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IMPACT OF AFSC REGULATION 36-5 ON THE 27XX CAREER FIELD
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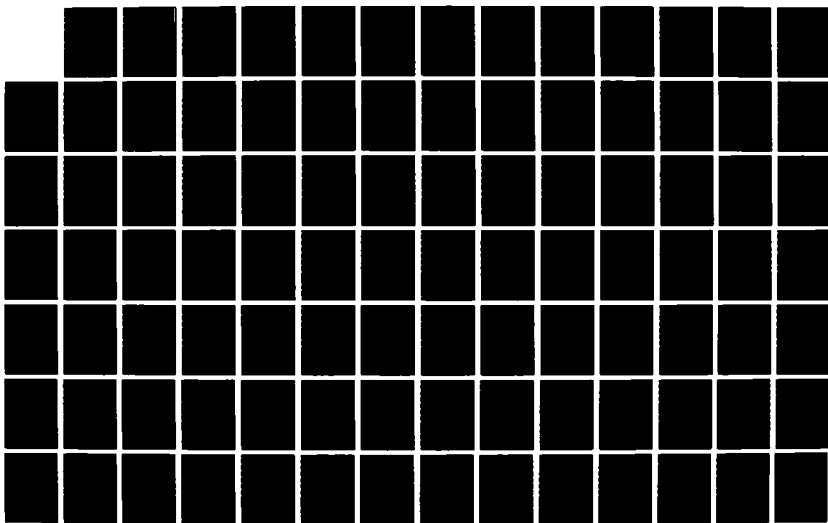
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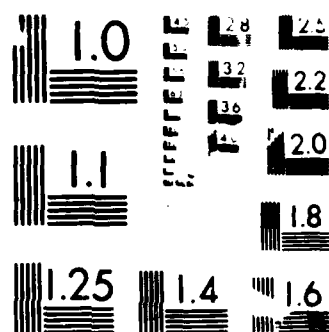
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THESIS

Kevin W. Lopez, B.S.
Captain, USAF

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27XX CAREER FIELD

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology
Air University
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Systems Management

Kevin W. Lopez, B.S.
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September 1987

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Preface

This research study was conducted to establish the potential implications of AFSC Regulation 36-5 on the acquisition community. Using its Acquisition Management Career Development model, this regulation will influence the career development of acquisition force through a four-stage certification process. The attitudes of both junior and senior acquisition officers toward this regulation and career development were the subject of this research.

In my year long struggle to complete this thesis, I would like to give thanks to the following people. First, I thank my advisor, Major Ron Hitzelberger, for the freedom and guidance to accomplish my own thesis. In addition, I would like to thank Dr. Charles Fenno, for his help in acquiring my data, and getting me off on the right foot. My last two acknowledgements are, however, the most important. I thank my wife and daughter, Melissa and Katherine, for their love and support during those many hours that I was locked in my room. Finally, I thank my late father, Willie F. Lopez, Jr., for being such an instrumental force in my life. May God bless him always.

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Abstract

The objective of this research study was to assess the potential implications of Air Force Systems Command (AFSC) Regulation 36-5 on the 27XX career field. This analysis was accomplished by comparing the attitudes of junior (Air Force Specialty Code 2724) and senior (Air Force Specialty Code 2716) officers in relation to the requirements outlined in the regulation. Using this approach, this study established for test samples of both junior and senior officers, a positive relationship between career development and the following variables: 1) specialty training, 2) professional military education, 3) academic background, 4) operational experience, and 5) different acquisition-related experiences. In addition to these findings, this study determined that the attitudes of both junior and senior officers relative to career development are very similar. With the exception of those individual training, and professional military education programs oriented specifically towards either junior or senior officers, the general attitudes of these test samples of officers were comparable.

IMPACT OF AFSC REGULATION 36-5 ON THE 27XX CAREER FIELD

I. Introduction

Each year, decisions made by Air Force Systems Command (AFSC) program managers obligate billions of dollars for weapon system research and development. Several commissions have, therefore, been chartered to evaluate the capabilities of these acquisition personnel. The AFSC Focus Working Group determined that AFSC is "suffering from an acute shortage of experienced military officers, although fully manned in acquisition personnel" (6:1). Additional findings concluded that the current "acquisition management development program is deficient, and that military development has not been institutionalized and needs structure" (6:2). The Packard Commission report and a recent General Accounting Office study have echoed these findings. As a result, Systems Command established AFSC Regulation 36-5, entitled the Acquisition Management Career Development Program, for the express purpose of maximizing "the professional development and mission capability of the AM officer force by setting forth a definitive and viable career management plan that produces broad-based acquisition managers capable of assuming middle management and senior leadership roles" (2:4).

Problem Statement

The potential implications of this program for military officers, in particular the acquisition program management (27XX) career field, are far ranging. Under this regulation, career progression within the acquisition management field will be dependent on certification through four development levels. Priority consideration in the selection processes for assignment opportunities and training courses will also be based on participation in the AM Career Development program. This thesis will, therefore, investigate whether AFSC Regulation 36-5 adequately addresses the career

development and progression of military officers in the acquisition management field, by comparing the perceptions of junior acquisition personnel (Air Force Specialty Code 2724) and senior acquisition personnel (Air Force Specialty Code 2716)

Investigative Questions

To determine if AFSC Regulation 36-5's provisions are directly related to the career development of 27XX officers, responses to the following investigative questions will be analyzed:

1. Is there an association between specialty training, gained from Professional Continuing Education (PCE) courses, and the career development of acquisition personnel?
2. Is there an association between academic background and the career development of acquisition management personnel?
3. Is there an association between professional military education (PME) and the career development of acquisition management personnel?
4. Is there an association between operational experience (other than AFSC/AFLC) and the career development of acquisition management personnel?
5. Is there an association between different types of acquisition experience and the career development of acquisition management personnel?

Scope and Limitations

Although different triservice guidelines have been instituted in order to create effective Acquisition Management Career Development Programs, relatively few efforts have been taken to formalize the career development process. In fact, a review of the available literature identified only four DoD efforts directed toward establishing a framework for career development. While the Air Force's program most closely approximates the desired condition, further changes are needed in the

programs of all three services to develop program managers with the desired career pattern and sufficient acquisition experience (10:81). The Army's Material Acquisition Management (MAM) program, and the Navy's Weapon Systems Acquisition Management (WSAM) program do address the general concerns of career development; however, both of these programs are oriented toward the specific needs of their particular service. As a result, neither of these programs emphasizes the unique requirements of an Air Force, and in particular a 27XX, career development program. Therefore, only Air Force directives relating to development of the acquisition career field will be considered in analyzing the implications of AFSC Regulation 36-5 on the 27XX career field.

Background

Program management is a position of substantial complexity and responsibility involving decisions on weapon systems sometimes costing billions of dollars, which will ultimately determine capability on the battlefield (10:68). As such, development of qualified program managers requires appropriate experience, training, and education, as well as the ability to attract promising candidates into the field (10:65). In recent years, however, the capabilities of DoD managers have come under intense fire because of perceived ineffectiveness in directing weapons systems development and acquisition. Spare parts 'horror' stories and persistent cost overruns in major development programs have become almost commonplace. Questions concerning the selection of program managers, specifically with regards to appropriate acquisition experience and training, have also been raised. Specifically, "concern over career development of program managers stems from reports challenging their qualifications" (10:68). For example, in 1985, the Center for Strategic and International Studies reported that "the military personnel system does not provide adequate incentives for officers to seek assignments in acquisition management

The result is that the overall experience levels and training of uniformed personnel in acquisition is inadequate" (9:68). In addition, former Deputy Secretary of Defense David Packard testified in 1983 that "major weapon systems are complex, they are large, they require advanced technology. We unfortunately have a system where we do not train and put the best management people in charge of these programs"

(11:68). The President's Blue Ribbon Commission of Defense Management supported these contentions. This study stated that:

The defense acquisition work force mingles civilian and military expertise in numerous disciplines for management and staffing of the world's largest procurement organization. Each year billions of dollars are spent more or less efficiently, based on the competence and experience of these personnel. Yet, compared to its industry counterparts, this workforce is undertrained, underpaid, and inexperienced. Whatever other changes may be made, it is vitally important to enhance the quality of the defense acquisition workforce--both by attracting qualified new personnel and by improving the training and motivation of current personnel (7:66-67).

J. Ronald Fox, in his article, "Revamping the Business of National Defense," also determined that the development and selection of DoD acquisition managers needed improvement. Fox's basic premise argued that:

Military chiefs of staff are highly capable, dedicated officers. They are likely, however, to have little if any training or experience in running large programs that deal with the research, development and production of defense weapons and equipment. Most believe that the weapons acquisition process can be managed by military officers like themselves, whose primary training and experience has been in military field operations unrelated to the complex tasks of procurement and program management that the process involves. In practice, top brass oversees a system in which the people assigned to program offices often have little training and have experience that may include only one or two brief assignments in procurement or program administration. Most military chiefs see little need to give program managers more specialized training and development (4:69).

These findings emphasize the need for effective career development of DoD acquisition managers. Recognizing this urgency, the Department of Defense has enacted several programs directed toward improving the acquisition force.

II. Literature Review

Introduction

This chapter outlines the progression of career development programs for the military acquisition force. In addition to these directives, the circumstances leading to the implementation of AFSC Regulation 36-5 will also be reviewed.

Past AM Career Development Policies

In 1974 DoD established policy for the selection, training, and career development of program managers charged with managing major systems acquisition programs (10:68). DoD Directive 5000.23, System Acquisition Management Careers (Nov. 26, 1974), provides the basic framework for career programs for program managers (10:69). Table 1 outlines the optimal characteristics of a career development program relative to the program established under DoD Directive 5000.23. The directive states that successful management of major systems is dependent upon experienced and competent personnel; it requires that career opportunities be established to attract, develop, retain, and reward outstanding military officers and civilian employees required as program managers or as their principal deputies and assistants (10:69). Unlike in the past, this program stipulated that selection of program managers would be based on relevant experience and performance in the acquisition career field. Other requirements set forth in the directive cover career progression, advancement, and tenure (10:70). These requirements included the "identification of the types of experience considered beneficial for assuming higher level positions, training and professional education requirements, and provisions for advancement" (10:70). The directive also stated "that opportunities for advancement be equivalent with those of officers in operational, line, and command positions" (10:70). This requirement addressed the concerns that would be later expressed in the Packard Commission and the Center for

Strategic and International Studies reports. As previously stated, an effective career development program must provide sufficient incentives to attract the best qualified personnel into the acquisition career field. Equalizing the promotional and advancement opportunities between the acquisition and operational career fields

Table 1
Desired Characteristics of Program Manager Career Programs

	DoD Directive 5000.23	Desired Condition
Entry		Early commitment
Development	Career progression plan, including identification of desirable experiences	Same intensity as operational fields
	Prior program office experience	Clear career path, including experience in -- operational command; -- multiple program office assignments; and -- headquarters, logistics, systems engineering, laboratory, and test
		DSMC Program Management Course as minimum Intermediate and senior service college
Selection Criteria	Based on demonstrated performance, skills and experience	Based on performance in acquisition career field
Tenure	4 years or major milestone	Tangible result, 4 years, or major milestone
Promotion Incentives	Equivalent to operational positions	Equivalent to operational positions
Use of Civilians	Selection based on skills and experience -- civilian or military	Selection of best qualified -- civilian or military

(10-69)

was, therefore, a critical step in developing a capable acquisition workforce. In addition to the general guidelines established under DoD Directive 5000.23 other study groups and triservice panels, investigating the acquisition management career field, have identified specific standards regarding the implementation of a career development program.

Educational Background. Rather than defining a particular educational background for entry, the triservice panel concluded that the field should be open to those with appropriate technical, business, and other skills. In contrast, some service management believed that a technical educational background (engineering or physical science) was desirable. Air Force management expressed the view that the optimal educational background was an undergraduate degree in engineering or a physical science and a graduate degree (usually obtained after entering military service) in management (10:71).

Experience. Panels, experts, and other data sources emphasized that substantial acquisition experience and training--developing technical, management, and leadership skills--were necessary to produce a highly qualified program manager (10:71). The triservice panel consensus was that since management of a major program was equivalent to major command of an operational unit, it required a similar level of preparation and a more clearly defined career path (10:72). Key developmental experiences identified by the panel included:

- 1) operational experience, that is, experience with a combat or support command or with the fleet;
- 2) multiple program office assignments; and
- 3) experience, through program office and other acquisition assignments, in systems engineering, testing, laboratory, and logistics and at headquarters (service level or above) (10:72).

These findings underscore one of the greatest concerns posed by commissions

investigating the qualifications of DoD acquisition personnel. While it is obviously impractical to select a program manager without an acquisition background, it is equally impractical to establish a career developmental process for these acquisition personnel that does not emphasize the need for a broad experience base. Operational experience was seen as providing the program manager with a user perspective that is, an understanding of the concerns of the combat or support command which will employ the system (10:72). In addition to an operational background, the triservice panel determined that "program office experience was the most highly valued for preparing the program manager" (10:72). Such experience provides an insight into contract, technical, and financial management, and increases the manager's understanding of their importance in a development program (10:72-73). The program manager's background should not, however, be limited solely to weapon system development. Given the multidisciplinary nature of program management, panels also believed the program manager should have experience with the major functional fields or organizations involved in acquisition (10:73). Headquarters experience was valued because much of a program manager's time is spent explaining and advocating the program to higher organizational levels (10:73-74).

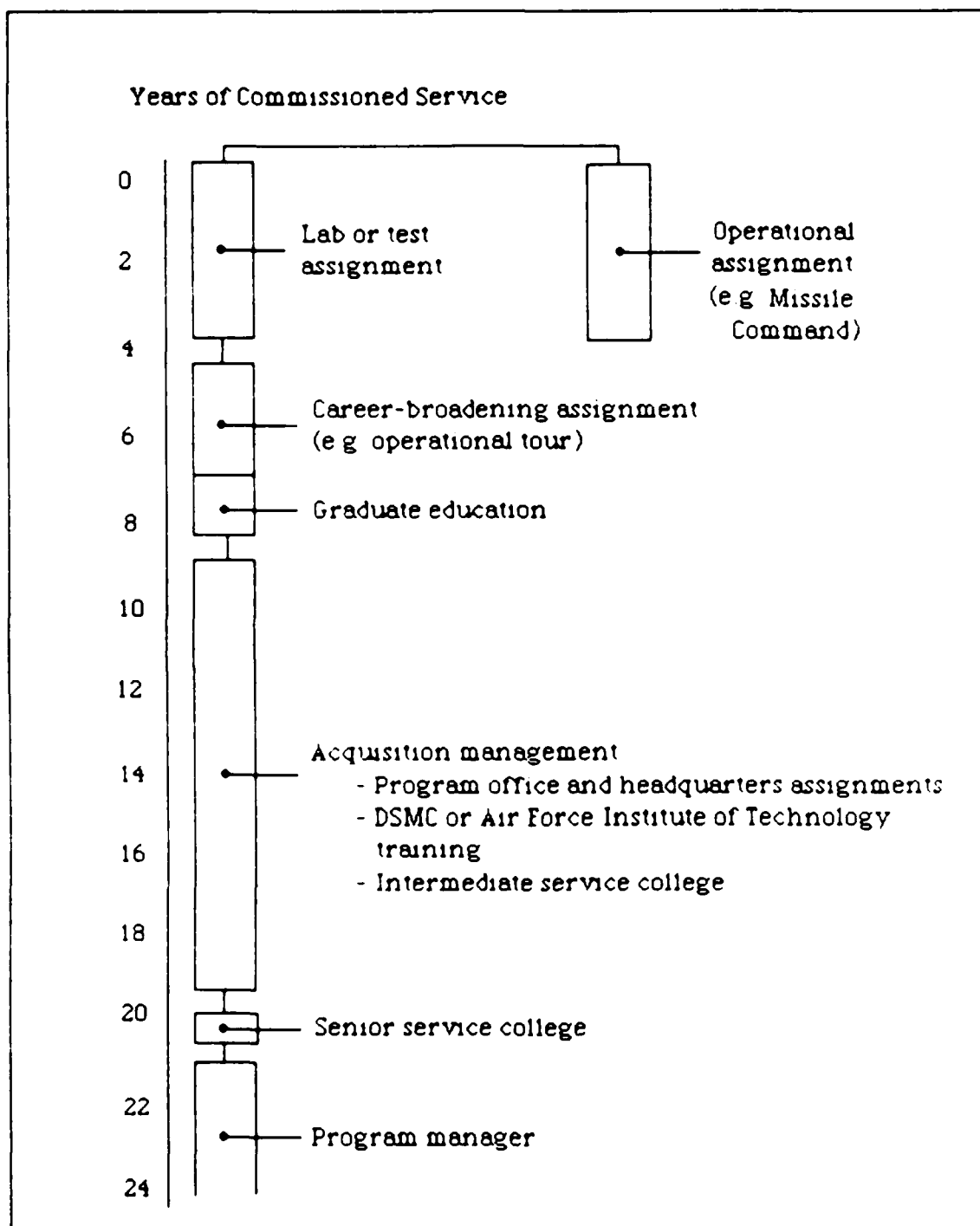
Training. In addition to a broad base of experience, several research panels emphasized the importance of comprehensive training in the development of DoD acquisition personnel. DSMC's 5-month Program Management Course was viewed as the most comprehensive curriculum, which optimally would be supplemented with other specialized courses, such as the Program Managers Workshop (10:74). As outlined in Fox's article, these specialized courses should, however, "focus on the day-to-day problems facing individuals assigned to government program offices" (4:70). They should also include extensive practice exercises in developing the necessary analytic and negotiating skills (4:70). In conjunction with specialty training, the role of professional military education (PME) was strongly endorsed

Service officials "believed that attendance at intermediate and senior service colleges was desirable as it prepared officers for higher level command and staff duties" (10:74).

Current AM Career Development Policies

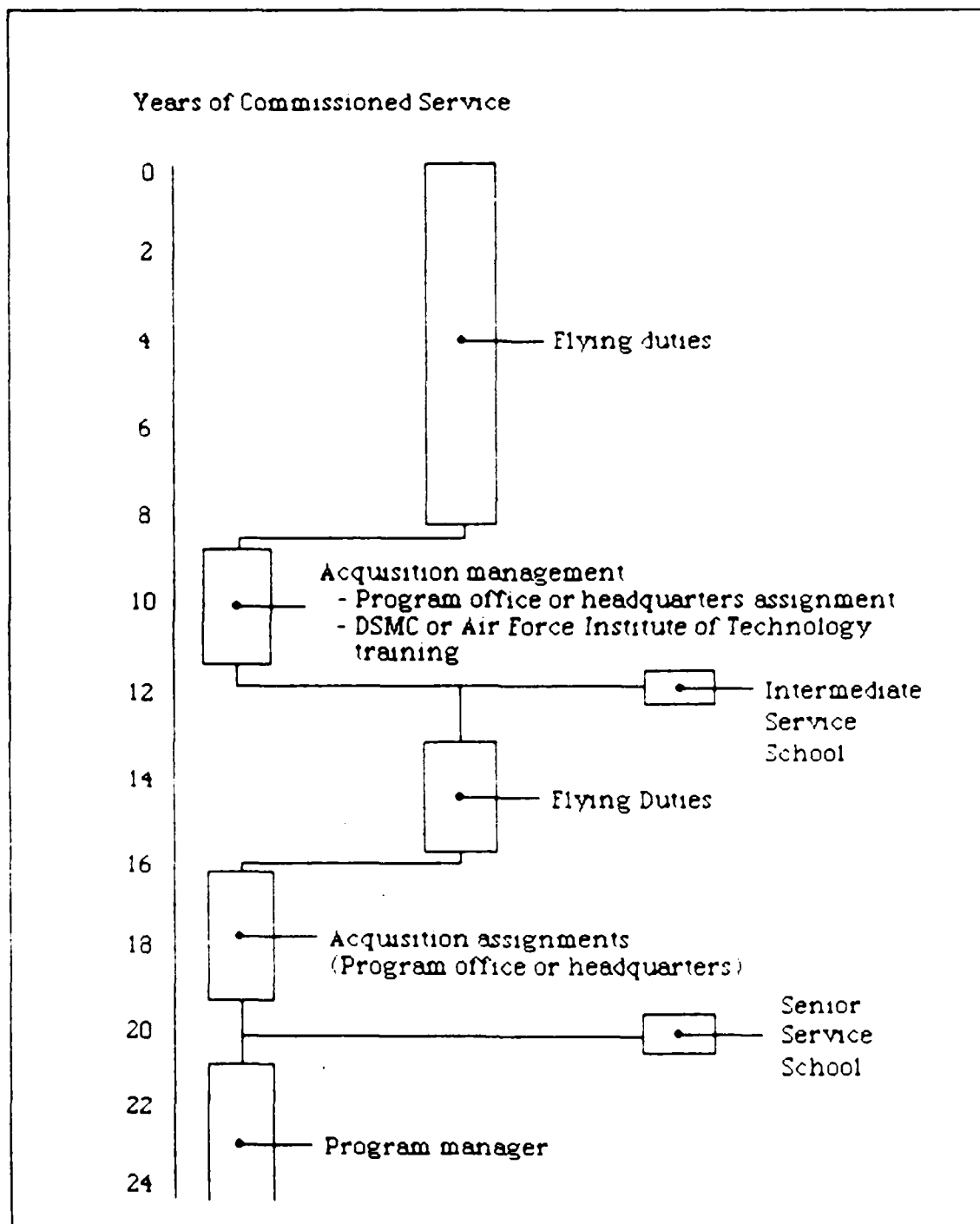
The Air Force is unique among the services in having a specialization in program management (10:82). Unlike the other services, "officers may enter directly into the acquisition field or transfer into it after an initial assignment in an operational command" (10:82). As a result, any Air Force acquisition career development program must be prepared to establish definitive guidelines for both junior and senior personnel. This program must also be flexible enough to address the requirements of rated officers entering the acquisition career field. Rated officers (pilots and navigators) typically receive one 3-year acquisition assignment before their 15th year of service and repeated acquisition assignments starting about their 15th to 16th year (10:82). Over their careers, nonrated officers progress from one career field to another, generally starting with a technical field and moving into fields that emphasize managerial and leadership skills (10:82). Typical acquisition management career paths for nonrated and rated personnel are presented in Figures 1 and 2.

As a rule, nonrated acquisition officers "begin their careers in the Air Force Systems Command, or they may enter through an operational command, such as the Missile Command" (10:82-83). Officers beginning in the Systems Command are likely to enter acquisition management via the development engineering or scientific fields and receive an initial assignment in a lab or test center (10:83). After this initial assignment, these officers are exposed to a series of assignments designed to expand their capabilities as program managers. The current career development path for nonrated personnel is as follows:



(10 84)

Figure 1 Air Force Career Path for Nonrated Officers



(10 85)

Figure 2. Air Force Career Path for Rated Officers

At about their 4th to 6th year, officers are advised to take a career-broadening tour. Obtaining operational experience is encouraged, although Air Force officials report difficulties in releasing engineers to operational assignments when shortages of engineers exist. Alternatively, officers may take career-broadening assignments outside their initial career fields. During this period, officers are also encouraged to attend Squadron Officers School and apply for graduate education. Between their 7th and 11th year of service, nonrated officers pursuing program management as a career transfer out of their technical field into the acquisition program management career field. Officers entering this field must have an undergraduate degree in engineering, a physical science, math, or business management. Over the next 12 years, officers typically have two program office assignments and a headquarters assignment (10:83).

During latter assignments, completion of specialty training and professional military education courses are particularly stressed. At this time, "officers attend either the DSMC Program Management Course or specialized courses at the Air Force Institute of Technology" (10:86). Officers may also be selected to attend an intermediate service college (Armed Forces Staff College or Air Command and Staff College) and later, a senior service college (National War College, Air War College, or Industrial College of the Armed Forces) (10:86).

The career path for rated officers differs from that followed by nonrated officers (10:86). As a result of this difference, current directives have established a separate career development path to accomodate rated personnel. For the Air Force to receive an appropriate return on training, and for officers to qualify for aviation incentive pay, rated officers generally spend at least 9 to 11 years in flying duties (10:86). They then rotate into the Systems Command for a 3-year acquisition assignment, often followed by attendance of intermediate service college, returning at completion to flying duties for an additional 3 years (10:86). At about their 15th to 16th year, officers are likely to return to the Systems Command and spend the remainder of their career in acquisition management (10:86).

To supplement these policies, "the DoD Authorization Act of 1986 requires that regulations be issued establishing experience and training requirements for

those assigned as program managers of major programs" (10:106). The regulations must require that, as a minimum, program managers (1) have attended the DSMC Program Management Course (or comparable course) and (2) have at least 8 years of experience in the acquisition, support, and maintenance of weapon systems, including 2 years at a procurement command (10:106). Time spent at DSMC or pursuing graduate education in a technical or management field may be counted against the 8-year requirement (10:106). This attempt to formalize the development of the acquisition career field was strongly indorsed by the President's Blue Ribbon Commission on Defense Management (7:67).

In several respects, the Air Force program resembles the desired conditions previously discussed: nonrated officers enter the acquisition field early in their career, usually gaining some early operational experience (10:87). Most of those entering the field have a degree in a technical field and are encouraged to earn an advanced degree in management (10:87). Completion of specialized training and service college is also encouraged (10:87). The problem with current career development directives, however, surrounds the emphasis placed on these policies, and their practical implementation. For example, while a recent General Accounting Office (GAO) survey of Air Force officials established a clear career path for nonrated officers, the results "could not identify any written description of the career path for rated officers" (10:87). Moreover, neither career path is clearly defined in official career guidance (Air Force Regulation 36-23) (10:87). In addition, this GAO survey concluded that implementation of these career development guidelines has not been consistent. The following findings clearly demonstrate this point:

Four of the 11 program managers in our sample lacked operational experience. Three lacked experience in a program office. Four had no headquarters experience. One officer's experience was almost exclusively in headquarters. Another's was exclusively in test. One officer entered the acquisition field as a colonel. And less than half attended the DSMC Program Management Course. Rated officers had less acquisition experience; only one of the five rated officers in our sample

had 8 years acquisition experience (10:87).

Although insufficient information was presented to determine the external validity of these findings, the general implications clearly dramatize the need for a definitive career development program for acquisition officers.

Impetus for Development of AFSC Regulation 36-5.

During 1985, the Air Force Systems Command recognized the need to evaluate its strategy for the development of acquisition managers. General Lawrence Skantze, AFSC commander, appointed the Acquisition Manager Career Development Task Force (CDTF) headed by Major General Ronald W. Yates, USAF, F-16 program director (5:21). The task force comprised 20 senior acquisition managers, lieutenant colonels and above, representing AFSC organizations and functional specialties (5:21). Although the task force was established due to public scrutiny of the acquisition community, this commission was also formed "because internal command reviews revealed the lack of a cogent policy plan for training and keeping good acquisition managers in the Air Force Systems Command" (5:21).

Recommendations. Briefly, the task force acknowledged external pressures to develop a better career development path for acquisition managers, and agreed that improvements in their career development were needed (5:21). In addition, "the task force agreed that the problem did not stem from a lack of motivation but, rather from lack of a cohesive plan/program to train acquisition managers" (5:21). As a result of these findings, three objectives were established:

- 1) develop a structured acquisition manager career-development model to set forth a definitive and viable career management plan producing broad-based acquisition managers capable of assuming leadership roles,
- 2) develop an acquisition manager certification process to provide a visible, formalized career path to senior acquisition manager duties, and
- 3) develop a time-phased plan for Command implementation of the acquisition

manager career development model and certification initiatives (5:21). Based on these recommendations, specific guidelines for the development of qualified acquisition managers were then established.

Proposed Career Development Model. The career development model the heart of recommended initiatives, is structured broadly and not meant to address each situation (5:22). It provides a guide for the acquisition manager to plan his/her career development based upon what the Command sees as important ingredients in the maturation of an experienced acquisition manager (5:22). These guidelines do however, specifically focus on shaping those capabilities that are critical to the career development of the acquisition force. In particular, emphasis was placed on such requirements as leadership ability, program office and operational experience and high program visibility (5:21-22). Essentially, the model was designed to "produce an acquisition manager with a broad experience base and allow for transition into the AM career field by individuals from related acquisition career fields: e.g., 26XX, 28XX, 29XX, 49XX, 65XX, 673X, 674X and individuals from the rated force" (5:22). The intent of this final objective is particularly noteworthy in establishing a definitive, yet flexible, career development program, capable of adapting to the transition of non-AFSC personnel, this model avoids the shortfall of past directives. For example, "special career models are being worked on for rated acquisition officers, test pilots and test navigators" (5:22).

The model contains four "experience levels," spaced about equally during 16 years (5:22). Each level corresponds to a set of education and experience factors essential to proper career development of an acquisition manager (5:22). As in past programs, specialty training and professional military education are also emphasized. The basic requirements of each of the four development levels are as follows.

1. First Level: the first level would be attained early in an officer's career (within the first year or two) and would include a bachelor's degree, 6 months experience in a system project office (SPO), and

completion of the System Acquisition School's Introduction to Systems Command Acquisition Management course at Brooks Air Force Base.

2. Second Level: occurs at about the 6-year point and would include Squadron Officer's School, 2 years experience in a SPO, completion of the Air Force Institute of Technology (AFIT) Systems 200 course (or equivalent), and a year of operational experience (through a CROSSFLOW or BEST type of program), or 2 years experience in other non-acquisition areas with AFSC or the Air Force Logistics Command.
3. Third Level: occurs at about the 12-year point and would include completion of Intermediate Service School, a masters degree, other job experience (e.g., headquarters assignments, joint assignments, work in other SPOs, other AFSC/AFLC jobs), at least 3 years experience in a SPO, and completion of the AFIT Systems 400 course (or equivalent)
4. Fourth Level: occurs at about the 16-year point and includes completion of Senior Service School, 8 years of acquisition experience, the Defense Systems Management College PMC or equivalent, and 2 years experience as a project manager within a SPO. Additionally, AFSC/CC approval of the acquisition manager would be required to attain this level (5:22).

As a result, the model insures that upon reaching the the fourth level, the acquisition manager will have obtained the experience and training necessary to meet the complex demands of today's weapon system development.

Certification. To complement the proposed career development model, the task force "recommended that the Command establish a professional certification process for acquisition managers open to all eligible Air Force officers" (5:22). Basically, any officer completing requirements for the levels described above would submit an application for certification at the applied-for level (5:22). The certification process does, however, include certain provisions. First, this process is open to any officer completing requirements for various levels whether or not he/she is assigned to the Air Force Systems Command at the time of application (5:22). Second, the certification process is started only by the officer's application; therefore, anyone may complete the requirements without applying for the certification (for instance, if presently uncertain about pursuing careers as acquisition managers) (5:22).

Formal Selection Process. In addition to articulating specific experience requirements and a certification process, the task force recommended that the

Command institute an acquisition manager selection process to identify a pool of officers for selective career management and appointment to senior acquisition manager positions (5:23). Basically, the task force recommended two levels of quality screening: acquisition manager list (AML) and senior acquisition manager list (SAML) (5:23). Selection for either list would be contingent upon participation in the career development program and progression through the development levels. The specifics of each selection process are as follows:

For the AML, a board would convene each year at AFSC headquarters to review records of individuals completing requirements for the third level of certification. The board would use a "best qualified" process to identify those demonstrating potential for additional responsibility and place them on the acquisition manager list. In addition to the AML board, the Command would convene a board to consider senior acquisition managers for inclusion on the senior acquisition manager list. The AM's being considered could be lieutenant colonel selectees and above, and would not have been deferred for promotion to colonel. The SAML board would consist of senior (0002/2996) acquisition managers and the recommendations would be reviewed by product division commanders and the AFSC commander. Those selected for the SAML would be awarded the 2991 specialty code (job identifier) and would be the prime individuals eligible for assignment as SAR- or AFSARC-level program directors. There would be no other path to obtain the 2991 specialty code (5:23).

Specifics of AFSC Regulation 36-5

Prior to the establishment of the Acquisition Manager Career Development Task Force, the Career Development Branch (AFSC/MPROC) was created in July 1985, under the Director of Assignments Division (8:1). The charter of this office was two-fold. 1) to administer programs relating to the career development of the acquisition force, and 2) to retain Air Force officers in Systems Command (8:1). This branch was therefore, given responsibility for the development and implementation of this regulation. To validate the task force recommendations, MPROC initiated two actions. First, along with the Air Staff, they developed a computer model which would age the acquisition force, giving predictions on the feasibility of the proposed model (3:1). In addition, they surveyed the acquisition force to establish the educational and training

background of these officers (8:1). In June 1986, when the task force reconvened to review the proposed career development model, the draft of Regulation 36-5, and the survey results were considered (8:1). During this timeframe, the complete task force findings were also briefed to General Skantze, and approval to implement the regulation was given. At the time of this writing, however, the final version of this regulation has not been released to the acquisition force.

In general, the draft Regulation 36-5 follows the career development model developed by the Yates task force. Therefore, only the specific refinements of the regulation's career development program will be highlighted. These refinements include a definition of the responsibilities of those organizations participating in the program, as well as the basic philosophy and requirements for effective development of the acquisition career field. As presented in the introduction, the objective of the AM Career Development Program "is to maximize the professional development and mission capability of the AM officer force by setting forth a definitive and viable career management plan that produces broad-based acquisition managers capable of assuming middle management and senior leadership roles" (2:4). The following principles provide the foundation for this program:

1. The Air Force acquisition system needs effective, positive leaders at all levels to ensure mission success.
2. System program office (SPO) experience is mandatory for acquisition managers. This experience should include project management responsibility for the technical performance, schedule, cost, reliability, and maintainability of some system or configuration item.
3. Valuable broadening experience within the acquisition management area may be obtained through assignments to non-SPO organizations within AFSC and Air Force Logistics Command (AFLC). Experience gained through assignment to an Air Force Plant Representative Office (AFPRO) is particularly useful in providing a broad perspective of weapon systems acquisition.
4. Experience in operating, supporting, or maintaining an operational system gained in an Air Force major air command (other than AFSC or AFLC) or in a joint command is highly desirable.

5. Any AM career development program must -
 - a. Produce acquisition managers with broad experience, while ensuring a common core of experience, training, education, and professional development;
 - b. Provide opportunities for high potential officers in related career fields to transition into AM;
 - c. Encourage operational broadening;
 - d. Provide a challenging, yet achievable, career track;
 - e. Be definitive and visible to both the officers participating in the program, and the public they serve.
6. A phased professional certification process provides the necessary overall structure for the AM Career Development Program, and contributes to the motivation of individuals toward career development efforts.
7. A formal selection process is provided to identify those officers best qualified to assume senior AM responsibilities (2:4-5).

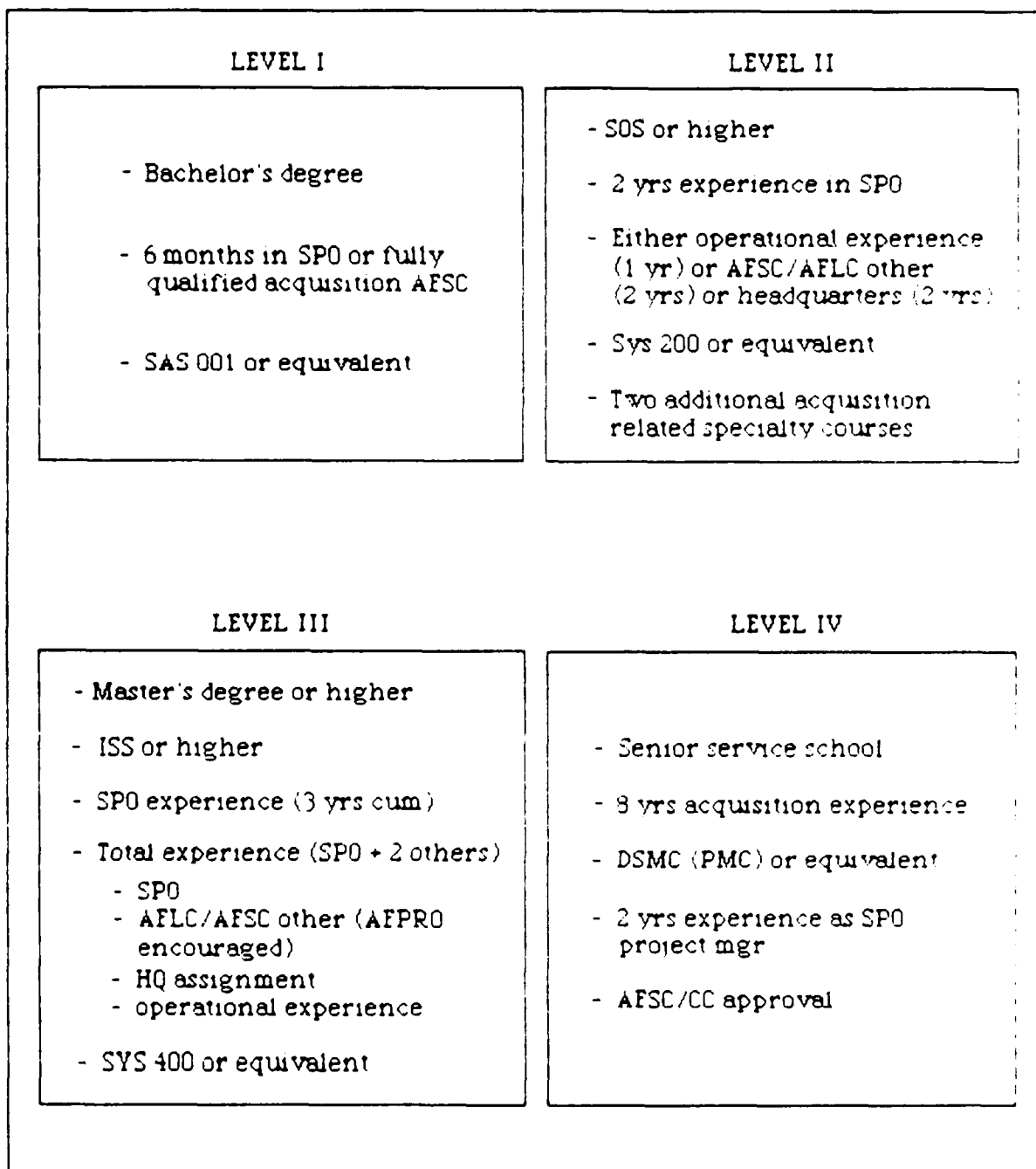
As in the original model, the certification process consists of a progression through a series of development levels. Four categories of qualification requirements are addressed at each level: academic education, specialty training, professional military education, and experience (2:8). The four distinct levels of certification are:

1. Level I - Acquisition Management Intern
2. Level II - Intermediate Acquisition Manager
3. Level III - Associate Acquisition Manager
4. Level IV - Professional Acquisition Manager (2:8).

The requirements for certification at each level are outlined in Figure 3.

Certification at each level is "obtained through an application process initiated by the individual officer using AFSC Form 302" (2:14). Under normal circumstances, a separate AFSC Form 302 will be submitted to HQ AFSC/MPROC for each level of certification (2:14). The specific details concerning this application procedure are presented in the regulation.

The regulation also makes provisions for a formal selection program, which



(2 10a)

Figure 3 Certification Requirements for each Level

includes both the Acquisition Managers List (AML) and Senior Acquisition Managers List (SAML). The purpose of the AML is "to define a pool of officers who are qualified to fill key middle management positions and who will receive selective career management by the HQ AFSC Career Development Branch (HQ AFSC/MPROC) (2:17). In addition, the SAML will "provide a pool of officers qualified to assume senior program management positions, including Selected Acquisition Review (SAR) and Air Force Systems Acquisition Review Council (AFSARC) program management responsibilities (2:19). The regulation also outlines the selection procedures, similar to those proposed in the original model, and the assignment policies for each pool of officers (2:17-20).

Conclusion

As demonstrated in this literature review, relatively few attempts have been made to formalize the career development of the acquisition force. Although all three services have implemented policies, current programs are in need of refinement. Serious consideration must be given to forging a common educational, training, and experience base for military acquisition officers. Career development programs must also be sufficiently flexible to address the requirements of non-acquisition personnel that will transition into triservice systems commands. Because of these perceived deficiencies, several commissions have published findings that seriously question the quality and capability of DoD acquisition personnel. These circumstances provided the impetus for the Acquisition Manager Career Development Task Force, and the creation of AFSC Regulation 36-5. For the first time, a career development program has established definitive requirements for progression in the acquisition career field. These requirements are specifically designed to develop personnel with the experience base and knowledge necessary to manage the dynamic environment of weapons system development and acquisition.

III. Methodology

Introduction

This chapter outlines the design and methodology for this research study. In particular, the discussion focuses on the survey approach, test instrument and pretest results, selection of population and test samples, and data analysis.

Survey Approach

Currently, there are in excess of 2600 27XX officers assigned throughout the Air Force. The proposed Acquisition Management Career Development Program will dramatically affect these officers, as well as on those individuals that transition into the acquisition field. Although the effects of this regulation will govern the future actions of a large percentage of the acquisition force, many senior officers, especially those with the 2716 AFSC, have progressed through the acquisition field without benefit of formalized career development. These officers were, therefore, in an excellent position to present their views on how such a program could have impacted their careers. In addition, since Systems Command has presented a series of informational briefings on the regulation's provisions, the current acquisition community was qualified to present their views on the relative merits of this program. Given this situation, the survey for this study investigated the perceptions, rather than actual behavior, of two samples of officers regarding career progression under the new regulation. Because AFSC Regulation 36-5 is still in its infancy, direct observations of behavior resulting from this regulation were not possible. A survey which reports on perceptions of behavior rather than observations of behavior was, therefore, the best option available for this study.

The most unusual aspect of the proposed research method concerned the regulation itself. At the time of this writing, this regulation was still in the approval cycle. Despite System Command efforts to inform the DoD acquisition community, an

undetermined number of officers may have been unaware of the regulation. As a result, the research survey could have recorded the perceptions of officers towards AM career development programs in general, and not specifically towards Regulation 36-5. A filtering question was, therefore, included in the survey to establish the acquisition community's familiarity with the regulation.

Test Instrument

For this study, an attitudinal survey was used to accumulate data regarding the perceptions of both junior personnel (AFSC 2724) and senior personnel (AFSC 2716) toward the proposed Acquisition Management Career Development Program (Reference Appendix A). Formally entitled the Acquisition Program Management Utilization Field, the 27XX career track "encompasses staff and management functions peculiar to the Air Force acquisition life cycle" (3 A10-29/30). Specifically, the 2716 AFSC, Acquisition Management Officer, "identifies positions with responsibilities for systems, major subsystems or equipment, or in the overall aspects of the program management effort (3 A10-29/30). In contrast, the 2724 AFSC, Acquisition Project Officer, "identifies positions with the responsibilities for assisting in the planning and management of the system, subsystem, or equipment acquisition programs" (3 A10-29/30). The 2724 and 2716 AFSC's were specifically chosen for this research study because of their relationship to the issue of career development. A junior officer enters the 27XX career field as a 2721, or intern acquisition officer, and then progresses to the 2724 AFSC. As a result, this AFSC is applied primarily to company-grade officers. The field-grade counterpart to this AFSC is the 2716 career track. After completion of the minimum requirements and promotion to Major, the 2724 officer is eligible for progression to the 2716 AFSC. This arrangement facilitated the comparison of both junior and senior personnel's attitudes towards career development. Operationally defined, junior acquisition personnel were considered to

be those individuals, First Lieutenant through Major, that met the minimum requirements of the 2724 career field. As outlined in AFR 36-1, the specialty qualifications for this AFSC include an engineering-oriented, or business/management undergraduate degree, a minimum of 18 months experience as a 2721, and completion of Systems 100/Systems Acquisition School (3:A10-34). In contrast, senior acquisition personnel were defined as those individuals, Major through Colonel, that met the minimum requirements of the 2716 career field. In addition to those requirements identified for the 2724 officer, the specialty qualifications for this AFSC include 6 months experience as a 2711, and completion of either DSMC or Systems 400 (3:A10-31).

The data generated from this survey consisted of self-reported information provided from two stratified samples of these acquisition personnel. To address the requirements of this research study, this test instrument was divided into four sections. In the first section, the acquisition force's familiarity with Regulation 36-5 was established. The second section accumulated background information (i.e., AFSC, rank, years of acquisition-related experience, major command) in order to establish the cross-section of respondents. In addition, the third section investigated each respondents attitudes toward each of the variables related to career development (i.e., academic background, PME, acquisition experience, specialty training). This information was also used to address each of the research/investigative questions. Last, the fourth section determined each respondents certification level relative to the guidelines outlined in AFSC Regulation 36-5. The survey methodology, therefore, achieved three primary objectives: 1) a determination of the familiarity of the acquisition force toward Regulation 36-5, 2) a determination of the attitudes of the current acquisition force toward career development, and 3) a determination of the certification level of each respondent. Using this information, the relative importance of such factors as educational background, and acquisition experience

could be determined for officers of different rank and specialty codes (AFSC).

Pre-test Survey Results

After the survey was constructed, the test instrument was pretested on both the January 1987 Systems 200 and AFIT Graduate Systems Management (GSM) classes. In all, the test sample for this pretest consisted of 50 military officers, ranging from Second Lieutenant to Major. Since the intent of the pretest was to validate the basic test instrument, specialty codes (AFSC) were not considered.

In reply to this pretest, 37 out of the 50 surveys were returned, for a response rate of 74 percent. Because of the relatively small sample size, the results of the pretest were not conclusive. These results did, however, provide some insight into the "typical" 27XX officer's familiarity with AFSC Regulation 36-5, attitudes toward acquisition management programs in general, and attitudes toward career development as addressed by each of the investigative questions. With regards to familiarity with the regulation and general attitudes toward acquisition management program, the pretest established that: 1) 87 percent of those officers responding were at least aware of the regulation's content, 2) 76 percent of the officers proposed that a formal acquisition management career development program is necessary, and 3) 73 percent of the officers believed that an acquisition management program will improve the quality and development of 27XX career field. In relation to the specific career development issues addressed by each investigative question, the pretest provided the following information. First, relative to the association between educational background and career development, 81 percent of the officers proposed that a technical undergraduate degree provided the best foundation for a 27XX officer. In addition, 65 percent stated that a graduate degree enhanced career development. In terms of preferences toward academic background, 32 percent of the officers believed that a non-technical graduate degree was a necessary follow-on to a

technical undergraduate degree. Only 11 percent stated that a technical graduate degree should follow a technical undergraduate degree. Second, relative to the association between different types of acquisition experience and career development, 84 percent proposed that System Program Office (SPO) experience was critical to the development of a 27XX officer. In conjunction, 89 percent of the officers believed that SPO project manager experience was important. As defined by AFSC Regulation 36-5, a SPO project manager is "any person who is responsible for the technical performance, schedule, cost, reliability, and maintainability of a system or some configuration item or integration thereof) being developed or produced by the SPO, or a person in the direct supervisory chain of the same" (2:10). Next, 73 percent stated that AFSC/AFLC other-type experience was important for effective career development. In this instance, AFSC/AFLC other-type experience is defined as "any assignment within AFLC or any non-SPO assignment within AFSC (excluding HQ AFSC)" (2:8). Last, approximately 64 percent of the officers proposed that headquarters experience was necessary.

The pretest also provided an insight into the association between operational experience and career development. Based on the results, 70 percent of the officers proposed that operational experience was critical to career development. In addition to this information, 41 percent stated that 10 to 12 years of total acquisition experience (both acquisition-related and operational) was necessary for the effective career development of a 27XX officer.

Finally, the pretest established an association between professional military education (PME) and specialty training relative to career development. In this case, 68 percent believed that PME was important. Specifically, 64 percent of the officers stated the Squadron Officer School (SOS) was critical to career development. Because of the low grade structure of the test sample, the attitudes toward Intermediate Service School and Senior Service School were not conclusive. Similar to the attitudes

toward PME, 86 percent proposed that specialty training enhanced career development. Specialty training was defined as "courses in any of the following subject areas: program management, financial management, contracting, technical management, production management, logistics, or quality assurance" (2:11) Relative to Systems Acquisition School (SAS)/Systems 100, and Systems 200, 78 and 81 percent of the officers believed that these Professional Continuing Education (PCE) courses were important. As before, the low grade structure of the test sample precluded any definitive insight into attitudes toward Systems 400 and the Defense System Management College (DSMC)

In addition to these empirical results, the pretest identified several weaknesses in the design of the test instrument. First, a majority of comments specified that the response scale needed to be included on each page of the survey. Second, the pretest identified that the range of responses for those questions involving the required years of acquisition and operational experience were too narrow. Last, numerous comments stated that additional definitions should have been provided in order to clarify certain questions. After consideration of these inputs, the test instrument was modified to address each of these weaknesses. In particular, the maximum range of possible responses for those questions relating to acquisition and operational experience was extended from 3 years or more to 15 years or more. The intent of this approach was to increase each individual's flexibility to discriminate between responses.

Population of Interest and Test Samples

The population of interest for this research study consisted of all acquisition management officers (27XX) with a duty AFSC of 2724 or 2716, stationed within the continental United States. From this population, two stratified samples (mutually exclusive sub-populations) were drawn. Based on personnel listings obtained from

the Air Force ATLAS Database, there were 878 officers with a duty AFSC of 2724 and 646 officers with a duty AFSC of 2716. To compute the required sample size for each of these finite sub-populations to achieve a confidence/reliability level of 95% + 5%, the following equation was used:

$$n = [N(z^2) \times p(1 - p)] / [(N-1) \times (d^2) + (z^2) \times p(1 - p)]$$

where: n = sample size

N = population size

p = maximum sample size factor (.50)

d = desired tolerance (.05)

z = factor of assurance (1.96) for 95% confidence level (1:12).

This confidence/reliability level means that if many samples of the same size and format were to be drawn from the sample population, 95% or more of the confidence intervals of the samples (+ 5 percentage points) would contain the true population mean (achieved by taking a census or 100% sample) (1:11). Although this equation is primarily designed for a two-tailed hypothesis test, its conservative nature also makes it appropriate for this research study. Using this formula, sample sizes of 267 (AFSC 2724) and 241 (AFSC 2716) were to be randomly drawn from the each of the two sub-populations. Assuming a 50% margin of safety for nonresponsiveness to the survey, the minimum acceptable sample sizes were 401 and 362, respectively.

In order to attempt to have an equal number of responses from officers with Level I to Level IV certification, the proportion of officers by rank, within each stratified sample, was designed to be equal to the proportion within each sub-population. The proportion of O-2, O-3, and O-4's within the 2724 AFSC, for example, was 44.4, 51.1, and 4.5 percent, respectively. The proportion of O-4, O-5, and O-6's within the 2716 AFSC was 36.2, 52.8, and 11.0 percent, respectively. To minimize any anomalies associated with the selection of each sub-population from the ATLAS Database, a reserve factor of ten percent was then added to each of these percentages

For the 2716 sub-population, an additional ten percent was included in the calculation for each rank. This step was necessary to ensure that the generated sample included at least 362 officers. As a result, the final test sample of AFSC 2724 officers consisted of 212 First Lieutenants, 274 Captains, and 6 Majors. In contrast, the test sample of AFSC 2716 officers consisted of 132 Majors, 248 Lt Colonels, and 22 Colonels.

Based on these calculations, a listing of 894 names of those personnel with a duty AFSC of 2724 and 2716, was requested from the ATLAS Database. The generation of the test samples for each AFSC consisted of a random selection of individuals based on the last digit of their social security number. This procedure assumes that the last digit of each individual's social security number is randomly distributed across the sub-population. Using this approach, a single digit, ranging from 0-9, represented an increment of ten percent. The 2724 AFSC proportion for First Lieutenants of 54.4 percent, for example, required the random selection of six digits. The test sample for each rank within the 2724 AFSC sub-population, therefore, required 6, 7 and 2 digits. In contrast, each rank within the 2716 AFSC sub-population required 6, 8, and 4 digits, respectively. After inputting this information, the ATLAS Database generated a listing of 573 officers with the 2724 AFSC, and 442 officers with the 2716 AFSC. A total of 1015 surveys were, therefore, mailed out to a minimum of 35 different military organizations. The difference in the number of surveys mailed and labels generated resulted from a lack of available information for certain labels.

Data Analysis

For this research study, the data analysis consisted of both a frequency count of responses per question, and a cross-tabulation of responses by duty AFSC. Similar to the pretest, the frequency count analysis was used primarily to establish attitudinal trends. In contrast, the analysis of each of the five investigative questions, and presentation of data was accomplished through the cross-tabulations. Since the

intent of this research study is to compare the attitudes of both junior and senior acquisition personnel relative to those variables affecting career development, the cross-tabulation of responses, by AFSC, provided the best measure of insight into each investigative question.

To accomplish these analyses, a Statistical Analysis System(SAS) computer program was developed (Reference Appendix B). The program was based on a very straightforward design. First, each survey question was given a variable name, and the range of possible responses to each question were assigned to these variables. Second, to improve the quality of the output, labels, representing the intent of each question, were cross-referenced with each variable name. These labels were also used to identify each question's location within the data file. Next, using the SAS format for data files, the responses from each survey were entered into the computer in the form of a 1 X 42 row vector. The PROC FREQ command, and "tables" subcommand were then used to format the output of the accumulated data.

Frequency Count Format. As previously mentioned, the PROC FREQ and "tables" commands were used to tabulate the total number of responses for each question. These responses were categorized in relation to the survey's 6-point Likert scale. Table 2, taken from the pretest output, represents the output for a typical survey question.

Cross-Tabulation Format. The "tables" subcommand was also used to cross-tabulate those responses relating to academic education, PME, specialty training, and acquisition experience by duty AFSC. Table 3, again taken from the pretest, represents the output of a typical survey question. Because of the difference in the number of junior and senior officers that participated in this study, attitudinal comparisons were based strictly on column percentages. Since comparisons of row percentages, and frequency counts were often misleading, only column percentages were used in the following chapter. Last, the difference in the total count for each

cross-tabulation was a result of nonresponses to the particular question.

Table 2

Results of Pretest Survey Question 2: A Formal AM Program is Necessary

RESPONSE	FREQUENCY	PERCENT	CUMULATIVE FREQUENCY	CUMULATIVE PERCENT
NOT APPLICABLE	0	0	0	0.0
STRONGLY AGREE	15	40.5	15	40.5
MODERATELY AGREE	13	35.1	28	75.7
NEITHER AGR/DISAGR	6	16.2	34	91.9
MODERATELY DISAGREE	1	2.7	35	94.6
STRONGLY DISAGREE	2	5.4	37	100.0

Table 3

Results of Cross-Tabulation of Pretest Survey Question 13: The Undergraduate Degree Providing the Best Foundation for Effective Career Development

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
TECHNICAL	26 70.27 36.67 78.79	4 10.81 13.33 100.00	30 31.08
NONTECHNICAL	7 18.92 100.00 21.21	0 0.00 0.00 0.00	7 18.92
TOTAL	33 89.19	4 10.81	37 100.00

In addition to each of the five investigative questions, the responses associated with the acquisition force's familiarity towards AFSC Regulation 36-5, and their attitudes towards career development in general were cross-tabulated by AFSC. The intent of this final analysis was two-fold. First, this approach should determine how successful the AFSC Personnel Management Office had been in disseminating information concerning the regulation. Second, this procedure should also establish

the acquisition community's attitudes toward the long-range objective of the regulation.

IV. RESULTS

Introduction

This chapter presents the results of the analyses outlined in Chapter 3. Specifically, the analyses address each of the five investigative questions. In addition, a series of preliminary analyses, directed toward establishing the acquisition force's familiarity with AFR 36-5 and general attitudes toward career development, are presented.

As mentioned in the previous chapter, 1015 surveys were mailed out to two stratified samples of officers to accumulate data for this research study. From these surveys, 666 questionnaires were returned within the allotted six week response timeframe. As a result, the survey response rate was approximately 66 percent. Still, while 666 surveys were received, only 641 were actually used in the statistical analyses. This difference can be attributed to one of the following causes: 1) the respondent incorrectly coded the survey (i.e., the appropriate Likert scale was not used), or 2) the respondent failed to satisfactorily complete all questions pertaining to a specific investigative question. With respect to the latter category, the majority of the discarded survey respondents failed to satisfactorily answer Question #13. Referencing Appendix A, this question required each respondent to identify which undergraduate degree provided the best foundation for effective career development of 27XX officers.

Although a small percentage of the returned surveys were not included in the analysis, the remainder still met the requirements for the 95 percent confidence interval. From the final frequency count analysis, 356 (2724 AFSC) and 285 (2716 AFSC) participated in this research study. The breakout of these respondents, in terms of certification levels outlined in Regulation 36-5, included: 275 Level I, 162 Level II, 131 Level III, and 46 Level IV officers. Twenty-seven participants did not

designate a particular certification level. Given this information, each of the analyses, beginning with the preliminary study, are presented.

Preliminary Findings

As outlined in Chapter 3, the intent of the preliminary analyses was two-fold: 1) to determine the acquisition force's familiarity with AFR 36-5, and 2) to establish general attitudes toward career development programs. Survey questions 1 through 3 were used to address this study. Referencing Table 4, these responses established that approximately 90 percent of all survey respondents were aware of the regulation's various provisions. In addition, this information established that junior officers

Table 4

Results of Cross-Tabulation of Survey Question 1: Experience with Regulation 36-5

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
READ REG 36-5	75 12.56 46.01 22.66	88 14.74 53.99 33.08	163 27.30
ATTENDED INFO BRIEFING	142 23.79 68.27 42.90	66 11.06 31.73 24.81	208 34.84
RECEIVED GENERAL INFO	84 14.07 51.22 25.38	80 13.40 48.78 30.08	164 27.47
UNAWARE OF REG	30 5.03 48.39 9.06	32 5.36 51.61 12.03	62 10.39
TOTAL	331 55.44	226 44.56	597 100.00

primarily received information from the AFSC informational briefings. In contrast, a greater percentage of senior officers had actually read the draft version of the regulation. Overall, these results establish that the AFSC Personnel Management Office did an excellent job in disseminating information about AFR 36-5.

In addition to this finding, the preliminary analyses established that the survey participants supported both the need for and future potential of acquisition management development programs. As presented in Table 5, approximately 87

Table 5
Results of Cross-Tabulation of Survey Question 2: A Formal Acquisition Management Program is Necessary

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	169 27.39 57.48 49.13	125 20.26 42.52 45.79	294 47.65
MODERATELY AGREE	132 21.39 54.55 38.37	110 17.83 45.45 40.29	242 39.22
NEITHER AGREE/ DISAGREE	12 1.94 52.17 3.49	11 1.78 47.83 4.03	23 3.73
MODERATELY DISAGREE	17 2.76 47.22 4.94	19 3.08 52.78 6.96	36 13.15
STRONGLY DISAGREE	14 2.27 63.64 4.07	8 1.30 36.36 2.93	22 3.57
TOTAL	344 55.75	273 44.25	617 100.00

percent of those surveyed either strongly or moderately agreed that a formal acquisition management program was necessary. To complement this finding, approximately 80 percent proposed that such a program would improve the career development and quality of 27XX officers (Reference Table 6).

Table 6
Results of Cross-Tabulation of Survey Question 3: An Acquisition
Management Program Will Improve Career Development

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	144 23.38 59.26 41.86	99 16.07 40.74 36.40	243 39.45
MODERATELY AGREE	128 20.78 51.61 37.21	120 19.48 48.39 44.12	242 40.26
NEITHER AGREE/ DISAGREE	42 6.82 67.74 12.21	20 3.25 32.26 7.35	62 10.06
MODERATELY DISAGREE	17 2.76 41.46 4.94	24 3.90 58.54 8.82	41 6.66
STRONGLY DISAGREE	13 2.11 59.09 3.78	9 1.46 40.91 3.31	22 3.57
TOTAL	344 55.84	272 44.16	616 100.00

Although the surveyed officers represent a relatively small percentage of the total acquisition community, these findings support System Command's decision to develop and implement AFR 36-5. In addition, the supplemental study established that

such a program has the potential to improve the career development and quality of the 27XX career field. Interestingly, this attitude toward development programs was comparable for both 2724 and 2716 officers. Although senior acquisition personnel have received little formalized career guidance in the past, approximately 80 percent still proposed that such a program could improve the quality of the acquisition force. Approximately 79 percent of the junior officers also supported this proposition.

Investigative Question 1

As stated in the introduction of this research study, the purpose of Investigative Question 1 was to establish if there is "an association between specialty training, gained from Professional Continuing Education (PCE) courses, and the career development of acquisition personnel" Survey questions 37 through 41 were used to address this study. Using these questions, general attitudes towards specialty training, and specific attitudes toward four training programs (i.e., Systems Acquisition School/AFIT Systems 100, AFIT Systems 200, AFIT Systems 400, and DSMC) relative to career development were determined.

Based upon the results of the statistical analyses, approximately 93 percent of the surveyed officers either strongly or moderately agreed that specialty training is critical to the career development of 27XX officers (Reference Table 7). Similar responses were also observed for each of the specific training programs. For example, approximately 82 percent of those officers surveyed proposed that either SAS or Systems 100 provides an effective foundation for career development. The approximate percentages of positive responses for Systems 200, Systems 400, and DSMC were 82, 78, and 85, respectively.

In addition, these analyses established that general attitudes toward specialty training and career development are comparable for both junior and senior officers. In response to Question 37, approximately 94 percent of the junior officers either

Table 7

**Results of Cross-Tabulation of Survey Question 37: Specialty Training is
Critical to Career Development of 27XX Officers**

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	252 39.31 57.80 70.79	184 28.71 42.20 64.56	436 68.02
MODERATELY AGREE	83 12.95 50.92 23.31	80 12.48 49.08 28.07	163 25.43
NEITHER AGREE/ DISAGREE	15 2.34 57.69 4.21	11 1.72 42.31 3.86	26 4.06
MODERATELY DISAGREE	4 0.62 28.57 1.12	10 1.56 71.43 3.51	14 2.18
STRONGLY DISAGREE	2 0.31 100.00 0.56	0 0.00 0.00 0.00	2 0.31
TOTAL	356 55.54	285 44.46	641 100.00

strongly or moderately agreed that specialty training is critical to career development. Similarly, approximately 93 percent of the senior officers surveyed arrived at the same conclusion.

Although both test samples of officers did establish an overall positive relationship between specialty training and career development, their attitudes toward each of the individual training programs did differ. Essentially, the junior officers tended to assign greater importance to the relationship between SAS/Systems 100 and Systems 200 and career development than the more senior officers. As

presented in Table 8, approximately 84 percent of the junior officers either strongly

Table 8

Results of Cross-Tabulation of Survey Question 38: SAS/Systems 100
Provides an Effective Foundation for Career Development

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
NOT APPLICABLE	9 1.40 52.94 2.53	8 1.25 47.06 2.81	17 2.55
STRONGLY AGREE	176 27.46 65.43 49.44	93 14.51 34.57 32.63	269 41.97
MODERATELY AGREE	122 19.03 51.26 34.27	116 18.10 48.74 40.70	238 37.13
NEITHER AGREE/ DISAGREE	27 4.21 34.18 7.58	52 9.11 65.82 18.25	79 12.32
MODERATELY DISAGREE	18 2.81 58.06 5.06	13 2.03 41.94 4.56	31 4.84
STRONGLY DISAGREE	4 0.62 57.14 1.12	3 0.47 42.86 1.05	7 1.09
TOTAL	356 55.54	285 44.46	641 100.00

or moderately agreed that these courses provide an effective foundation for the development of 27XX officers. In contrast, only 73 percent of the senior officers provided a similar response. This same relationship was also evident in the responses

to the Systems 200 course.

Although the senior officers did not assign as great an importance to the introductory courses, this test sample of officers did support, to a greater extent, a positive relationship between Systems 400/DSMC, and career development. For example, in the case of DSMC, approximately 84 percent of the senior officers either strongly or moderately agreed that this course is critical to the career development of 27XX officers. In contrast, only 64 percent of the junior officers responded in a similar fashion. The finding for the Systems 400 course established a comparable relationship. Still, the results of these final two analyses must be tempered by the fact that a significant number of junior officers did not respond to either Question 40 or 41 (i.e., 26 percent to Question 40, and 21 percent to Question 41). Since Systems 400 and DSMC are offered primarily to senior Captains and field grade officers, many junior officers were unaware of the intent and content of these courses.

Although there was a marked difference in the responses of junior and senior officers relative to the individual training programs, the general attitudes of both test samples of officers definitely established that there is an association between specialty training and the career development of 27XX. Regardless of the particular training course, the net response from both test samples of officers was always positive. As a result, this finding supports the Yates's Commission and Systems Command's decision to incorporate specialty training requirements into AFR 36-5's Acquisition Management Career Development model.

Investigative Question 2

As previously stated, the purpose of Investigative Question 2 was to determine if there is "an association between academic background and the career development of acquisition management personnel." Survey questions 13 through 18 were used address this study. To facilitate this analysis, the survey was designed: 1) to establish

whether a technical or non-technical undergraduate degree provides the best foundation for effective career development, 2) to establish if a graduate degree or higher is critical to career development, and 3) to determine if there is a relationship between specific undergraduate and graduate degrees and career development. To distinguish between responses, two academic tracks, based on an inclination towards either technical or non-technical undergraduate degrees, were established. Using this approach, each officer's attitudes toward a technical, or non-technical graduate degree could be referenced to a particular undergraduate orientation.

As presented in Table 9, approximately 83 percent of the officers proposed that a technical undergraduate degree provides the best foundation for effective career

Table 9

Results of Cross-Tabulation of Survey Question 13: The Undergraduate Degree Providing the Best Foundation for Effective Career Development

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
TECHNICAL	269 42.16 50.95 75.56	259 40.60 49.05 91.84	528 82.76
NONTECHNICAL	87 13.64 79.09 24.44	23 14.51 20.91 8.16	110 17.24
TOTAL	356 55.80	282 44.20	638 100.00

development of the 27XX career field. This inclination was especially prevalent for senior officers. Based on the results of the analyses, approximately 92 percent of the senior officers selected a technical degree as the best undergraduate option. In

contrast, only 76 percent of the junior officers arrived at the same conclusion. Given this relationship between technical and non-technical undergraduate degrees, specific attitudes toward graduate education and career development will be examined separately.

Technical Orientation. For those officers preferring a technical undergraduate degree, approximately 74 percent either strongly or moderately agreed that a graduate degree or higher is critical to career development. This attitude was comparable for both senior and junior officers (i.e. 65 to 59 percent, respectively). In addition to these general attitudes toward higher education, approximately 57 percent either strongly or moderately disagreed that a technical graduate degree is a necessary follow-on to a technical undergraduate degree. In contrast, as presented in Table 10, the respondent's attitudes toward a non-technical follow-on were not as clear. While approximately 45 percent of the officers provided a positive response, 18 percent were neutral, and 19 percent disagreed with the necessity for a non-technical graduate degree. Although this finding provides greater support for the existence of a technical undergraduate and non-technical graduate relationship than the previous analysis, a definite conclusion cannot be reached. Interestingly, the responses to these questions were comparable for both the senior and junior officers.

Non-technical Orientation. For those officers preferring a non-technical undergraduate degree, approximately 71 percent strongly or moderately agreed that a graduate degree or higher is critical to the career development of 27XX officers. As evidenced by these analyses, attitudes toward the necessity for a graduate education are comparable for either type of academic degree. The results also support the conclusions of earlier Air Force management teams. In contrast to this positive finding, the respondent's attitudes toward the necessity for a non-technical graduate follow-on to a non-technical undergraduate degree were not conclusive.

Table 10

Results of Cross-Tabulation of Survey Question 16: A Non-Technical Graduate Degree is a Necessary Follow-on to a Technical Undergraduate Degree

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
NOT APPLICABLE	88 13.88 79.28 24.86	23 3.63 20.72 8.21	111 17.51
STRONGLY AGREE	53 9.94 55.75 17.80	50 7.39 44.25 17.86	113 17.82
MODERATELY AGREE	94 14.83 53.11 26.55	83 13.09 46.89 29.64	177 27.92
NEITHER AGREE/ DISAGREE	55 8.68 48.67 15.54	58 9.15 51.33 20.71	113 17.82
MODERATELY DISAGREE	39 6.15 44.32 11.02	49 7.73 55.68 17.50	88 13.88
STRONGLY DISAGREE	15 2.37 46.87 4.24	17 2.68 53.12 6.07	32 5.05
TOTAL	354 55.84	280 44.16	634 100.00

Referencing Table 11, with the exception of the neutral response category, the distribution of responses is relatively uniform. As a result, a clear relationship as to the necessity for a non-technical graduate follow-on to a non-technical undergraduate degree cannot be established. In addition, the responses to these questions were comparable for both senior and junior officers.

Table 11

Results of Cross-Tabulation of Survey Question 18: A Non-Technical Graduate Degree is a Necessary Follow-on to a Non-Technical Undergraduate Degree

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
NOT APPLICABLE	268 42.01 50.66 75.71	261 40.91 49.34 91.90	529 82.92
STRONGLY AGREE	16 2.51 76.19 4.52	5 0.78 23.81 1.76	21 3.29
MODERATELY AGREE	18 2.82 90.00 5.08	2 0.31 10.00 0.70	20 3.13
NEITHER AGREE/ DISAGREE	29 4.55 80.56 8.19	7 1.10 19.44 2.46	36 5.64
MODERATELY DISAGREE	17 2.66 70.83 4.80	7 1.10 29.17 2.46	24 3.76
STRONGLY DISAGREE	5 0.94 75.00 1.69	2 0.31 25.00 0.70	7 1.25
TOTAL	354 55.49	284 44.51	638 100.00

Overall, the analysis of the responses to Questions 13 through 18 provided a limited insight into the relationship between academic background and the career development. On the positive side, both senior and junior officers firmly established that a technical undergraduate degree provides the best foundation for effective career development of 27XX officers. This attitude was especially prevalent for senior

officers. Similarly, both test samples also proposed that a graduate degree or higher was necessary. As previously mentioned, these findings echo the sentiments of past Air Force management teams attempting to formalize career development guidelines. As a result, this conclusion supports Systems Command's decision to incorporate these academic requirements into AFR 36-5's Acquisition Management Career Development model. Given these positive results, the principal limitation of this analysis concerned the fact that a positive relationship between a particular undergraduate and graduate orientation could not be established. Although there is evidence to support the existence of a positive association between a technical undergraduate degree and non-technical graduate degree, the overall results of these analyses were inconclusive.

Investigative Question 3

The purpose of Investigative Question 3 was to determine if there is "an association between professional military education (PME) and the career development of acquisition management personnel". Survey questions 30 through 36 were used to address this study. Using these questions, general attitudes toward PME, and specific attitudes towards Squadron Officer School (SOS), Intermediate Service School (ISS), and Senior Service School (SSS) were determined.

Based on the analyses, approximately 64 percent of the officers either strongly or moderately agreed that PME is critical to the career development of 27XX officers. As presented in Table 12, this general attitude towards PME was comparable for both junior and senior officers.

The analysis of Questions 31, 33, and 35, however, only provided limited insight into the relationship between each of the three levels of Professional Military Education and career development of the acquisition force. Although approximately 56 percent of the officers either strongly or moderately agreed that Squadron Officer School was critical to career development, the distribution of the remaining

Table 12

Results of Cross-Tabulation of Survey Question 30: PME is Critical
to the Career Development of 27XX Officers

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	113 17.68 57.65 31.92	83 12.99 42.35 29.12	196 30.67
MODERATELY AGREE	120 18.78 56.07 33.90	94 14.71 43.93 32.98	214 33.49
NEITHER AGREE/ DISAGREE	57 8.92 57.58 16.10	42 6.57 42.42 14.74	99 15.49
MODERATELY DISAGREE	49 7.67 58.33 16.10	35 5.48 41.67 12.28	84 13.15
STRONGLY DISAGREE	15 2.35 32.61 4.24	31 4.85 67.39 10.88	46 7.20
TOTAL	354 55.40	285 44.60	639 100.00

responses was relatively uniform. Referencing Table 13, approximately 28 percent of the participants provided a negative response, while 16 percent were neutral. In addition, although junior officers did provide a slightly greater positive response, the overall response for both test samples was very similar.

In contrast to the moderate support for SOS, only 48 percent of the officers proposed that Intermediate Service School training is critical to career development of the acquisition force. However, because of the relatively high non-response rate of junior officers to Question 34, this finding is slightly misleading. As presented in

Table 13

**Results of Cross-Tabulation of Survey Question 31: SOS is Critical to the
Career Development of 27XX Officers**

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	102 15.94 57.30 28.73	76 11.87 42.70 26.67	178 27.81
MODERATELY AGREE	108 16.87 60.00 30.42	72 11.25 40.00 25.26	180 28.12
NEITHER AGREE/ DISAGREE	46 7.19 43.81 12.96	59 9.22 56.19 20.70	105 16.41
MODERATELY DISAGREE	69 10.78 63.30 19.44	40 6.25 36.70 14.04	109 17.03
STRONGLY DISAGREE	30 4.69 44.12 8.45	38 5.94 55.88 13.33	68 10.62
TOTAL	355 55.47	285 44.53	640 100.00

Table 14, approximately 40 percent of the junior officers, and 59 percent of the senior officers either strongly or moderately agreed that ISS training is critical. As previously mentioned, approximately 28 percent of the junior officers did not respond to this question. As a result, the net effect was to lower the overall response percentage. A similar trend was observed in the responses to Question 35. Overall, only 42 percent of the officers believed that Senior School training was critical to the career development of 27XX officers. In this case, approximately 36 percent of the junior officers, and 55 percent of the senior officers proposed a positive relationship

Table 14

**Results of Cross-Tabulation of Survey Question 33: ISS is Critical to the
Career Development of 27XX Officers**

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
NOT APPLICABLE	101 15.78 99.02 28.45	1 0.16 0.98 0.35	102 15.94
STRONGLY AGREE	68 10.62 48.23 19.15	73 11.41 51.77 25.61	141 22.03
MODERATELY AGREE	74 11.56 43.79 20.85	95 14.84 56.21 33.33	169 26.41
NEITHER AGREE/ DISAGREE	79 12.34 64.23 22.25	44 6.88 35.77 15.44	123 19.22
MODERATELY DISAGREE	24 3.75 36.36 6.76	42 6.56 63.64 14.74	66 10.31
STRONGLY DISAGREE	9 1.41 23.08 2.54	30 4.69 76.92 10.53	39 6.09
TOTAL	355 55.47	285 44.53	640 100.00

between SSS and career development. However, similar to ISS, 35 percent of the junior officers did not respond to this question.

Overall, these findings suggest that, in general, there is a positive relationship between Professional Military Education and career development. Interestingly, both test samples of officers appear to share this point of view. As a result, this conclusion

also supports System Command's decision to include PME requirements into Regulation 36-5's Acquisition Management Career Development model. However, with the exception of SOS, there was a marked difference in attitudes towards military training. While both junior and senior officers displayed comparable positive attitudes towards SOS, this same relationship was not evident for either ISS or SSS. From the perspective of just senior officers, a substantial percentage did propose a relationship between both ISS and SSS, and career development. However, since these schools are primarily directed towards field grade officers, a large percentage of junior officers may have been unaware of the intent of this training. As a result, this lack of information may have contributed to the low response rate for junior officers.

Investigative Question 4

The purpose of Investigative Question 4 was to determine if there is "an association between operational experience (other than AFSC/AFLC) and the career development of acquisition management personnel". Survey questions 27 and 28 were used to address this study. Using these questions, general attitudes toward operational experience, as well as the total years of operational experience required for effective career development were established.

Referencing Table 15, approximately 69 percent of the officers proposed that operational experience is critical to career development of acquisition officers. As part of this finding, approximately 63 percent of the junior officers and 75 percent of the senior officers supported this conclusion. As can be seen, a greater degree of positive support for operational experience was predominant throughout the responses of senior officers.

In addition to determining general attitudes toward such experience, each respondent was required to identify the total operational experience required for

Table 15

**Results of Cross-Tabulation of Survey Question 27: Operational Experience is
Critical to the Career Development of 27XX Officers**

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	117 18.51 48.95 33.14	122 19.30 51.05 43.73	239 37.82
MODERATELY AGREE	107 16.93 54.87 30.31	88 13.92 45.13 31.54	195 30.85
NEITHER AGREE/ DISAGREE	50 7.91 60.98 14.16	32 5.06 39.02 11.47	82 12.97
MODERATELY DISAGREE	55 8.70 67.07 15.58	27 4.27 32.93 9.68	82 12.97
STRONGLY DISAGREE	24 3.80 70.59 6.80	10 1.58 29.41 3.58	34 5.38
TOTAL	353 55.85	279 44.15	632 100.00

effective career development. For the purposes of this research study, a 20-year career was assumed. As presented in Table 16, the attitudes of junior and senior officers could be divided into three distinct categories. In the first case, approximately 57 percent of the junior personnel proposed that three years experience or less was necessary; while 46 percent of the senior officers arrived at the same conclusion. In the second case, 21 percent of the junior officers believed that three to six years was appropriate. Approximately 40 percent of the senior officers agreed with this result. In contrast to these findings, there was a substantial

Table 16

Results of Cross-Tabulation of Survey Question 28: The Total Operational Experience Required for Effective Career Development

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
OPERATIONAL	68	29	97
EXPERIENCE	10.69	4.56	15.25
UNNECESSARY	70.10	29.90	
	19.15	10.32	
3 YRS OR LESS	202	129	331
	31.76	20.28	52.04
	61.03	38.97	
	56.90	45.91	
3 TO 6 YRS	76	111	187
	11.95	17.45	29.40
	40.64	59.36	
	21.41	39.50	
7 TO 9 YRS	3	10	13
	0.47	1.57	2.04
	23.08	76.92	
	0.85	3.56	
10 TO 12 YRS	4	2	6
	0.63	0.31	0.94
	66.67	33.33	
	1.13	0.71	
16 YRS OR MORE	2	0	2
	0.31	0.00	0.31
	100.00	0.00	
	0.56	0.00	
TOTAL	355	281	636
	55.82	44.18	100.00

response questioning the need for this type of experience. Interestingly, 19 percent of the junior officers, and 10 of the senior officers proposed that operational experience is unnecessary. As evidenced by the analysis, no other response category received significant support.

Overall, the analysis of Questions 27 and 28 support the existence of a positive

relationship between operational experience and career development. Unlike some of the other variables associated with effective career development, the need for operational experience has proven to be somewhat controversial. Still, both test samples of officers agreed that this type of experience is necessary. This attitude was particularly evident for senior officers, possibly due to their broader experience base, and knowledge of the acquisition process. As presented in Chapter 2, this conclusion is also consistent with the attitudes of past Air Force management teams. In any event, this result supports System Command's decision to incorporate operational experience requirements into the Acquisition Management Career Development model.

Investigative Question 5

The purpose of Investigative Question 5 was to determine if there is "an association between different types of acquisition experience and the career development of acquisition management personnel". Survey questions 19 through 26 and 29 were used to address this study. To facilitate this analysis, the survey was designed to establish: 1) attitudes toward system program office, SPO project manager, AFSC/AFLC other-type, and headquarters experience, 2) for each type of acquisition experience, the number of years required for effective career development, and 3) the total years of acquisition experience required for effective career development. Given this information, attitudes toward each of the types of acquisition experience emphasized by Regulation 36-5 will be examined at this time.

System Program Office Experience. Approximately 95 percent of the officers either strongly or moderately agreed that SPO experience is critical to career development. As presented in Table 17, the responses of both junior and senior officers were very comparable. Approximately 96 percent of the junior officers, and 93 percent of the senior officers believed that SPO experience was essential.

Table 17

Results of Cross-Tabulation of Survey Question 19: System Program Office
Experience is Critical to the Career Development of 27XX Officers

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	310 48.82 56.57 87.57	238 37.48 43.43 84.70	548 86.30
MODERATELY AGREE	31 4.88 56.36 8.76	24 3.78 43.64 8.54	55 8.66
NEITHER AGREE/ DISAGREE	5 0.79 45.45 1.41	6 0.94 54.55 2.14	11 1.73
MODERATELY DISAGREE	3 0.47 27.27 0.85	8 1.26 72.73 2.85	11 1.73
STRONGLY DISAGREE	5 0.79 50.00 1.41	5 0.79 50.00 1.78	10 1.57
TOTAL	354 55.75	281 44.25	635 100.00

In addition to this overwhelming support, the majority of the responses emphasized the need for three to six years of SPO experience. As part of this finding, approximately 39 percent of the junior officers, and 46 percent of the senior officers proposed that experience of this duration is critical to career development of acquisition officers. After this timeframe, both test samples of officers favored SPO experience of seven to nine years (i.e., 35 and 29 percent, respectively), and then ten to twelve years (i.e., 17 and 13 percent, respectively). No other response category received significant support.

SPO Project Manager Experience. Similar to the positive response for program office experience, approximately 94 percent of the officers either strongly or moderately agreed that project manager experience is critical to career development. As in the previous analysis, the attitudes of junior and senior personnel were quite similar. Referencing Table 18, approximately 96 percent of the junior officers, and 92 percent of the senior officers positively responded that this type of experience is necessary.

Table 18

Results of Cross-Tabulation of Survey Question 21: SPO Project Manager Experience is Critical to the Career Development of 27XX Officers

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	236 37.17 56.32 66.86	183 28.82 43.68 64.89	419 65.98
MODERATELY AGREE	101 15.91 57.39 28.61	75 11.81 42.61 26.60	176 27.72
NEITHER AGREE/ DISAGREE	6 0.94 35.29 1.70	11 1.73 64.71 3.90	17 2.68
MODERATELY DISAGREE	5 0.79 35.71 1.42	9 1.42 64.29 3.19	14 2.20
STRONGLY DISAGREE	5 0.79 55.56 1.42	4 0.63 44.44 1.42	9 1.42
TOTAL	353 55.59	282 44.41	635 100.00

To complement this finding, both test samples of officers also proposed that three to six years of SPO project manager experience is necessary. Approximately 54 percent of the junior and senior officers supported this interval. Following this timeframe, both junior and senior officers favored an experience base of three years or less (i.e., 22 and 26 percent, respectively), and then seven to nine years (i.e., 17 and 10 percent, respectively). As before, no other response category received significant support.

AFSC/AFLC Other-Type Experience. In this case, approximately 74 percent of the officers either strongly or moderately agreed that experience in a AFSC/AFLC is critical to the career development of 27XX officers. Analyzing this response, the attitudes of junior personnel once again comparable to those of senior officers. As presented in Table 19, approximately 71 percent of the junior officers, and 77 percent of the senior officers positively responded that this type of experience is critical. The overall emphasis was, however, significantly lower in comparison to the two previous types of experience. In particular, there was a substantial increase in the number of negative responses.

In addition, the majority of officers in both test samples considered three years or less of AFSC/AFLC other-type experience to be critical to career development. In support of this finding, approximately 54 percent of the junior officers, and 47 percent of the senior officers advocated this timeframe. After this duration, both test samples of officers favored AFSC/AFLC other-type experience of three to six years (i.e., 30 and 35 percent, respectively). However, there was also a marked increase in the number of responses proposing that such experience is unnecessary. In particular, 11 percent of the junior officers arrived at this conclusion. No other response category received significant support.

Headquarters Experience. In terms of headquarters experience, approximately 74 percent of the officers either strongly or moderately agreed that this experience is

Table 19

Results of Cross-Tabulation of Survey Question 23: AFSC/AFLC Other-Type
Experience is Critical to the Career Development of 27XX Officers

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	112 17.72 54.37 31.82	94 14.87 45.63 33.57	206 37.59
MODERATELY AGREE	137 21.68 53.52 38.92	119 18.33 46.48 42.50	256 40.51
NEITHER AGREE/ DISAGREE	46 7.28 62.16 13.07	28 4.43 37.84 10.00	74 11.71
MODERATELY DISAGREE	38 6.01 54.29 10.80	32 5.06 45.71 11.43	70 11.08
STRONGLY DISAGREE	19 3.01 73.08 5.40	7 1.11 26.92 2.50	26 4.11
TOTAL	352 55.70	280 44.30	632 100.00

critical to career development. As presented in Table 20, the overall percentage of positive responses for junior and senior officers are comparable. The principal difference, however, centers on the fact that senior officers provided a significantly higher positive response than the junior officers (i.e., 43 and 32 percent, respectively).

To complement this finding, both test samples of officers also proposed that three years or less of headquarters experience is necessary. Approximately 69 percent of the junior officers and 53 percent of the senior officers supported this

Table 20

**Results of Cross-Tabulation of Survey Question 25: Headquarters Experience
is Critical to the Career Development of 27XX Officers**

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
STRONGLY AGREE	112 17.78 48.70 31.64	118 18.73 51.30 42.75	230 36.51
MODERATELY AGREE	141 22.38 61.30 39.83	89 14.13 38.70 32.25	230 36.51
NEITHER AGREE/ DISAGREE	48 7.62 69.57 13.56	21 3.33 30.43 7.61	69 10.95
MODERATELY DISAGREE	41 6.51 53.25 11.58	36 5.71 46.75 13.04	77 12.22
STRONGLY DISAGREE	12 1.90 50.00 3.39	12 1.90 50.00 4.35	24 3.81
TOTAL	354 56.19	276 43.81	630 100.00

interval. Following this timeframe, both junior and senior officers favored an experience base of three to six years (i.e., 21 and 35 percent, respectively). Consistent with the responses to Question 25, there was a definite disparity in percentage response for both groups of officers. While junior officers favored a shorter timeframe, senior officers provided a substantial support for assignments of longer duration. Still, as in the previous analysis, there were a number of responses questioning the need for headquarters experience. Unexpectedly, the percentage of senior officers was greater than that of the junior officers (i.e., 11 and 10 percent.

respectively). No other response category received significant support.

Total Acquisition Experience. Given the responses to Questions 19 through 28, Question 30 required each respondent to establish the total acquisition background required for effective career development. This background encompassed all of the various types of experience previously analyzed. As presented in Table 21, the attitudes of both junior and senior personnel were very consistent. Approximately 30 percent of both test samples focused primarily on an acquisition experience of 10 to 12 years. This timeframe is roughly equivalent to three to four acquisition-related assignments. In addition, significant percentages of both junior and senior officers also provided support for a background of seven to nine years, and of 13 to 15 years. Interestingly, the attitudes of both groups were even comparable at the extremes.

Overall, these findings suggest that, in general, there is a positive relationship between the four specified types of acquisition experience and career development. Both test samples of officers appeared to share this point of view. In particular, both groups provided overwhelming support for both SPO and SPO project manager experience. In contrast, while there was substantial support for headquarters, and AFSC/AFLC other-type experience, the overall emphasis was significantly lower in comparison to the two previous types of experience. In fact, for the latter two types of experience, there was a substantial response questioning the necessity of such experience. The most interesting aspect of this analysis, however, concerned the similarity of response for the two test samples of officers. While the senior officer's did express greater support for headquarters assignments, in general, the respondent's attitudes toward the need for, and the duration of each type of experience were comparable. As a result, these findings established a definite relationship between acquisition experience and career development. Therefore, this determination also supports System Command's decision to include acquisition experience requirements into Regulation 36-5's Acquisition Management Career

Table 21

**Results of Cross-Tabulation of Survey Question 29: Total Acquisition Experience
Required for Effective Career Development of 27XX Officers**

FREQUENCY PERCENT ROW PCT COLUMN PCT	2724	2716	TOTAL
3 YRS OR LESS	5 0.81 100.00 1.47	0 0.00 0.00 0.00	5 0.81
3 TO 6 YRS	26 4.22 55.32 7.62	21 3.41 44.68 7.54	47 7.63
7 TO 9 YRS	74 12.01 52.11 21.70	68 11.04 47.89 24.73	142 23.05
10 TO 12 YRS	103 16.72 55.38 30.21	83 13.47 44.62 30.18	186 30.19
13 TO 15 YRS	99 16.07 51.11 29.03	63 10.23 38.89 22.91	162 26.30
16 YRS OR MORE	34 5.52 45.95 9.97	40 6.49 54.05 14.55	74 12.01
TOTAL	341 55.36	275 44.64	616 100.00

Development model.

Qualitative Survey Results

In addition to the survey's quantitative responses, many of the participants provided specific comments about both the content and intent of Regulation 36-5. Because of the potential impact of this regulation, these concerns are presented in

this research study. In general, these comments focused on the following main points: 1) the regulation's definitions of different types of acquisition experience are far too specific, 2) the regulation will not adequately recognize and incorporate the varied training and experience backgrounds of non-AFSC 27XX officers, 3) the regulation promotes a "filling the square" mentality, and 4) the regulation is biased against rated officers. With respect to the first point, the majority of comments questioned the regulation's definition of SPO experience. In particular, the regulation does not consider experience in Plans (XR) assignments, AFSC laboratories, or test centers as relevant SPO experience. Similar concerns were expressed relative to the definition of operational experience. Second, although this regulation is intended to address 27XX career field requirements, the certification criteria do not always recognize the specialized training and experience backgrounds of non-AFSC personnel. This situation specifically applies to 27XX officers assigned to AFSC on career broadening assignments. As stated by one survey participant, in this instance, the AM career guidelines and prerogatives from other commands should be honored as valid for their needs. If the AFSC regulation is intended to apply to all 27XX officers, then it needs to be a USAF-level regulation. Aside from the previous two comments, the most prevalent concern centered on the regulation's "filling the square" mentality. Essentially, a number of survey participants proposed that the regulation's certification requirements encourage 27XX officers to indiscriminately complete Master's degree, PME, and specialty training programs, while deemphasizing the development of leadership and communication skills. The final concern, while not directly applicable to the 27XX career field, is noteworthy. In this case, a substantial number of comments proposed that the regulation is biased against rated officers. Because of the demands of flying duty, many rated officers are unable to find the time to complete training requirements. As a result, these officers can not progress through the certification levels as quickly as their non-rated counterparts.

This situation does not encourage rated officers to enter acquisition-related career fields.

Conclusion

In general, the findings for the five investigative questions established that there is a positive relationship between AFSC Regulation 36-5 and career development. In addition, the results of the supplemental study determined that the regulation's Acquisition Career Development model has the potential to improve the quality and career development of the 27XX field. In particular, this research study established that:

1. There is a positive relationship between specialty training, gained from Professional Continuing Education courses, and the career development of 27XX officers. Although there was a marked difference in responses for junior and senior officers toward individual programs, the net response was always positive.

2. There is a positive relationship between academic background and career development. In particular, a technical undergraduate degree, and graduate education were perceived as critical to effective career development. While both test samples of officers supported this conclusion, the perceived need for a technical undergraduate degree was especially evident for senior officers. Unfortunately, a positive association between a particular undergraduate and graduate orientation could not be established.

3. There is a positive relationship between Professional Military Education and career development. However, with the exception of SOS, there was a marked difference in attitudes towards military training. While both junior and senior officers displayed comparable positive attitudes towards SOS, this same relationship was not evident for either ISS or SSS. Because of the low response rate of junior officers, the percentage response of senior officers was significantly higher for

these latter programs.

4. There is a positive relationship between operational experience and the career development of 27XX officers. Both test samples of officers agreed that this type of experience is necessary. This attitude was particularly prevalent for senior officers.

5. There is a positive relationship between the different types of acquisition experience, emphasized in AFSC Regulation 36-5, and career development. Both test samples of officers shared this point of view. In particular, both groups provided overwhelming support for both SPO and SPO project manager experience. In contrast, while there was substantial support for headquarters, and AFSC/AFLC other-type experience, the overall emphasis was significantly lower. In addition, with the exception of headquarters experience, both the junior and senior officers attitudes toward the required length of each type of acquisition experience were comparable.

Overall, the most interesting aspect of this research study focused on the similarity of attitudes of junior and senior personnel. Although their experience bases are significantly different, both groups provided comparable responses to each of the five investigative questions. In fact, a marked difference in attitudes was only observed for those questions that were oriented towards a particular test sample. Different attitudes toward each of the four individual specialty training programs, and the different levels of PME are prime examples. In each case, junior officers provided a higher positive response for those courses that directly affected them. These programs included SAS/Systems 100, Systems 200, and SOS. In contrast, senior officers expounded on the benefits of the higher level courses. These programs included DSMC, Systems 400, ISS, and SSS. Still, the general perceptions of both junior and senior officers toward those variables related to career development were quite similar.

Although these findings support System Command's decision to incorporate these requirements into AFSC Regulation 36-5, these conclusions must be tempered by the fact that several limitations were also observed. For this regulation to achieve its intended objective, the System Command's Personnel Management office will have to address the remaining concerns of both the acquisition and non-acquisition communities.

V. Recommendations

Air Force Systems Command Regulation 36-5 has the potential to improve both the quality and career development of the 27XX career field. Still, because the regulation is in its infancy, many officers continue to question its intended objective and implementation. If the regulation is to achieve its goal of improving the career development of acquisition-related officers, then these concerns must be addressed. To adequately respond to the concerns of the acquisition and non-acquisition communities, three steps should be taken. First, the attitudes of other acquisition-related AFSC's relative to career development should be established. These AFSC's should include, as a minimum, the 20XX, 26XX, 28XX, 29XX, and 51XX career fields. In addition, the attitudes of rated officers should be examined. If Regulation 36-5 is intended to be a model for career development of all officers within Systems Command, then this document must be sufficiently flexible to address the requirements of personnel assigned from other commands.

Second, while this research study established that the criteria outlined in Regulation 36-5 are positively related to career development, these requirements are by no means all-inclusive. Therefore, as part of any future study, respondents should be directed to identify other variables that influence career development. In this way, the Acquisition Management Career Development model could be updated, as necessary, to ensure that the certification requirements continue to address the needs of the entire acquisition community. Finally, because Regulation 36-5 is still in its infancy, a follow-on to this research study should be accomplished. Essentially, the findings presented in this study represent general attitudes toward career development. Although a large percentage of the acquisition force is aware of its content, this regulation's full impact will not be realized until it is finally implemented. After its implementation, a similar research study should be conducted

to determine if the attitudes of both junior and senior officers, relative to career development and Regulation 36-5, are consistent with the perceptions of the current participants. Ideally, this comparison should establish if the regulation's career development model has achieved its intended objective.

Appendix A

Survey on Career Development Program



DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY
WRIGHT-PATTERSON AIR FORCE BASE OH 45433-6583

REPLY TO
ATTN OF: LSG (Capt Lopez)

21 January 1987

SUBJECT: Survey on Acquisition Management Career Development Program

TO: Air Force 2724 and 2716 Series Personnel

1. Currently, Air Force Systems Command is in the process of implementing AFSCR 36-5 to formalize the career development of the acquisition force. Within this proposed program, certification requirements relative to academic education, professional military education, specialty training, and acquisition-related experience have been instituted. The potential implications of this program for military officers, in particular the acquisition management (27XX) career field, are far ranging. As a result, we are interested in your perceptions of those factors that influence the effective career development of 27XX officers. This study will be of invaluable assistance to the Air Force in developing the highest quality officers for the acquisition force.

2. Your participation is voluntary, and your responses will be anonymous. Please do not sign your name or organization anywhere on the survey. To complete the survey, either circle the appropriate response, or write your numerical response in the space provided below the question. PLEASE MARK YOUR RESPONSES DIRECTLY ON THE SURVEY. Results will only be presented in terms of group averages of the "typical" 27XX officer's perception of effective career development. When the results of the survey are published, readers will in no way be able to identify specific individuals.

3. Please complete the survey and return it to AFIT/LSG in the enclosed envelope within five working days. If you have any questions, contact Capt Kevin Lopez at AUTOVON 785-6569. Thank you for your cooperation and participation.

A handwritten signature in cursive script, reading "Ronald Hitzelberger".

RONALD HITZELBERGER, MAJ, USAF
Assistant Professor of Systems Management
School of Systems and Logistics

2 Atch
1. Survey
2. Return Envelope

SURVEY
ON
ACQUISITION MANAGEMENT
CAREER DEVELOPMENT PROGRAM

Instructions

Answer all items by either circling the appropriate response to each question, or by writing your numerical response in the space provided below each question. Select only one response for each item and clearly erase any responses you change. If for any item you do not find a response that fits your situation exactly, use the one that is closest to the way you feel. Please answer each item as honestly and frankly as possible.

To ensure your response remains anonymous, please do not sign your name on this survey.

Acquisition Management Career Development Program

1. What has been your experience with respect to the Acquisition Management (AM) Career Development Program, outlined in AFSC Regulation 36-5?

(1) I have read AFSC Regulation 36-5, which outlines the AM Career Development Program

(2) I have not read the regulation, but I have attended the information briefings provided by the Systems Command Personnel Management office

(3) I have received general information regarding the AM Career Development Program from informal sources

(4) I am not aware of any new Systems Command regulation concerning an AM Career Development Program

PLEASE USE THE FOLLOWING RESPONSE SCALE FOR QUESTIONS 2 AND 3.

(0)	(1)	(2)	(3)	(4)	(5)
NOT APPLICABLE	STRONGLY AGREE	MODERATELY AGREE	NEITHER AGREE OR DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE

2. I believe that a formalized AM Career Development Program for acquisition program management (27XX) personnel is necessary:

3. When instituted, I believe that a formalized AM Career Development Program will improve the career development and quality of officers in the 27XX career field:

Background Information

4. What is your current rank?

- (1) First Lieutenant
- (2) Captain
- (3) Major
- (4) Lieutenant Colonel
- (5) Colonel

5. What is your current duty AFSC?

- (1) 2724
- (2) 2716

6. Which major command are you assigned to?

- (1) AFSC
- (2) AFLC
- (3) TAC
- (4) MAC
- (5) SAC
- (6) AFCMD
- (7) ATC
- (8) AFCC
- (9) AU
- (10) Other _____

7. If you work in Air Force Systems Command, what product division are you assigned to?

- (0) Not Applicable
- (1) SD
- (2) ASD
- (3) ESD
- (4) AD

8. What is your primary academic background?

- (1) Technical (ie, engineering, or computer science-related)
- (2) Non-technical (ie, humanities, or business-related)
- (3) Both technical and non-technical (ie, two different undergraduate degrees)

9. What is the highest academic degree you have obtained?

- (1) Bachelor's
- (2) Bachelor's plus additional undergraduate or master's study
- (3) Master's
- (4) Master's plus additional graduate or doctoral study
- (5) Doctorate

10. What is the highest level of Professional Military Education that you have completed?

- (1) I have not completed any PME
- (2) Squadron Officer School
- (3) Intermediate Service School (ISS)
- (4) Senior Service School (SSS)

11. How many years of acquisition experience do you have?

(Throughout this survey, acquisition experience will be defined as experience in the acquisition, support, and maintenance of weapon systems. This may include SPO, SPO project management, AFLC/AFSC other, and headquarters acquisition assignments)

- (1) None
- (2) 3 years or less
- (3) 3 to 6
- (4) 7 to 9
- (5) 10 to 12
- (6) 13 to 15
- (7) more than 15

12. How many years of operational experience do you have?

(Throughout this survey, operational experience will be defined as experience in operating, supporting, or maintaining an operational system gained in an Air Force or joint command other than AFSC and AFLC)

- (1) None
- (2) 3 years or less
- (3) 3 to 6
- (4) 7 to 9
- (5) 10 to 12
- (6) 13 to 15
- (7) more than 15

Career Development

The intent of the AM Career Development Program is to "maximize the professional development and mission capability of the AM officer force by setting forth a definitive and viable career management plan that produces broad-based acquisition managers capable of assuming middle management and senior leadership roles". Given the certification requirements outlined in the regulation, I would like to establish your perception of those requirements that are critical to the effective career development of an acquisition program management (27XX) officer. To help you answer these questions, AFSCR 36-5's definition of the different types of experience have been provided.

Academic Background

13. I believe that the following undergraduate degree provides the best foundation for effective career development of 27XX officers:

- (1) Technical (i.e., engineering, computer science, math, chemistry)
- (2) Non-technical (i.e., history, english, accounting, economics)

(If you selected the non-technical option for Question #13, please go to Question #17. If not, please continue on to Question #14)

PLEASE USE THE FOLLOWING RESPONSE SCALE FOR QUESTIONS 14 THRU 19:

(0)	(1)	(2)	(3)	(4)	(5)
NOT APPLICABLE	STRONGLY AGREE	MODERATELY AGREE	NEITHER AGREE OR DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE

14. I believe that a graduate degree or higher is critical to the career development of 27XX officers.

15. For effective career development, I believe that a technical graduate degree is a necessary follow-on to a technical undergraduate degree.

16. For effective career development, I believe that a non-technical graduate degree is a necessary follow-on to a technical undergraduate degree.

(Please skip Questions #17-18, and go to Question #19)

17. I believe that a graduate degree or higher is critical to the career development of 27XX officers.

18. For effective career development, I believe that a non-technical graduate degree is a necessary follow-on to a non-technical undergraduate degree.

Acquisition Experience

19. I believe that experience in a System Program Office (SPO) is critical to the career development of 27XX officers.

PLEASE USE THE FOLLOWING RESPONSE SCALE FOR QUESTIONS 20 THRU 23:

(0)	(1)	(2)	(3)	(4)	(5)
NOT APPLICABLE	STRONGLY AGREE	MODERATELY AGREE	NEITHER AGREE OR DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE

20. For effective career development, I believe that the total SPO experience for a 27XX officer should be:

- (1) SPO experience is unnecessary
- (2) 3 years or less
- (3) 3 to 6
- (4) 7 to 9
- (5) 10 to 12
- (6) 13 to 15
- (7) more than 15

21. I believe that experience as a SPO project manager is critical to the career development of 27XX officers.

(A SPO project manager is defined as any person who is responsible for the technical performance, schedule, cost, or R&M of a system or some configuration item (or integration thereof) being developed or produced by the SPO, or a person in the direct supervisory chain of the same)

22. For effective career development, I believe that the total SPO project manager experience for a 27XX officer should be:

- (1) SPO project management experience is unnecessary
- (2) 3 years or less
- (3) 3 to 6
- (4) 7 to 9
- (5) 10 to 12
- (6) 13 to 15
- (7) more than 15

23. I believe that experience in a AFLC/AFSC other-type assignment is critical to the career development of 27XX officers.

(Any assignment within AFLC or any non-SPO assignment with AFSC (excluding HQ AFSC). Qualifying AFSC tours include product division staff, test organizations, laboratories, Arnold Engineering Development Center, Foreign Technology Division, Space Technology Center, AFPRO, or any other equivalent organization)

PLEASE USE THE FOLLOWING RESPONSE SCALE FOR QUESTIONS 24 THRU 28:

(0)	(1)	(2)	(3)	(4)	(5)
NOT APPLICABLE	STRONGLY AGREE	MODERATELY AGREE	NEITHER AGREE OR DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE

24. For effective career development, I believe that the total AFLC/AFSC other-type experience for a 27XX officer should be:

- (1) AFLC/AFSC other-type experience is unnecessary
- (2) 3 years or less
- (3) 3 to 6
- (4) 7 to 9
- (5) 10 to 12
- (6) 13 to 15
- (7) more than 15

25. I believe that experience in a headquarters assignment is critical to the career development of 27XX officers.

(Any assignment to HQ AFSC, the Air Staff (HQ USAF), Office of the Secretary of the Air Force, DoD Agencies or Activities, OSD, JCS, or to an Air Force Separate Operating Agency (SOA) or Direct Reporting Unit (DRU))

26. For effective career development, I believe that the total headquarters experience for a 27XX officer should be:

- (1) headquarters experience is unnecessary
- (2) 3 years or less
- (3) 3 to 6
- (4) 7 to 9
- (5) 10 to 12
- (6) 13 to 15
- (7) more than 15

27. I believe that operational experience is critical to the career development of 27XX officers.

28. For effective career development, I believe that the total operational experience for a 27XX officer should be:

- (1) operational experience is unnecessary
- (2) 3 years or less
- (3) 3 to 6
- (4) 7 to 9
- (5) 10 to 12
- (6) 13 to 15
- (7) more than 15

PLEASE USE THE FOLLOWING RESPONSE SCALE FOR QUESTIONS 29 THRU 36:

(0)	(1)	(2)	(3)	(4)	(5)
NOT APPLICABLE	STRONGLY AGREE	MODERATELY AGREE	NEITHER AGREE OR DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE

29. After responding to Questions 19-28, I believe that effective career development of 27XX officers is dependent upon a total acquisition experience background of:

- (1) 3 years or less
- (2) 3 to 6
- (3) 7 to 9
- (4) 10 to 12
- (5) 13 to 15
- (6) more than 15

Professional Military Education (PME)

30. I believe that PME is critical to the career development of 27XX officers.

31. I believe that Squadron Officer School (SOS) is critical to the career development of 27XX officers.

32. I believe that the information presented in SOS is useful to 27XX officers.

33. I believe that Intermediate Service School (ISS) training is critical to the career development of 27XX officers.

34. I believe that the information presented in ISS is useful to 27XX officers.

35. I believe that Senior Service School (SSS) training is critical to the career development of 27XX officers.

36. I believe that the information presented in SSS is useful to 27XX officers.

PLEASE USE THE FOLLOWING RESPONSE SCALE FOR QUESTIONS 37 THRU 41:

(0)	(1)	(2)	(3)	(4)	(5)
NOT APPLICABLE	STRONGLY AGREE	MODERATELY AGREE	NEITHER AGREE OR DISAGREE	MODERATELY DISAGREE	STRONGLY DISAGREE

Specialty Training

(Specialty training consists of acquisition-related courses in program management, financial management, contracting, technical management, production management, logistics, or quality assurance.)

37. I believe that specialty training is critical to the career development of 27XX officers.

38. I believe that the Systems Acquisition School (SAS), Introduction to Systems Command Acquisition Management, or Systems 100 provides an effective foundation for the development of 27XX officers.

39. I believe that AFIT Systems 200, Acquisition Planning and Analysis, is critical to the career development of 27XX officers.

40. I believe that AFIT Systems 400, Intermediate Program Management, is critical to the career development of 27XX officers.

41. I believe that the Defense System Management College (DSMC), Program Management Course, is critical to the career development of 27XX officers.

Certification Level

The career development program outlined in AFSCR 36-5 establishes four distinct certification levels. These certification levels are cumulative; that is, requirements for any lower level must be met before an individual may apply for certification at a higher level. At this time, I would like to determine your certification level. Attachments 1 and 2 to this survey, taken directly from AFSCR 36-5, outline the requirements for each level. Using these attachments and the definitions of the different types of experience (presented in the survey), determine your current certification level.

42. What is your current certification level?

- (1) Level I
- (2) Level II
- (3) Level III
- (4) Level IV

PLEASE RETURN THIS QUESTIONNAIRE IN THE RETURN ENVELOPE PROVIDED. THANKS
FOR YOUR HELP AND HAVE A NICE DAY !

ATTACHMENT 1

LEVEL I	LEVEL II
- Bachelor's degree - 6 months in SP0 or fully qualified acquisition AFSC - SAS 001 or equivalent	- SOS or higher - 2 yrs experience in SP0 - Either operational experience (1 yr) or AFSC/AFLC other (2 yrs) or headquarters (2 yrs) - Sys 200 or equivalent - Two additional acquisition related specialty courses
LEVEL III	LEVEL IV
- Master's degree or higher - ISS or higher - SP0 experience (3 yrs cum) - Total experience (SP0 + 2 others) - SP0 - AFSC/AFSC other (AFPRO encouraged) - HQ assignment - operational experience - SYS 400 or equivalent	- Senior service school - 8 yrs acquisition experience - DSMC (PMC) or equivalent - 2 yrs experience as SP0 project mgr - AFSC/CC approval

ATTACHMENT 2

Specialty Training Courses

Level of Certification	Requirement	Equivalents
I	SAS 001, Introduction to Systems Command Acquisition Management	AFIT SYS 123, Fundamentals of Acquisition Management AFIT SYS 100, Introduction to Acquisition Management (Note #1) Any Level II, III, or IV required or equivalent course
II	AFIT SYS 200, Acquisition Planning and Analysis	AFIT SYS 223, Systems Program Management DSMC, Business Management Course DSMC, Management of the Systems Acquisition Process Any Level III or IV required or equivalent course
	Two Additional Acquisition-related	Courses in program management, financial management, contracting, quality assurance, or logistics
III	AFIT SYS 400, Intermediate Program Management	DSMC, Systems Acquisition Management for General/Flag officers DSMC, Executive Refresher Course DSMC, Program Managers Workshop DSMC, Business Managers Advanced Workshop Any Level IV required or equivalent course
IV	DSMC, Program Management Course (Note #2)	None

NOTE 1: Applies only to those officers who entered any of the eligible acquisition specialties before 1 October 1986.

NOTE 2: Completion of the DSMC Program Management Course satisfies all specialty training requirements.

Appendix B

SAS Computer Program

OPTIONS LINESIZE=78;

PROC FORMAT;

VALUE FILTER	.='DID NOT ANSWER' 1='READ REG 36-5' 2='ATTENDED INFO BRIEF' 3='RECEIVED GENRAL INFO' 4='UNAWARE OF REG';
VALUE FORMAL	.='DID NOT ANSWER' 0='NOT APPLICABLE' 1='STRONGLY AGREE' 2='MODERATELY AGREE' 3='NEITHER AGREE/DISAGREE' 4='MODERATELY DISAGREE' 5='STRONGLY DISAGREE';
VALUE INSTITU	.='DID NOT ANSWER' 0='NOT APPLICABLE' 1='STRONGLY AGREE' 2='MODERATELY AGREE' 3='NEITHER AGREE/DISAGREE' 4='MODERATELY DISAGREE' 5='STRONGLY DISAGREE';
VALUE CURRENT	.='DID NOT ANSWER' 1='FIRST LIEUTENANT' 2='CAPTAIN' 3='MAJOR' 4='LIEUTENANT COLONEL' 5='COLONEL';
VALUE DUTY	.='DID NOT ANSWER' 1='2724' 2='2716';
VALUE COMMAND	.='DID NOT ANSWER' 1='AFSC' 2='AFLC' 3='TAC' 4='MAC' 5='SAC' 6='AFCMD' 7='ATC' 8='AFCC' 9='AU' 10='HQ USAF/SAF' 11='AFSPACMD' 12='OTHER';
VALUE DIVISIO	.='DID NOT ANSWER' 0='NOT APPLICABLE' 1='SD' 2='ASD' 3='ESD' 4='AD';

VALUE ACADEMI = 'DID NOT ANSWER'
 1='TECHNICAL'
 2='NONTECHNICAL'
 3='BOTH TECHNICAL/NONTECHNICAL';
 VALUE DEGREE = 'DID NOT ANSWER'
 1='BACHELORS'
 2='BACHELORS PLUS'
 3='MASTERS'
 4='MASTERS PLUS'
 5='DOCTORATE';
 VALUE MILITAR = 'DID NOT ANSWER'
 1='NO PME COMPLETED'
 2='SQUADRON OFFICER SCHOOL'
 3='INTERMEDIATE SERV SCHOOL'
 4='SENIOR SERV SCHOOL';
 VALUE EXPERIE = 'DID NOT ANSWER'
 1='NONE'
 2='3 YRS OR LESS'
 3='3 TO 6 YRS'
 4='7 TO 9 YRS'
 5='10 TO 12 YRS'
 6='13 TO 15 YRS'
 7='16 YRS OR MORE';
 VALUE OEXPERI = 'DID NOT ANSWER'
 1='NONE'
 2='3 YRS OR LESS'
 3='3 TO 6 YRS'
 4='7 TO 9 YRS'
 5='10 TO 12 YRS'
 6='13 TO 15 YRS'
 7='16 YRS OR MORE';
 VALUE UNDERA = 'DID NOT ANSWER'
 1='TECHNICAL'
 2='NONTECHNICAL'
 VALUE UNDERB = 'DID NOT ANSWER'
 0='NOT APPLICABLE'
 1='STRONGLY AGREE'
 2='MODERATELY AGREE'
 3='NEITHER AGREE/DISAGREE'
 4='MODERATELY DISAGREE'
 5='STRONGLY DISAGREE';
 VALUE UNDERC = 'DID NOT ANSWER'
 0='NOT APPLICABLE'
 1='STRONGLY AGREE'
 2='MODERATELY AGREE'
 3='NEITHER AGREE/DISAGREE'
 4='MODERATELY DISAGREE'
 5='STRONGLY DISAGREE';
 VALUE UNDERD = 'DID NOT ANSWER'
 0='NOT APPLICABLE'
 1='STRONGLY AGREE'
 2='MODERATELY AGREE'
 3='NEITHER AGREE/DISAGREE'
 4='MODERATELY DISAGREE'

VALUE UNDERE	5='STRONGLY DISAGREE'; .= 'DID NOT ANSWER' 0='NOT APPLICABLE' 1='STRONGLY AGREE' 2='MODERATELY AGREE' 3='NEITHER AGREE/DISAGREE' 4='MODERATELY DISAGREE' 5='STRONGLY DISAGREE';
VALUE UNDERF	.= 'DID NOT ANSWER' 0='NOT APPLICABLE' 1='STRONGLY AGREE' 2='MODERATELY AGREE' 3='NEITHER AGREE/DISAGREE' 4='MODERATELY DISAGREE' 5='STRONGLY DISAGREE';
VALUE ACQUIA	.= 'DID NOT ANSWER' 0='NOT APPLICABLE' 1='STRONGLY AGREE' 2='MODERATELY AGREE' 3='NEITHER AGREE/DISAGREE' 4='MODERATELY DISAGREE' 5='STRONGLY DISAGREE';
VALUE ACQUIB	.= 'DID NOT ANSWER' 1='SPO EXPERIENCE UNNECESSARY' 2='3 YRS OR LESS' 3='3 TO 6 YRS' 4='7 TO 9 YRS' 5='10 TO 12 YRS' 6='13 TO 15 YRS' 7='16 YRS OR MORE';
VALUE ACQUIC	.= 'DID NOT ANSWER' 0='NOT APPLICABLE' 1='STRONGLY AGREE' 2='MODERATELY AGREE' 3='NEITHER AGREE/DISAGREE' 4='MODERATELY DISAGREE' 5='STRONGLY DISAGREE';
VALUE ACQUID	.= 'DID NOT ANSWER' 1='SPO PROJ MGT EXPER UNNECESARY' 2='3 YRS OR LESS' 3='3 TO 6 YRS' 4='7 TO 9 YRS' 5='10 TO 12 YRS' 6='13 TO 15 YRS' 7='16 YRS OR MORE';
VALUE ACQUIE	.= 'DID NOT ANSWER' 0='NOT APPLICABLE' 1='STRONGLY AGREE' 2='MODERATELY AGREE' 3='NEITHER AGREE/DISAGREE' 4='MODERATELY DISAGREE' 5='STRONGLY DISAGREE';
VALUE ACQUIF	.= 'DID NOT ANSWER' 1='AFSC/AFLC EXPER UNNECESSARY'

	2='3 YRS OR LESS'
	3='3 TO 6 YRS'
	4='7 TO 9 YRS'
	5='10 TO 12 YRS'
	6='13 TO 15 YRS'
	7='16 YRS OR MORE';
VALUE ACQUIG	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE ACQUIH	='DID NOT ANSWER'
	1='HEADQRTS EXPER UNNECESSARY'
	2='3 YRS OR LESS'
	3='3 TO 6 YRS'
	4='7 TO 9 YRS'
	5='10 TO 12 YRS'
	6='13 TO 15 YRS'
	7='16 YRS OR MORE';
VALUE ACQUII	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE ACQUIJ	='DID NOT ANSWER'
	1='OPERA EXPER UNNECESSARY'
	2='3 YRS OR LESS'
	3='3 TO 6 YRS'
	4='7 TO 9 YRS'
	5='10 TO 12 YRS'
	6='13 TO 15 YRS'
	7='16 YRS OR MORE';
VALUE ACQUIK	='DID NOT ANSWER'
	1='3 YRS OR LESS'
	2='3 TO 6 YRS'
	3='7 TO 9 YRS'
	4='10 TO 12 YRS'
	5='13 TO 15 YRS'
	6='16 YRS OR MORE';
VALUE EDUCAA	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE EDUCAB	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'

	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE EDUCAC	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE EDUCAD	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE EDUCAE	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE EDUCAF	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE EDUCAG	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE TRAINA	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE TRAINB	='DID NOT ANSWER'
	0='NOT APPLICABLE'
	1='STRONGLY AGREE'
	2='MODERATELY AGREE'
	3='NEITHER AGREE/DISAGREE'
	4='MODERATELY DISAGREE'
	5='STRONGLY DISAGREE';
VALUE TRAINC	='DID NOT ANSWER'
	0='NOT APPLICABLE'

1='STRONGLY AGREE'
 2='MODERATELY AGREE'
 3='NEITHER AGREE/DISAGREE'
 4='MODERATELY DISAGREE'
 5='STRONGLY DISAGREE';
 VALUE TRAI ND = 'DID NOT ANSWER'
 0='NOT APPLICABLE'
 1='STRONGLY AGREE'
 2='MODERATELY AGREE'
 3='NEITHER AGREE/DISAGREE'
 4='MODERATELY DISAGREE'
 5='STRONGLY DISAGREE';
 VALUE TRAI NE = 'DID NOT ANSWER'
 0='NOT APPLICABLE'
 1='STRONGLY AGREE'
 2='MODERATELY AGREE'
 3='NEITHER AGREE/DISAGREE'
 4='MODERATELY DISAGREE'
 5='STRONGLY DISAGREE';
 VALUE CERTIF = 'DID NOT ANSWER'
 1='LEVEL I'
 2='LEVEL II'
 3='LEVEL III'
 4='LEVEL IV';

DATA INIT:

INFILE RESULT:

INPUT RESPONSE 1 FORMB 2 CAREER 3 RANK 4 AFSC 5 MAJOR 6-7
 PRODU 8 BACKG 9 HIGH 10 PME 11 YEARS 12 OYRS 13 BEST 14
 GRAD 15 TECHN 16 NONTECH 17 HRAD 18 NTGRAD 19 SPO 20
 SPOEXP 21 SPOPM 22 PMEXP 23 AFSCLC 24 AFSCEXP 25 HEADQ 26
 HEADEXP 27 OPERA 28 OPEREXP 29 TOTAL 30 CRITC 31 SOS 32
 USOS 33 ISS 34 UISS 35 SSS 36 USSS 37 TSPEC 38 SAS 39
 SYSTWO 40 SYSFOUR 41 DSMC 42 LEVEL 43;

LABEL RESPONSE='EXPERIENCE WITH REGULATION 36-5'
 FORMB='FORMAL AM PROGRAM IS NECESSARY'
 CAREER='AM PROGRAM IMPROVES CAREER DEVELOPMENT'
 RANK='CURRENT RANK'
 AFSC='CURRENT DUTY AFSC'
 MAJOR='MAJOR COMMAND ASSIGNED TO'
 PRODU='AFSC PRODUCT DIVISION ASSIGNED TO'
 BACKG='PRIMARY ACADEMIC BACKGROUND'
 HIGH='HIGHEST ACADEMIC DEGREE OBTAINED'
 PME='HIGHEST LEVEL OF PME COMPLETED'
 YEARS='YEARS OF ACQUISITION EXPERIENCE'
 OYRS='YEARS OF OPERATIONAL EXPERIENCE'
 BEST='UNDERGRAD DEGREE - CAREER DEVELOPMENT'
 GRAD='GRAD DEGREE/HIGHER - CAREER DEVELOPMENT'
 TECHN='TECH GRAD - TECH UNDERGRAD DEGREE'
 NONTECH='NONTech GRAD - TECH UNDERGRAD DEGREE'
 HGRAD='GRAD DEGREE/HIGHER - CAREER DEVELOPMENT'
 NTGRAD='NONTech GRAD - NONTechN UNDERGRAD DEGREE'
 SPO='SPO EXPERIENCE - CAREER DEVELOPMENT'
 SPOEXP='TOTAL SPO XPERIENCE REQUIRED'
 SPOPM='SPO PROJ MGR EXPERIENCE IS CRITICAL'

PMEXP='TOTAL SPO PROJ MGR EXPERIENCE REQUIRED'
 AFSCLC='AFSC/AFLC TYPE EXPERIENCE IS CRITICAL'
 AFSCEXP='TOTAL AFSC/AFLC EXPERIENCE REQUIRED'
 HEADQ='HEADQUARTERS EXPERIENCE IS CRITICAL'
 HEADEXP='TOTAL HEADQUARTERS EXPERIENCE REQUIRED'
 OPERA='OPERATIONAL EXPERIENCE IS CRITICAL'
 OPEREXP='TOTAL OPERATIONAL EXPERIENCE REQUIRED'
 TOTAL='TOTAL ACQUISITION EXPERIENCE REQUIRED'
 CRITC='PME IS CRITICAL TO CAREER DEVELOPMENT'
 SOS='SOS IS CRITICAL TO CAREER DEVELOPMENT'
 USOS='SOS IS USEFUL TO 27XX OFFICERS'
 ISS='ISS IS CRITICAL TO CAREER DEVELOPMENT'
 UISS='ISS IS USEFUL TO 27XX OFFICERS'
 SSS='SSS IS CRITICAL TO CAREER DEVELOPMENT'
 USSS='SSS IS USEFUL TO 27XX OFFICERS'
 TSPEC='SPECIALTY TRAINING - CAREER DEVELOPMENT'
 SAS='SAS/SYSTEMS 100 - CAREER DEVELOPMENT'
 SYSTWO='SYSTEMS 200 - CAREER DEVELOPMENT'
 SYSFOUR='SYSTEMS 400 - CAREER DEVELOPMENT'
 DSMC='DSMC IS CRITICAL TO CAREER DEVELOPMENT'
 LEVEL='CURRENT CERTIFICATION LEVEL'

FORMAT RESPONSE FILTER. FORMB FORMAL. CAREER INSTITU. RANK CURRENT.
 AFSC DUTY. MAJOR COMMAND. PRODU DIVISIO. BACKG ACADEMI.
 HIGH DEGREE. PME MILITAR. YEARS EXPERIE. OYRS OEXPERI.
 BEST UNDERA. GRAD UNDERB. TECHN UNDERC. NONTECH UNDERD.
 HGRAD UNDERE. NTGRAD UNDERF. SPO ACQUIA. SPOEXP ACQUIB.
 SPOPM ACQUIC. PMEXP ACQUID. AFSCLC ACQUIE. AFSCEXP ACQUIF.
 HEADQ ACQUIG. HEADEXP ACQUIH. OPERA ACQUII. OPEREXP ACQUIJ.
 TOTAL ACQUIK. CRITC EDUCAA. SOS EDUCAB. USOS EDUCAC.
 ISS EDUCAD. UISS EDUCAE. SSS EDUCAF. USSS EDUCAG.
 TSPEC TRAINA. SAS TRAINB. SYSTWO TRAINC. SYSFOUR TRAIND.
 DSMC TRaine. LEVEL CERTIF.

PROC FREQ;

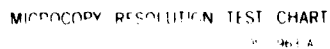
TABLES RESPONSE -- LEVEL.
 TABLES (TSPEC SAS SYSTWO SYSFOUR DSMC)*AFSC.
 TABLES (BEST GRAD TECHN NONTECH HGRAD NTGRAD)*AFSC.
 TABLES (CRITC SOS USOS ISS UISS SSS USSS)*AFSC.
 TABLES (SPO SPOEXP SPOPM PMEXP AFSCLC AFSCEXP)*AFSC.
 TABLES (HEADQ HEADEXP OPERA OPEREXP TOTAL)*AFSC.
 TABLES (RESPONSE FORMB CAREER)*AFSC.

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VITA

Captain Kevin W. Lopez was born on 15 August 1959 in Abilene, Texas. In 1977, he graduated from Judson High School in Converse, Texas, and then attended the U.S. Air Force Academy from which he received the degree of Bachelor of Science in Mechanical Engineering in May 1981. After graduation, he was assigned to Air Force Armament Laboratory (AFATL) at Eglin AFB, Florida. During this tour, he was responsible for the development of both conventional, and hypervelocity gun technologies. With the advent of the Strategic Defense Initiative (SDI) program in March 1983, he was promoted to Chief of the Laboratory's Electromagnetic Gun Technology Section in support of the SDI effort. He was transferred to the Advanced Technology Bomber (ATB) program office in August 1985. In May 1986, he entered the AFIT School of Systems and Logistics.

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