers

and comptrollers were seen as promising. Nevertheless, a systematic identification and development program for civilians was unanimously noted as lacking and needed.

The Role of Mentoring in Civilian Executive Development

One method of compensating for a lack of formal education or systematic development is the use of mentoring. Eighteen of the 27 ES/SES respondents (66.7%) noted the importance of identifying and assisting promising subordinates. Those respondents also noted the role that mentoring had played in their own careers.

Personal mentoring of individuals was the most commonly reported process. In addition, a number of professional specialties (especially, the legal profession, but also analysts and comptrollers) had institutionalized mentoring programs in their formal and informal professional networks.

Shared Civilian-Military Development

The need for improved relationships between military and civilian leaders was noted by 20 of the 27 respondents (74.1%). However, respondents were divided on whether this lack should be addressed by including civilian executives in the U. S. military school system. Eleven respondents (40.8%) who favored civilian attendance at Army schools were opposed by six respondents (22.2%) who believed that a critical component of the Army's civilian leadership is to maintain a civilian perspective. Three other respondents (15%) were pessimistic about any improvement, no matter what the approach.

The six respondents who had attended ICAF viewed this experience as an important part of their development. They reported both increased understanding of the military and the acquisition of a network of military officers to assist them in their work. Five additional respondents felt that attendance at either a staff college or senior service school would be a positive step toward understanding and mutual respect.

Nevertheless, six respondents were expressly opposed to civilians attending the current Army school offerings, believing that civilians should not be "militarized." Civilian education and training was seen as necessary, but either in separate programs or in a setting where both civilians and military were on neutral ground. In their view, the onus for improved relationships rested on greater military understanding and acceptance of the roles played by SES and other civilian leaders.

> "I would like to see a few more General Officers trained and utilized in the technical skills of the Army. I think we have missed it by demanding that every officer be a generalist. What that does is to create terrible turbulence. For example, here in DCSRDA, the Director of Plans and Programs is a key job and very demanding technically. That job has turned over four times in the last year. That is incredible. Absolutely incredible.
>
> Another symptom of our anguish is that when we go to pick Colonel program managers, we cannot find any who are competent. It is a desperate situation. The Army, in my view of the Army, has to acknowledge a dual career track and get on with it... The other services have. You will not find a non-aviator running the U. S. Air Force, but you will find a lot of very competent Ph. D. General Officers running laboratories and training commands. They are good, strong Two- and Three-star officers who have had that professional experience."

Those observations by a former Director and Deputy Executive for Research, Development, Testing, and Evaluation in the Army Staff's Directorate of Army Research and Technology speak to issues of personnel turn-over and competence among the ranks of the uniformed military that were cited many times by ES/SES respondents.

The following response of a long-time civil servant was characteristic of those from the small minority who viewed the problems of the military-civilian interface as insoluble:

> "I have come to believe that military officers simply do not care about civilians. While they are stationed here, they are out to get whatever they can from the civilians, whatever provides them with the best image and career possibilities. No training will change that."

Levels of SES and ES Work

One of the principles of stratified systems theory is that every organization has unique, level-specific requirements that must be performed by individuals with the requisite skills and abilities. If these level-specific functions are misidentified or misplaced, efficiency and performance suffer.

Thus, a major objective of the research was to evaluate the levels of work currently being performed by the Army's civilian executives. An early hypothesis was that ES/SES grade levels and protocol codes could be used as indicators of work level. However, neither of these measures was found to be reliable. SES positions replaced top GM grades -- Grades 16, 17, and 18 -- in the 1980s, and the majority of conversions were

Table 6

Equivalents Among GM Grades, ES/SES Pay Positions, Civilian Protocol Codes, and Uniformed Army Grades and Ranks, U. S. Federal Government

Civilian GM Grades	Civilian ES and SES	Civilian Protocol-Military Rank Equations		Uniformed Army	
	ES,SES,Schedule[2] C Pay Positions (by Dept.of State)	Protocol Code[3]	Above/Below	Grade	Rank
	1 Political	1	Above 4-Star General		
	2 Appointees	2	4-Star General	O-10	4-Star Gen.
	3 ----------	3	LTG/G	O-9	3-Star Gen.
17[1] 6666	4 Career	4[4]	MG/LTG[5]	O-8	2-Star Gen.
16[1] 6666	5 Fields	5	BG/MG	O-7	1-Star Gen.
--------- 15	6	6	COL/BG	O-6	Colonel
14				0-5	Lt. Colonel
13				0-4	Major

[1] In the 1980s, the top-level GM grades 18, 17, and 16 were converted to SES positions 4 and 5; in addition, a number of GM 15s filled the ranks of SES position 6.

[2] ES-1 positions include the Secretary and Under Secretary, Department of the Army, as well as the Secretaries and Under Secretaries of the other military services. ES-2 positions, the Deputy Under Secretaries, are equivalent to Four-star Generals. ES-3 positions, the principal deputies (formerly Assistant Secretaries for the military services), are above the rank of Three-star General but below the rank of General. These positions are paid in accord with Schedule C for political appointments but protocol codes, the prime indicator of civilian executive status, do not necessarily equate with pay positions, although for the purpose of graphic display they are so represented.

[3] Protocol codes do not equate with pay positions. For instance, an ES-1, the highest level civilian executive, may be paid at a pay position 6 level.

[4] The U. S. Army qua Army has only protocol codes four through six and these are for its career field SES.

[5] Underlining denotes the primary reference point in this equation. For some purposes, for example seating arrangements, protocol code 4 is in fact above a Major General but below a Lieutenant General. For other purposes, protocol code 4 is equivalent to a Lieutenant General.

to SES positions 4 and 5, in the bottom half of that range. Scientists and other professionals with specialized skills also came under the SES mantle as career field professionals. Indeed, a wide variation in executive and senior executive service responsibilities was found in this subject sample. As an example, span of control ranged from two to over 800 in 16 subordinate units for respondents with identical SES grades. Table 6 indicates the complexity in the relationships among ES/SES pay positions, civilian executive protocol codes, military grades and ranks, and GM grades.

Protocol codes are intended to, but do not necessarily ease the problems of identity and perquisites in civilian-military interactions. The most apparent reason for this unease is the difference between civilian and military leadership in the overt display of rank and status; for example, exchange of salutes and the wearing of insignia and medals. It may also be true, however, that part of the problem lies with the protocol codes. While determinants of protocol codes are standardized, protocol codes are in practice related imperfectly to ES/SES pay positions and military ranks.

An analysis was therefore designed to examine levels of work, using selected criteria from the content analysis as measures of complexity. The results of this analysis are shown in Table 7. Based on these results, it seems likely that at least 12 of the 27 ES/SES respondents, or 44 percent of the sample, were indeed working at the executive level; two respondents were working at Level VII of the SST model (Table 1), and ten at Level VI, the levels of work found to be performed by the Army's Four-star and Three-star Generals, respectively.

Table 7
Civilian Leadership Responses to Selected Complexity Criteria

	Scope of Mental Map Understandings				Time Spans 10+	20+				
	Multinational	Joint & Unified	Systems	Envisioning/ Anticipating			Analysis/ Synthesis	Innovation/ Risk-taking	Creating Structures	Formulating Policy
%	33.3	78.8	70.4	44.4	34.0	7.0	40.7	25.9	33.3	44.4
#	9	21	19	12	5	4	11	7	9	12

The two Level VII respondents appear in every category in Table 7. Both described themselves as "strategists," were involved in creating new structures, and were the only ones to indicate a future work focus that extended beyond 20 years. The ten respondents reporting time spans beyond ten through twenty years also appear in a number of the complexity categories, but with less consistency than the two just identified. Nevertheless, these 12 cite far more of the other measures of cognitive complexity than do the other civilian executives operating in time spans of less than ten years.

The measures of complexity used in this analysis are only a part of a complete analysis of appropriate levels of work. However, they provide evidence that current authority relationships and protocol levels may not accurately reflect the levels of work of the executive and senior executive services. It also seems likely that a certain measure of confusion and misunderstanding over relative rank and authority may be a contributing factor in problems of civilian-military interaction.

It must be said in closing that a salient feature of these results was the degree of criticism leveled at the uniformed Army by its civilian leadership. The sharpest observations came from the highest levels and from the senior scientists within the subject sample. The following judgments from a former Under Secretary reflect that severity.

> There are far too many people in a staff of three or four thousand, a staff that has one or maybe even two zeroes too many. A great deal of my feeling is prejudice from past experience. When I was a Corporate Vice President for these same sorts of activities, I had only a secretary. I was the staff. We did not believe in staffs; I never had more than two people reporting to me. My tools were not staff members; they were a telephone, an airplane ticket, and the willingness to go find out what was going on for myself. I do not think that staffs are the vehicle that should be used at that level.
>
> A lot of the staff here is counterpart staff to the Office of the Secretary of Defense, which functions the same way, only worse. It is also a response to pressure from the Congress, which is itself completely unregulated with respect to staff. The General Accounting Office, the Office of Management and Budget, all the rest. It is understandable, but it is also ineffective. They get into each others' way. And they come and go too fast. Majors and Lieutenant Colonels are given too many things to do and too many demands to produce the response in two days, thirty minutes, or whatever. A great deal of the work is ineffective because it is not competent. It has to be regurgitated, and that takes up time. It is just not a very effective process.
>
> At the same time, the Army has allowed staff to grow at the subordinate levels. DARCOM has 3,000 people; TRADOC has 2,000 or more. The numbers are so huge I refuse to look at them. I cannot stand the thought of such massive staffs.
>
> I just have to say that, before I came here, if you had asked me what characteristics I thought a military organization would most likely have, I would have replied they should have discipline and a knowledge of the distinction between staff and line. DOD is not my idea of an organization that exhibits a great deal of either in the managerial sense. In the line fighting sense, it is a different matter.... The last word on many decisions involving force structure, acquisition plans, and money is in the hands of the Department of the Army staff here, not in the hands of the Four-star Generals who run the principal line organizations-- USAREUR, FORSCOM, and so forth.
>
> Those confusions affect a great deal of what I do, or try to do.... I decided that it was not a useful exercise to try to reform the whole thing. I would like to see it reformed, however. I do not think it works well.
>
> Interviewer query: In the face of the compliance and enforced optimism you mentioned, is there any kind of developmental program that might change the situation?
>
> ... I think you have to find some way to instill more aggressiveness of the right kind, positive aggressiveness. You have to find some way to have officers rated as superior when they question things and when they tell it like it is. And you have to find some way to induce an

analytical, logical, questioning attitude. Perhaps the most universal defect I find is very poor logical and analytical processes. There is very inadequate knowledge of even elementary statistics. There is very little questioning of both sides [of an issue]... If you ask 'Why?,' you are greeted with stony silence. Their stories are just not well hung together...

Where I think I can make some progress, I am trying to do it.... There are examples of where I feel the Army has not been well served by being more 'Can Do' and 'Yes, sir!' and by churning people more.

DISCUSSION

This content analysis of interview responses from 27 among the U. S. Army's civilian leadership produced a number of key findings on the issues of executive and senior executive service levels of work and reporting relationships, requisite cognitive skills and complexity factors, and developmental processes. Discussion of these findings is referenced to three research objectives of particular interest. They are reiterated here for the sake of clarity, to:

test a particular theory of organizational structure and leadership -- stratified systems theory

compare the skills and developmental experiences of the Army's uniformed and civilian executives, and

describe the knowledge and skills requisite to the work at ES/SES levels.

Most importantly, SES incumbents of executive-level positions in truth functioned at that level according to the measures of cognitive skill prerequisites and complexity proffered by stratified systems theory. A subject by subject analysis of the data, which appear grouped in Table 7, revealed that four of the five SES incumbents at the protocol code 4 and, overall, 12 (52%) of the SES portion of the subject sample (N=23) were indeed functioning at the executive level according to the measures applied. However, none of the ES subjects appeared to be functioning intellectually at the executive level. The data would seem to argue that political appointees may be just that: they are appointed into executive-level positions for political rather than professionally based reasons. On the other hand, the *internal* civilian executive development process, for all the ills cited by the respondents, appears to work well in placing its more able members at the top of the leadership pyramid.

Moreover, nothing in these data refute the three tenets in particular of stratified systems theory put to test, that: a) reported time spans for work, planning, or envisioning predict executive functioning; b) a principal task at the executive level of leadership is the creation and change of organizational structure; and, c) functioning above or below the level-specific requirements of one's position impairs efficiency. In fact, the theory has been refined with respect to the separation among the constructs of work span, planning time frames, and envisioning horizons. Moreover, the data affirm that innovation and change of organizational structure was an important task of the civilian military leadership and that a great deal of discomfort appeared to attend confusion about and misperception of ES and SES levels of work.

Discussion with respect to the latter two research objectives follows.

Requisite Cognitive Skills and Complexity Factors: Very Different Profiles

In terms of the degree to which certain cognitive skills and complexity factors were cited, the profiles of requisite capabilities for uniformed and civilian U. S. Army executives and senior leaders differed strikingly with respect to the requisite scope of the mental map and the skills of risk-taking, innovation, and consensus building. First, with respect to the scope of the mental map, far smaller proportions of the ES/SES spoke to the need for international understanding. Yet ES/SES response levels were equally high or higher than those for the military executives on the issues of Joint and Unified understanding and total Army (as a system) awareness. As these indicators -- international, Joint and Unified, and total Army understanding -- are arguably graduated from most to least scope, the civilian executives either did not match their military counterparts in the scope of their frames of reference or they possess that scope but did not deem it requisite to the execution of their position requirements.

Further, the proportion of ES/SES respondents citing risk-taking and innovation requisite cognitive skills was less than half that for the General Officers. On the other hand, a much larger proportion of ES/SES spoke to the importance of consensus building, and they exceeded the Army's uniformed senior leaders as well as the Three-star Generals in professed time frames for planning. Thus, in comparison to their uniformed counterparts, the ES/SES respondents would seem to be operating with a comparatively more narrow substantive frame of reference but a broader temporal frame of reference, to be more inclined to build consensus, and to be less willing to innovate and take risks.

This profile seems suited to the requirements of many civilian executive positions in the federal government's bureaucracy but unsuited to the task requirements of field commanders who must function in highly charged, rapidly evolving international contexts. Complexity measures with high ES/SES response rates, i.e., spoken to by one-third or more of the sample: the task of formulating policy and strategy (44.4%); the cognitive skills, taken together, of analyzing and synthesizing (40.7%); and, the task of creating organizational structure (33.3%). Regrettably, the degree of expressed emphasis on these leadership tasks could not be compared to that for uniformed military executives because these measures were not taken in the Harris and Lucas (1991) and Lucas and Markessini research (1992).

Reporting Relationships and Problems in the Civilian-Military Leadership Interface

Reporting relationships for the Army's executive and senior executive services were complicated, but not for the reasons posited by stratified systems theory. In fact, the higher-level ES/SES of the U. S. Army represented in this research had substantially fewer dual-reporting relationships than were described by their military counterparts, the Three- and Four-star Generals. This was seen to reflect the concentration of ES and SES in the Army's support and provisioning functions -- functions that are organized primarily by single services. Rather, complexity was

introduced by another factor. Superior-subordinate relationships involving civilian executives and military officers did not necessarily reflect the civilian's status in terms of General Officer equivalency or protocol code. An ES Three-star equivalent, for example, might be reporting to a Two-star General; however, the converse, for example, a Three-star General reporting to an SES Two-star equivalent, did not happen. One could readily predict some tension as a result of such dysfunctions. Indeed a certain measure of confusion and misunderstanding over relative rank and authority may have been a contributing factor in the problems in civilian-military interface perceived by the subject sample. Such problems were noted by almost three-fourths of the ES/SES respondents (74.1%). However, there was disagreement on how this problem should be addressed. While some respondents felt that civilian attendance at U. S. Army schools would be beneficial, others believed that a civilian viewpoint was critical and should not be "militarized."

Beyond problems of relative status and authority is the circumstance that authority relationships and protocol levels may not accurately reflect ES/SES levels of work; that is to say, the level of work necessitated by given jobs may be over or under that supposed to characterize the ES/SES positions identified with the jobs.

Developmental Processes

Findings with respect to developmental processes were startling. First, the lack of a systematic program for civilian career development was unanimously noted. Since the majority of civilian executives have been trained as professional or technical specialists, the greatest perceived need was for training as generalist managers and leaders. However, respondents also observed that their earlier experience and formal preparation in using analytical tools and logical processes had not been sufficient for the demands of their current job tasks. These findings of inadequacy and inequity, if pervasive among the population of DoD civilian executives, is disconcerting in view of both the high levels of authority, discretion, and responsibility ascribed to them and, by comparison, the emphasis on life-long education and training for uniformed executives in the U. S. Army.

It is important to note that the intent of this research was to be exploratory. Nevertheless, these research findings indicate that the lots of many in the Army's executive and senior executive services are difficult. These data show that many of the Army's civilian executives are functioning intellectually above the complexity levels of their positions and yet they beset by both misunderstanding inflicted by poorly defined reporting and authority relationships -- with or without a civilian-military interface -- and an inequitable distribution of the educational and developmental benefits that would enhance their capabilities and thus facilitate performance.

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APPENDIX A
OPERATIONAL DEFINITIONS FOR ENVISIONING HORIZON, PLANNING TIME FRAME, AND TIME SPAN FOR WORK

Envisioning Horizon -- a time period for a particular vision of the future not necessarily tied to any articulated sense of a planning process.

Planning Time Frame -- a time period for a mental construction that features a vision of the future, goals related to that vision, and a means to attain that future aspect.

Time Span for Work -- a time period to formulate, prepare for, execute, and complete a specific job task, or set of tasks, that is self-determined or actively undertaken rather than institutionally defined. The emphasis of the construct is upon the individual's capacity to frame in time a piece of work; it is not solely an institutionalized program one happens to support or slip into, nor is it simply a period of employment. The time span for work or task can extend from a point in time in the past and be projected by the individual to continue into a future. Thus, it is *possible* that a time span for work encompasses a broader window in time than that for planning, but typically the time span for work is more compressed than a planning time frame.

APPENDIX B
U. S. Army SES by Organizational Assignment
Citing Terms of Years for Work, Planning, and Envisioning:

Subject-by-Subject Tabulation of Terms of Years

Subject	Term of Years															# of Direct References
	Less than 1	1	2	3	4	5	7	8	9	10	14	15	16	20	30	36	
The Army Staff, United States																	
1. 206												2				1 (15-36)	3
	1 (2 mos.)		1	4 (one is 2+; two are 2-3)											2 (one is 25+)		8
2. 224		1															1
			3			1	1 (4-6+)			1 (5-10)							6
3. 234	2 (1 mo; 1+ mo)	2		1				2 (6-8; 7+)						2 (0-20; 10-20)			9
												1 (10-15)					1
4. 235						2								1			3
				1		1	1										3
										(1-5)							
										1							1
5. 238													2				2
			1	2													3
													1				1
Office of the Secretary of the Army, United States																	
6. 202								1 (5-8)									1
7. 203	1 (4-6mos)		1 (1+)	1		1 (2-5)											4
8. 204														1 (15-20)			1
9. 205				1		2 (both are 3-5)											3
10. 215						2						1					3
11. 217							1 (5-7)	1 (4-8)									2
12. 218					2												2
			2	1	1												4

Table 8
(continued)

Subject	Term of Years															# of Direct References
	Less than 1	1	2	3	4	5	7	8	9	10	14	15	16	20	30	36	
13. 219						2								2 (one is 10-20)	1		5
														1			1
										1		1		2	1		5
14. 220																	0
15. 223		1								1				1			3
							1										1
16. 227											1 (10-14)						1
17. 228		1	1														2
18. 233	1 (1 mo.)	2	1 (1-2)							2 (one is 5-10)		2 (one is 10-15)		1			9
	1 (3-4 mos.)	1							1								3
												1					1
19. 239		1	1 (1-1 1/2)	2 (both are 2-3)													4

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20. 201						1											1
21. 208	1 (9 mos)	1	1	1		4											8
			1	1	1 (3 1/2)	1											4
22. 212			3	1		2 (one is 3-5)				1							7
23. 213		1		2		1						1					5
	2 (both are 3 mos.)																2
24. 216						1											1
	1 (3 mos.)	1 (9mos.-1 yr.)	2 (one is 1 1/2)														4
25. 221			1			1		2 (one is 5-8)				4					8
			2	3 (one is 2-3)		1											6

Table 8
(continued)

Subject	Term of Years	# of

Subject	Direct															References
Less than 1	1	2	3	4	5	7	8	9	10	14	15	16	20	30	36	
26. 222			1 (2-3)								1					2
	1		2													3
27. 226			1			1 (6-7)										2
Total # of 4	8	6	6	2	16	0	5	0	4	0	11	2	8	1	1	74
References 6	5	15	19	2	7	5	1	1	1	1	0	0	1	2	0	66
0	0	0	0	0	0	0	0	0	2	0	3	1	2	1	0	9
GRAND TOTAL 10	13	21	25	4	23	5	6	1	7	1	14	3	11	4	1	149

Grand Means: **Plan** **8.52**
Work **4.45**
Envision **16.77**

Note: In calculating the means, an estimating factor of .5 was used for mentions of less than one year.

KEY: Data that are not underlined are the terms of years for planning.
Data that are underlined are the terms of years for work.
Data that are double underlined are the terms of years for envisioning.
Data that are circled are primary modes.
Data that are squared are secondary modes.

Rules for Tallying Indefinite Time References

Time Intervals: Take the top end of the interval and enter the reference into that term of years. (A "5 to 10 year period" is tallied as a reference to 10 years.) Clearly, the officer himself or others are able to plan out that far as a maximum.

"More than N": Enter the reference into the year category that represents the top of the five-year interval to which the number belongs. More than 6, more than 7 are tallied as 10; more than 20, as 25; and, more than 25, as 30.

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The establishment and operation of a world-wide society of academics, business users and consultants interested in science-based management to improve organizational effectiveness for the purposes of:

Promoting among existing users increased awareness, understanding and skilled knowledge in applying concepts of Levels of Work Complexity, Levels of Human Capability, Accountability, and other concepts included in Requisite Organization and/or Stratified Systems Theory.

Promoting among potential users of the methods, appreciation of the variety of uses and benefits of science-based management, and access to resources.

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