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THESIS

ASSESSMENT OF THE TOTAL QUALITY LEADERSHIP EDUCATION AND EXPERIENCE LEVELS OF NAVAL OFFICERS ENTERING THE NAVAL POSTGRADUATE SCHOOL IN JULY 1993

by

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September 1993

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The purpose of this thesis was to assess the Total Quality Leadership (TQL) knowledge, experience, and attitude levels of Naval officers entering the Naval Postgraduate School in July 1993. A survey was designed, administered, and analyzed to establish a baseline of data to compare to future cohorts to assess whether TQL knowledge and experience is increasing at various career check points. A descriptive analysis was conducted to calculate frequencies and aggregate percentages of survey responses. In general the cohort had a low level of TQL knowledge and experience. The study revealed some skepticism among the cohort about the need for TQL, and its transformation in the Department of the Navy. This skepticism was attributed to a lack of knowledge and experience, and the belief that long-term commitment from senior leadership is lacking. Recommendations were made to incorporate TQL theory and concepts at every accession point (NROTC, OCS, OIS, etc.) and schools (Department Head, PXO, Naval Academy, NPS, PO INDOC, NAVLEAD, etc.) to disseminate the TQL knowledge in a uniform manner.

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Assessment of the Total Quality Leadership Education and Experience Levels of Naval Officers Entering the Naval Postgraduate School in July 1993

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from the

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September 1993

ABSTRACT

The purpose of this thesis was to assess the Total Quality Leadership (TQL) knowledge, experience, and attitude levels of Naval officers entering the Naval Postgraduate School in July 1993. A survey was designed, administered, and analyzed to establish a baseline of data to compare to future cohorts to assess whether TQL knowledge and experience is increasing at various career check points. A descriptive analysis was conducted to calculate frequencies and aggregate percentages of survey responses. In general the cohort had a low level of TQL knowledge and experience. The study revealed some skepticism among the cohort about the need for TQL, and its transformation in the Department of the Navy. This skepticism was attributed to a lack of knowledge and experience, and the belief that long-term commitment from senior leadership is lacking. Recommendations were made to incorporate TQL theory and concepts at every accession point (NROTC, OCS, OIS, etc.) and schools (Department Head, PXO, Naval Academy, NPS, PO INDOC, NAVLEAD, etc.) to disseminate the TQL knowledge in a uniform manner.

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I. INTRODUCTION

A. BACKGROUND

To meet the highly competitive demands and challenges of the 1980s and 1990s, organizations have adopted the philosophy of total quality management (TQM). Until the 1980s, the focus of American business was on achieving quality by inspection, looking for defects in the product or service. Minimizing production costs, meeting manufacturing and service schedules, and yielding profits, at the expense of quality, were the driving forces in industries. Management had emphasized quantity of output over quality. Senior management dictated its policies, objectives, and strategies in a vertically downward fashion.

Today, the evolution of total quality management has shifted the focus of quality by inspection toward continuous improvement of processes within the organization to produce products and services to meet and exceed the customer's specifications. Management now focuses on creating quality products and services with quality being defined by the customer. Through TQM, all processes or functions of the organization are continuously improved. Everyone in the organization is involved in TQM. The organization's goals, objectives, and strategies are the results of the input and

efforts of every personnel level in the system. The first step in implementing TQM requires a senior-management change in philosophy and behavior. [Ref. 1]

The diminished global threat and defense budget constraints have forced the Department of Defense to drawdown or reduce the military forces in manpower and hardware (ships, planes, etc.). In light of the current reduction in forces and economic demands, quality is of the utmost importance in the success of the Navy as an organization. The Navy's future depends on the efficiency, effectiveness, and flexibility of its product, combat readiness. Total quality management is the vehicle to achieve continuous improvement in all processes in any organization to ensure success.

In 1990, the Chief of Naval Operations (CNO) renamed Total Quality Management as Total Quality Leadership (TQL) to reflect the Department of the Navy's approach to TQM for the Operating Forces

> ... because of the unique role that Navy leadership plays in developing and implementing our operational objectives. Since TQM is a management philosophy, we will need to adapt its approach and techniques to the navy operational environment--its processes, procedures and "products." [Ref. 2]

At the same time, the CNO directed the Department of the Navy (DoN) to begin its journey through the Total Quality Leadership transformation. Successful implementation of

quality principles requires that senior leaders recognize and support TQL as a valuable tool.

One indicator of a successful transformation would be evidence of increased TQL knowledge and use by naval personnel over time. To test this indicator, it is necessary to establish a baseline of data that reflects the current level of TQL knowledge and use among naval personnel. This baseline can subsequently be used for comparison with future data collection efforts to assess any changes in TQL knowledge and use. While there are a number of cohorts that could be selected for this initial effort, the one selected for this study is the July 1993 Navy accessions entering the Naval Postgraduate School, Monterey, California. Naval officers selected to obtain graduate education reflects the population of the Navy's top performers and Navy careerists. These individuals are crucial to the TQL transformation in the Department of the Navy. The mechanism to collect the baseline data is a survey thesis.

B. OBJECTIVE

The foundation for a successful TQL transformation begins with knowledge. This thesis assesses the levels of TQL knowledge and experience of incoming July 1993 Navy accessions at the Naval Postgraduate School and identifies demographic variables associated with those TQL knowledge and experience levels.

This thesis establishes baseline data so that future longitudinal studies may be conducted to assess and monitor the TQL knowledge and experience level of naval personnel. Longitudinal studies assessing increases in TQL knowledge and experience at various naval career check points should be of interest to various components of the DoN, especially the Chief of Naval Education and Training and the Naval Postgraduate School. The Naval Postgraduate School could use this data to facilitate its implementation of TQL into all curricula.

C. RESEARCH QUESTIONS

The following specific research questions are addressed:

1. Primary Research Question

What is the Total Quality Leadership knowledge and experience level of Naval officers entering the Naval Postgraduate School in July 1993?

2. Subsidiary Research Question

What is the attitude of junior officers entering the Naval Postgraduate School towards Total Quality Leadership?

D. RESEARCH METHODOLOGY

Assessing the TQL education and experience level of naval personnel was accomplished by creating, designing, and administering a survey questionnaire to the July 1993 Naval Postgraduate School Navy accessions. A pilot survey was given

to current students and faculty to identify format problems. A descriptive statistical analysis was conducted by calculating the frequencies and percentages of the survey responses.

E. SCOPE, LIMITATIONS AND ASSUMPTIONS

1. Scope

The scope of this thesis is limited to data from the cohort of Navy students entering the Naval Postgraduate School in July 1993. Demographic data and data pertaining to TQL knowledge and experience were collected and analyzed. The study is based on the data captured from a survey questionnaire and review of germane TQL literature.

2. Limitations and Assumptions

The thesis is limited to the study of naval officers entering the Naval Postgraduate School (NPS) in July 1993. The sample size is 272 naval officers with various designators who are assigned to 31 different curricula. Time constraints of the thesis process limit the sample survey to this accessible cohort. Given these limitations, the data may not represent the rest of the Navy or future NPS cohorts. Generalization of the data will have to be established in future research efforts.

The sample population of this study is assumed to be representative of top quality Navy careerists. Selection to the Naval Postgraduate School is based on outstanding

professional performance, promotion potential, and a strong academic background. [Ref. 3] Accordingly, the population may be assumed to represent the caliber of individuals selected as potential members of the critical mass needed for the TQL transformation.

The researcher assumes the reader is familiar with the basic tenets of the TQL philosophy. A reader not familiar with TQL or desiring detailed information about TQL may need to look elsewhere for an in-depth explanation of the history, theory, principles, and tools of TQL.

F. ORGANIZATION OF STUDY

Chapter II follows with a historical perspective of quality management, a few well-known quality coaches, and the Department of the Navy and TQL. The survey design and population is discussed in Chapter III with results and analysis described in Chapter IV. Chapter V completes the study with the conclusions and recommendations.

II. LITERATURE REVIEW

A. HISTORICAL PERSPECTIVE OF AMERICAN BUSINESS

The most widely used management style in the United States has been management by results (MBR) or controls (also known as management by objectives, (MBO)), which provides a systematic hierarchy of control and accountability. [Ref. 4]

Management by objectives has been commonly practiced by American corporations and widely taught in business schools. Although MBO may have contributed to the success of American businesses, it can be argued that this management style will no longer sustain success nor contribute to the competitiveness of American business in today's market or that of the future. [Ref. 1] MBO focuses the energies of the work force toward specific goals or results. Some of the ramifications of MBO include:

- sets up conflict in an organization, as the controls [that] direct one unit's short-term gain may contradict the controls [that] direct the short-term gains of another unit.
- often fosters a climate of mistrust, 'blame it on them' mentality, 'play the game' environment. [Creates conflict and competition as it promotes the manager's vice the organizational goals, objectives, or agendas.]
- success is often accidental or incidental and future success is unpredictable. [Does not focus on the processes used to obtain results, therefore, long-term success cannot be measured nor predicted].

- though systematic in goal setting, there [usually] is no system for process improvement.
- creates fear as a motivator, as employees work without a method to reach often unobtainable goals.[Ref. 5]

Along with MBR and MBO, traditional American managers believed that a trade off between quality and productivity existed: to improve quality would increase costs which would decrease productivity. [Ref. 1]

The 1980s and early 1990s have been a painful transition in the business world as business ownership and markets have become worldwide. As competition of every kind has become more intense, American business desperately sought a way to survive. One consistent principle in the transition has been the demand by consumers for higher quality in products and services. American managers are now cognizant that quality can be achieved with no increase in cost nor decrease in productivity. "Quality has become a competitive weapon, even a survival issue". [Ref. 1:p. xii]

Quality management has emerged as the new and effective management style of the future. This approach

> focuses on the processes by which work gets done, rather than on a hierarchy of individual accountability. A process is the transformation of input, using machines, materials, methods and labor to produce a product for a customer. Quality management emerges as a method for continuous improvement of processes. Quantitative methods are used to study the work processes and develop better methods to deliver better results.
>
> While management by results demands better results from the current system, quality management provides the

methods to study and improve processes for better results. [Ref. 5:p. 2-9]

Managers are able to decrease costs and improve productivity by focusing on quality. Reduction in variation in service and production processes results in improved quality.

B. QUALITY COACHES

There are several authorities in the United States who have been responsible for the progression towards today's quality management practices. These quality authorities are Dr. W. Edwards Deming, Dr. Joseph Juran, and Philip Crosby. [Ref. 5]

Dr. W. Edwards Deming, a statistician, is best known for revolutionizing the Japanese industry after World War II. Through his lectures on statistical quality control, which started in 1950, Japan has become number one in quality throughout the world.[Ref. 6] Deming's basic philosophy on quality is that productivity improves as variability decreases. Since variation is inherent in all processes, a statistical method of quality control is essential. Critical of U.S. management, Deming is an advocate of worker participation in decision making.

For the last three decades, Deming has refined and developed what he has called the bedrock philosophy of management, The 14 Points for Management. The 14 Points for

Management (Appendix A) provide the basis for transformation of American industry.[Ref. 7]

Dr. Joseph Juran's philosophy centers around three basic efforts: quality planning, quality control, and quality improvement. Quality planning involves establishing quality goals and developing a strategy to meet those goals. Quality control, the function of the operation's work force, focuses on use of quantitative methods to control process variation. Quality improvement aims at constantly outperforming the past through methods such as process control and project team problem solving. Juran's fundamental concept is that all improvement takes place project by project.[Ref. 8]

Another quality coach is Philip B. Crosby. His approach to quality management follows four "absolutes" [Ref. 5:p. 2-24].

- Quality has to be defined as conformance to requirements, not as goodness.
- The system for causing quality is prevention, not appraisal.
- The performance standard must be zero defects, not "that's close enough."
- The measurement of quality is the price of nonconformance, not indexes.

Although Deming, Juran, and Crosby have different approaches to quality management, all advocate an organizational culture which focuses on commitment to quality.

Common themes [Ref. 5:p. 2-25] among these quality management coaches are:

- The customer defines quality.
- Management creates the quality culture.
- Management provides for system improvements.
- Quality becomes prevention-based, rather than inspection-based.
- Statistical thinking is used to study processes and select improvement projects.
- Team approach to problem-solving.
- Continuous improvement.
- Education and training are vital.

C. QUALITY MANAGEMENT IN THE DEPARTMENT OF THE NAVY

1. Total Quality in the Shore Support Establishment

In 1981, personnel from the Navy Personnel Research Development Center (NPRDC) in San Diego attended a Deming seminar, peaking their interest in his philosophy. As early as 1983 the Chief of Naval Material began to look at quality management, particularly for the Navy's industrial facilities (naval shipyards, weapons stations, and aviation depots). At that time, NPRDC was commissioned to conduct a study on the feasibility of implementing the Deming approach for the Deputy Chief of Naval Material.

Concurrently, Rear Admiral (RADM) Kirkpatrick, commander of the naval aviation depots (NADEPs), was eager to

arrest their financial losses and was open to changes in the NADEP way of doing business. When RADM Kirkpatrick was briefed by NPRDC, he recognized the value in the Deming approach and tasked NPRDC to create, develop, and test a plan to incorporate the quality practices of Deming for the Naval Aviation Depot at North Island.[Ref. 9]

Until early 1985, the aforementioned approaches and philosophies to quality were referred to as "Statistical Process Control," "Deming's Way," or, as the Japanese called it, "Total Quality Control." Consensus was that the use of the word "control" to describe this quality philosophy had negative connotations. Steve Dockstader from NPRDC credits Nancy Warren, a behavioral psychologist, as renaming "Total Quality Control" or "Deming's Way" to Total Quality Management during a meeting in the summer of 1985.[Ref. 9:p. 154]

> *Total* reflects the involvement of everyone in the organization. *Quality* is the dimension by which the value of this management method is measured . The focus is on improving the quality of all functions, systems, and processes. *Management* reflects the actions involved in applying TQM principles and techniques to all activities. [Ref. 1:p. 14]

In summary, from 1983 to 1990, TQM was focused on the shore support establishment. In 1989, the Secretary of the Navy, H. Lawrence Garrett, III, established a DoN Executive Steering Group (ESG) which was made up of key DoN leaders, and Deming's approach was officially adopted.

DoN leaders examined various approaches and concluded from their studies that Deming's philosophy and methods best suited the unique requirements of the organization.[Ref. 10]

Deming's management philosophy was adopted by the [DoN] ... for three reasons. One was that Deming emphasizes leadership and the quality of leadership. Another reason is he uses the Shewart methodology which is very attractive to a lot of engineers and technical folks who work for the [DoN]. Third, his approach has a proven track record in Japan, the United States, and in early tests in Navy organizations.[Ref. 11]

2. Total Quality in the Fleet

In 1990, the Chief of Naval Operations (CNO) renamed Total Quality Management as Total Quality Leadership (TQL) to reflect the Department of the Navy's approach to quality management for the Operating Forces,

... because of the unique role that Navy leadership plays in developing and implementing our operational objectives. Since TQM is a management philosophy, we will need to adapt its approach and techniques to the Navy operational environment--its processes, procedures and "products."

The central theme of TQL is to identify, analyze, improve and redesign the individual processes of our operations in order to improve and redesign the product. TQL's primary thrusts are the continuous improvement of quality; total commitment to meeting the needs of the "customer;" emphasis on improving product quality through improvement of process; and focus on leadership, training and personnel management.[Ref. 2]

In 1990, H. Lawrence Garrett, III, as the Secretary of the Navy, summarized TQL as:

an approach to leading and managing that is guided by a total view of how all systems of work and people blend together to meet mission requirements, and ultimately perform the service for our country. TQL is a bottom-line approach to assess and improve continually the processes by which an organization conducts its business. Lower

operating costs, increased satisfaction on the part of the customer or end user, increased productivity, and improved operational readiness will result as quality improves. [Ref. 12]

The DoN's definition [Ref. 15] of Total Quality Leadership is the application of quantitative methods and the knowledge of people to assess and improve:

- Materials and services supplied to the organization
- All significant processes within the organization
- Meeting the needs of the end-user, now and in the future

Former Under Secretary of the Navy, J. Daniel Howard, described TQL as a "powerful tool" for leaders and managers. In the following passage he declares the Department of the Navy's reason for instilling TQL throughout the Navy.

> Total Quality Leadership in the Department of the Navy will deliver better combat readiness, better sustainability, better operational support, and a better infrastructure. In doing that, it will sharply reduce costs, accident rates, and system failures.
>
> In this downsizing environment, the choice is clear. We either cling to the old way of doing things until we're driven out of business, or we harness the enormous talent of all our people to create a lean, powerful maritime force for this country's future -- through total quality leadership, the only way ahead. [Ref. 13]

D. EDUCATING THE CRITICAL MASS

A common theme of the approaches of Deming, Juran, and Crosby is that education and training are vital. The famous quote of Deming, "there is no substitute for knowledge," and

of Japanese leaders, "quality begins with education and ends with education," emphasize education and training as critical elements in moving an organization toward a total quality orientation. Education of "our people" is essential to create "a lean, powerful maritime force" for the future.

1. "There is No Substitute for Knowledge"

Deming teaches that only a basic understanding of each of the four parts of his System of Profound Knowledge (systems theory; variation; psychology of individuals and organizations, learning and change; theory of knowledge) is essential to facilitate the cultural transformation of the organization to a quality focus. [Ref. 16:p. 2-5] Without knowledge and skills, the change cannot occur. Education and training ensures that the quality transformation is not fragmented.

> The first requirement of implementation is that of education and training and, in particular, that education precede training. A period of education is necessary for managers to understand the implications that TQL has for their mission and their jobs. People need to understand the "why" and "what" before the "who" and the "how". [Ref. 14:p. 10]

The Department of the Navy Total Quality Management Implementation Plan (draft 1989)[Ref. 14] emphasizes the importance of knowledge by requiring specific actions to initiate education and training. Goal Three states:

> Educate all DoN personnel in TQM perspectives and train appropriate personnel in concepts and techniques for TQM implementation starting with top management.

- Design, schedule and initiate education and awareness courses for all DoN personnel.

- Design curricula and courses and train personnel to the appropriate level in specific TQM techniques, for example:
  - TQM concepts and applications
  - TQM familiarization for managers, supervisors, and other employees
  - TQM methods
  - Basic graphic methods
  - Statistical process control

- Institute TQM education at existing DoN school (military and civilian).

2. The Critical Mass

> A critical mass is dynamic, it is simply not a majority. Critical mass is a sufficient number of influential people supporting a proposed change to give the impression of a growing formidable movement, a sense of momentum, a groundswell of interest. Critical mass describes the constituency behind a proposed change and the ability of that constituency to attract more and more support as time goes by.[Ref. 15]

In TQL, the critical mass is individuals selected to have a direct role in implementing total quality leadership at the operational or technical level. [Ref. 16] Deming says a critical mass of people in the organization must understand quality and their role in achieving it. That understanding is achieved through continuous education and training. Application of the 14 Points for Management and understanding the System of Profound Knowledge is the catalyst for transformation. TQL education and training for the

critical mass is essential to initiate and sustain a TQL transformation in the Department of the Navy. [Ref. 3:p. 4]

The DoN has identified that 150,000 personnel are needed to achieve critical mass.[Ref. 17] The large number makes it safe to assume that middle managers may be considered part of the critical mass. Their role is vital in translating policies and decisions of top management into the routine processes of the organization. Middle managers must understand and use TQL concepts, principles, tools, and techniques. They must change if the organization is to change.

A TQM study conducted by Development Dimensions International [Ref. 18] in Pittsburgh, PA concurs that education and training of middle managers is crucial to the quality management transformation. Inherently, middle managers resist change because they are "operating under an old set of instructions." Middle managers must be involved in designing and promoting TQM, and be provided training and development in TQM and new leadership skills. New behavior and skills must be acquired by middle managers and reinforced by senior leaders on an ongoing basis to effect the changes essential to the transformation. New behavior and skills are learned through education and training.

In the Department of the Navy, junior officers, Lieutenants through Lieutenant Commanders, make up part of the middle management team. Ergo, junior officers are a part of

the critical mass. The change or transformation will be impossible without the education and training of the junior officers.

E. ASSESSING THE TQL KNOWLEDGE OF JUNIOR OFFICERS

Since the beginning of TQL implementation in the DoN, organizations have conducted self-assessments of their participation and success in TQL implementation. There have been many assessments of individuals' attitudes toward TQL. A part of implementing TQL is to continuously self-assess the organization's readiness for total quality, the culture and implementation progress.

Because it directly effects the above elements, TQL education and training is an important part of the implementation effort.

1. The Value of Assessment

An avenue to measure success of the DoN's TQL implementation is to assess the knowledge and skills of naval personnel at various career points.

A first step in assessing the levels of TQL knowledge and skills of junior officers (a part of the critical mass) is to identify a baseline of knowledge and skills. The results of such an evaluation will be valuable:

- to assess the improvement in junior officer's TQL knowledge and skills over time.
- to restructure education and training strategies and delivery modes.

- to identify specific communities' needs for education and training.
- to tailor education and training interventions to different communities.
- to incorporate education and training at accession points and throughout career paths.

The present study evaluates levels of TQL knowledge and skills though a survey of new students at the Naval Postgraduate School. A review of TQL literature was conducted to identify key concepts and principles to be included as survey questions. Further review of the literature was focused on the discipline of survey design and research. The following chapter discusses the methodology in the survey design.

III. METHODOLOGY

A. INTENT OF METHODOLOGY

Naval officers attending the Naval Postgraduate School are considered to be middle managers, and therefore, a part of the DoN's critical mass for the TQL transformation. As was discussed previously, the foundation for successful TQL transformation begins with knowledge. The July 1993 Navy accessions at the Naval Postgraduate School were selected as the sample population to assess their knowledge and experience in TQL.

B. SURVEY INSTRUMENT

The study was conducted using a survey created and designed by the author. Review of TQL literature provided the basis for the content of the survey items. The survey was divided into four parts, (I) demographic information, (II) knowledge questions, (III) skills, experience, and education questions, and (IV) attitudinal questions.

Twenty pilot surveys were administered to current students and faculty to identify administrative errors and format problems. The final cover letter, survey, and follow up letter are contained in Appendix B. Appendix C contains the variable definitions.

1. The Survey Population

The author consulted the NPS Registrar's Office to determine the population size of Navy accessions for July 1993. This number fluctuated between 267 and 277 new Navy students prior to the new quarter. The final population was established by the number of students that reported to the Student Mail Center (SMC) and were assigned a SMC mailbox number during orientation week.

Two hundred seventy-two surveys were delivered to the new Navy students via their SMC mailbox the first day of the quarter. The completed surveys were returned via the author's SMC mailbox within the first two weeks of the quarter. A total of 174 surveys were returned for a return rate of sixty-four percent. Seven additional surveys were returned after the data analysis began. These seven surveys were not included in this study. The high return rate may be attributed to the characteristics of the sample population and their eagerness as new students.

An error was noted on the survey during the data entry. Knowledge question one was repeated as question fourteen. Question one in PART II was deleted from the raw data, which are shown in Appendix D.

Preparation of the data for an aggregate analysis and the results are discussed in the following chapter.

IV. RESULTS AND ANALYSIS

A. PREPARATION FOR ANALYSIS

Preparation of the data began with modifying the demographic variable designator (DESIG) in PART I of the survey. DESIG identifies the respondent's status (active duty (USN), active reserves (USNR), training and administration of reserves (TAR)) of his or her professional area in the Navy. For the purpose of this analysis, DESIG was recoded and renamed (DESIG2) into the primary group of the designator, regardless of the USN, USNR, TAR status.

Each of the knowledge questions (K2D through K25C) in PART II had five values ("A" through "E"), providing the respondent with a choice of three incorrect answers, one correct, and an "I do not know" answer. For this analysis, the responses to the knowledge questions were consolidated into three values and value labels (1=CORRECT, 2=INCORRECT, and 9=UNKNOWN) and renamed as simply K2 through K25.

The skills questions, 1 through 4, and the education and experience questions, 5 through 8, in PART III, remain unchanged.

A descriptive statistical analysis was conducted by calculating the frequencies and percentages of all the variables as presented in Appendix E.

An analysis of the data for the entire population was conducted by grouping the survey items into three major themes: KNOWLEDGE (items K2 through K25), SKILLS (items E1 through E4G), and EDUCATION/EXPERIENCE (items E5A through E8). Due to the small number of responses (the frequencies are shown in Appendix E) to each choice for the skills items, the values for SMALL EXTENT and SOME EXTENT were combined and relabeled FEW=2, and LARGE EXTENT and VERY LARGE EXTENT were combined as MORE=3. NOT AT ALL was relabeled as NONE=1. TABLE 1 lists the values and value labels for each major theme.

TABLE 1

THREE MAJOR THEMES WITH ASSIGNED VALUES

Theme 1	Theme 2	Theme 3
KNOWLEDGE	SKILLS	EDUCATION/EXPERIENCE
1=Correct 2=Incorrect 9=Unknown	1=None 2=Few 3=More	No Yes

B. AGGREGATE RESULTS

TABLE 2 displays the percentages for each choice calculated for the aggregate, that is, the entire population of survey respondents on the three themes. The population answered only twenty-nine percent of the knowledge questions correctly. With respect to skills, only sixteen percent of the respondents acknowledged having used any basic graphic

tools or management and planning tools. Only nine percent of the respondents had any TQL education or experience as a member on any TQL team or committee.

TABLE 2

AGGREGATE PERCENTAGES
(rounded to nearest whole percent)

Theme 1		Theme 2		Theme 3	
KNOWLEDGE		SKILLS		EDUCATION/EXPERIENCE	
Correct	29	None	84	No	91
Incorrect	19	Few	12	Yes	9
Unknown	52	More	4		

Appendix F contains the break down of the percentages of each choice for the three themes by the following seven demographic variables, RANK, YOS (years of service), DESIG2 (designator), GENDER, CURRIC (curriculum), COMMAND (type of last command), and FUNCTION (primary function of last command).

Results as a function of the demographic variables AGE, YOS, and CURRIC were obtained only for future comparisons with this cohort and will not be addressed in this study. Respondents with the same age or years of service may have different ranks due to prior enlisted service, complicating any attempts to make a correlation between AGE, YOS, and RANK. Since the respondents have only recently started their selected curriculum, this variable should not be related to their responses on this survey. The curriculum variable would

be interesting to look at if, for example, the survey were readministered to this same cohort just prior to graduation.

The variables COMMAND and FUNCTION are, unfortunately, suspect because the results indicate that the respondent may have defined the variable differently than the researcher, and/or selected more than one response for each COMMAND and FUNCTION, confounding the true response to the question. For example, the respondent may have been staff at an overseas command (a combat operation) in a training billet. To remedy this problem, future use of the survey should redesign these items to require the respondent to specifically write his or her last command and function. The researcher could then code the variable to maintain accuracy and continuity. The present analysis focuses only on aspects of the remaining demographic variables, RANK, DESIG2 (DESIGNATOR), and GENDER.

The overall tone of the aggregate results suggests this cohort's TQL education, knowledge, and experience is low for all of the groups represented by the break out of demographic variables. In the area of knowledge, no one particular group, defined either by rank, designator, gender, command, or function, scored much higher or lower than the aggregate average of twenty-nine percent correct responses. Similarly, no particular group stands above or below the aggregate averages for use of TQL skills or TQL education and experience.

A closer look at the data is taken in the following sections. Notable percentages for each education question (E6A through E7 and E8), knowledge question (K2 through K25), experience question (E5A through E5E), and opinion question (O1 through O5) are addressed.

C. EDUCATION

Appendix G contains percentages for responses to the education questions by the seven demographic variables, RANK, YOS, DESIG2, GENDER, CURRICULUM, COMMAND, and FUNCTION. TABLE 3 lists the TQL courses or sources represented by the education questions E6A through E8 in PART III. Respondents were asked to indicate which of these courses they had attended.

TABLE 3

EDUCATION COURSES/SOURCES

E6A	TQL Orientation Brief
E6B	Introduction to TQL
E6C	Fundamentals of TQL
E6D	Implementing TQL
E6E	Systems Approach to Process Improvements
E6F	Team Skills and Concepts of TQL
E6G	Methods for Managing Quality
E6H	Strategic Planning for Quality
E6I	Senior Leaders Seminar
E6J	Leadership Management Education Training
E6K	Deming 4-day seminar
E6L	Deming 2-day seminar
E7	Quality-related-in-house training
E8	Quality-related-outside source training

Currently, the Leadership Management Education Training course does not focus on TQL theory and concepts, therefore,

E6J will be excluded from discussion. Additionally, Quality-related-in-house training (E7) and outside source training (E8) will not be addressed as many respondents did not write their total time of training in hours. Assigning actual hours of training by the author may be arbitrary. Additionally, the author cannot assess similarity between the various training courses indicated. These items will need to be redesigned before the survey is used again.

Review of Appendix G indicates TQL education for the aggregate is relatively low, especially for the advanced TQL courses (zero to three percent), E6D through E6I, E6K and E6L (refer to TABLE 3 on previous page). Of the first three basic TQL courses, twenty-one percent have completed the TQL Orientation Brief, twenty-seven percent the Introduction to TQL, and only thirteen percent have taken the Fundamentals of TQL. These basic TQL courses will be highlighted in this section.

When the aggregate data are broken out as a function of the demographic variables, higher response rates emerge. Of particular interest are the relatively higher percentages of completion for LTJG, 110X (General Unrestricted Line), 146X (Engineering Duty Officer), 230X (Medical Service Corps), 290X (Nurse Corps), 310X (Supply Corps), and FEMALE in the three basic courses. As shown in Appendix G, some of these groups are represented by a very small number of students. Because of this, the designators 230X (seven students) and 290X (two

students) were combined as both are in the Medical Department. Figure 1 displays these noteworthy percentages.

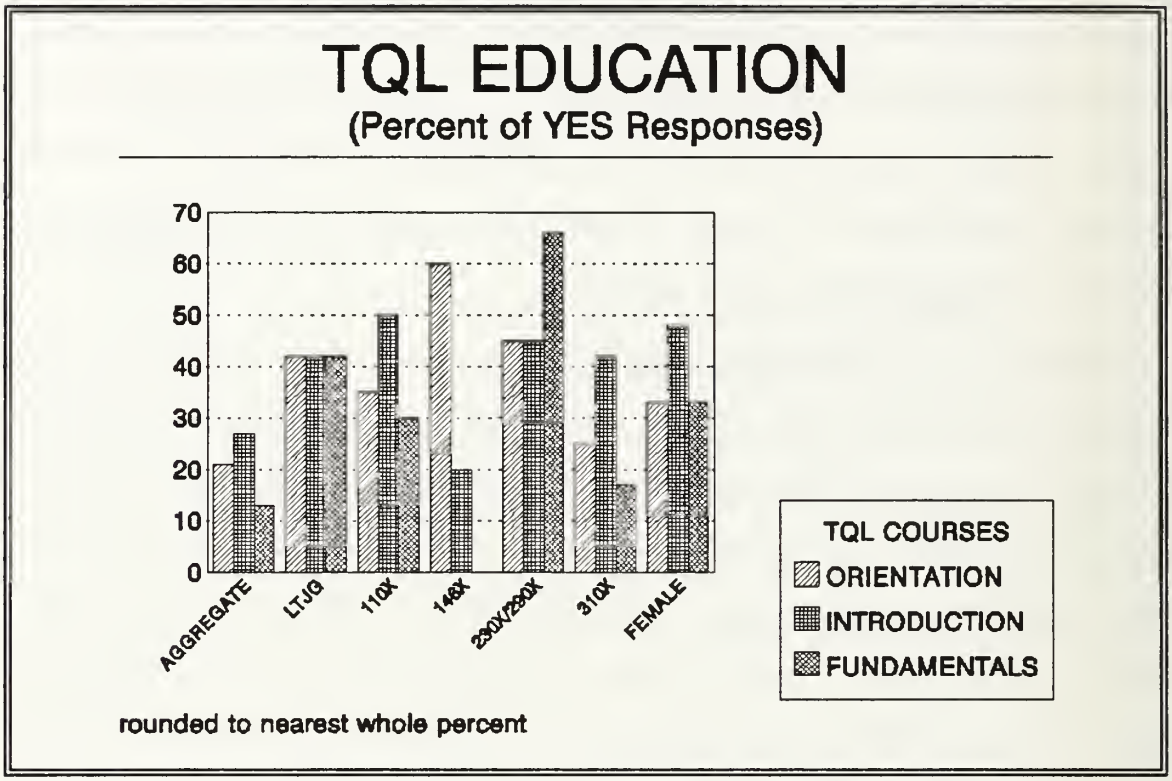

Figure 1 TQL Education by Select Demographic Variables

In general, LTJGs are process owners in their departments and may be exposed to TQL earlier than others due to participation in process improvement activities. This could reflect their higher attendance (than the aggregate) for basic TQL courses.

The response rates of the 110Xs and FEMALEs are similar. Most probably, this is a function of the fact that 110Xs are predominately female. This may be explained further by the

fact that both have been traditionally assigned to shore-based facilities. As discussed earlier, the literature [Ref. 9] indicates that shore-based facilities have been more active than the fleet in TQL implementation.

Although the size of 146X is quite small (only five respondents), their attendance at the first two basic TQL courses is noteworthy. This may be related to assignments to shore-based facilities.

The Medical Service Corps (230X) and Nurse Corps (290X) attendance to the basic TQL courses are exceptional. This result was expected due to the predominance of TQL in shore-based facilities as discussed earlier.

Also notable, is the attendance of the Supply Corps (310X) at the first two basic TQL courses. This may be related to the function or responsibilities of a Supply Corps Officer. The nature of the Supply Corps officer's job is similar to that of the manager of an inventory system in the private sector. Success of total quality management in private businesses, particularly in inventory systems, has been well-documented in the literature. Keeping abreast with his or her civilian counterparts, the Supply Corps officer has the opportunity, especially at shore-based facilities, to instill TQL principles into their field of expertise.

In conclusion, the education and experience for this cohort is lacking. Notably, the junior ranks and designators

attributed to shore-based facilities have a higher attendance at the basic TQL courses.

D. KNOWLEDGE

Each of the knowledge questions (K2 through K25), the number of observations, and the percent of the responses, correct, incorrect, and unknown, for each demographic grouping are presented in Appendix H. As stated previously, the population's overall correct response score was a low twenty-nine percent. A closer examination of several questions follows to identify this cohort's level of TQL knowledge.

Those questions considered by the author to require advanced TQL knowledge or require an active level of TQL participation were not examined. For example, knowledge about the Taguchi Loss Function (K5) is expectedly low at one percent correct. Likewise, knowledge of the pareto chart (K4) and the fishbone diagram (K18) is associated with an active level of participation in process improvement.

Particular attention was given to questions related to the core principles of TQL in the DoN. TABLE 4, on the following page, is an extract from Appendix H of the specific knowledge questions that have been addressed in this section.

TABLE 4

A SUBSET OF KNOWLEDGE QUESTIONS AND CORRECT RESPONSE PERCENTAGES

	Overall (N=174) 29% (rounded to nearest whole percent)	CORRECT N	CORRECT %
K2	HOW TO ACHIEVE QUALITY	107	62
K7	PDCA CYCLE TO GAIN KNOWLEDGE	4	2
K17	CUSTOMER DEFINES QUALITY	121	70
K21	QUALITY IS BUILT INTO PRODUCT	108	62
K22	ELEMENTS: SYSTEM OF PROFOUND KNOWLEDGE	7	4
K24	VARIATION IS INHERENT IN ALL PROCESSES	117	67
K25	DON DEFINITION OF TQL	3	2

It appears that this cohort has successfully selected the correct responses for the knowledge questions K2, K16, K17, K21, and K24. The TQL principles of these questions (customer defines quality, quality is built vice inspected into the product, quality is achieved through continuous process improvement, and variation is inherent in all processes) are fundamental to Deming's philosophy and that of Total Quality Leadership. However, these principles are not necessarily associated only with the total quality movement, neither are they only known by taking formal training. People may be cognizant of such ideas by using common sense and by daily exposure to local and global events. Therefore, a limitation of these results is that the high percentage of a correct response may not truly reflect knowledge grasped via exposure to TQL theory and concepts.

An additional limitation of the results is that their validity is confounded by the fact that the selected answers imply a measure of memory, that is, the length of time since

training. Likewise, the guessing ability and the motivation of the respondent influences the results. Future researchers must take care in establishing these knowledge results as a baseline because of the confounded issues mentioned above. For future studies, this survey will need redesign to avoid measuring rote memory or guessing.

The extremely low percentages in TABLE 4 are causes for concern. The theory and concepts (PDCA cycle, the elements of Profound Knowledge, and the DoN definition of TQL) in these questions are crucial to the success of TQL implementation and transformation, and therefore, must be ingrained in the minds of the personnel involved in TQL.

As discussed in Chapter II, Deming's philosophy of quality management hinges on knowledge, the System of Profound Knowledge. Without this knowledge, or a method (PDCA cycle) to obtain critical knowledge, the ability to achieve quality is lost. Moreover, the low percentage of the cohort's response to the DoN definition of TQL indicates a lack of continuity and cohesiveness in the DoN's efforts toward a transformation.

In general, the data in Appendix H, reflect a rather low knowledge base for this cohort. However, firm conclusions may not be derived due to the confounded issues discussed previously. The results described in the section on education indicated that much training is occurring for particular

groups; however, the effectiveness of that training is not recognized in the responses to the knowledge questions.

E. EXPERIENCE

This section explores the results of the responses to the experience questions E5A through E5E in PART III. The results are presented as percentages in Appendix I. As explained previously, the demographic variables YOS, CURRIC, COMMAND, and FUNCTION are not examined. TABLE 5 is a review of the experience questions in the survey.

TABLE 5

SYNOPSIS OF THE EXPERIENCE QUESTIONS

E5A	Member of a Process Action Team (PAT)
E5B	Member of a Quality Management Board (QMB)
E5C	Member of an Executive Steering Committee (ESC)
E5D	Served as a TQL Team Advisor Facilitator
E5E	Served as a command TQL Coordinator

The overall TQL experience of this cohort is extremely low. Only two percent of the cohort have had any experience as a TQL Team Advisor Facilitator or Coordinator. Members of the ESC are usually the senior officers of a command. This explains the expected low of three percent of this relatively junior cohort that responded affirmatively to experience as a member of an ESC. Only nine and eight percent were members of a PAT and QMB, respectively. Noteworthy points of interest are graphically displayed in Figure 2 on the following page.

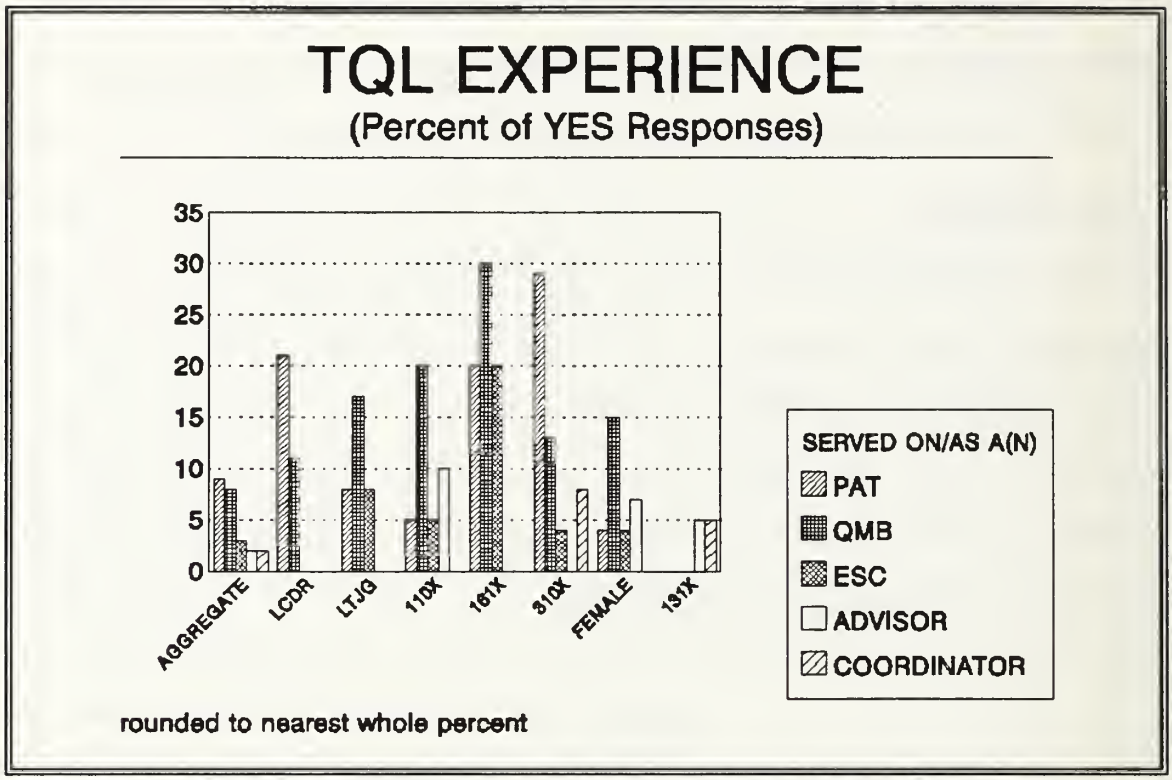

Figure 2 TQL Experience by Select Demographic Variables

Twenty-one percent (four out of nineteen) of the LCDRs have been members of a PAT, while only eleven percent have been on a QMB. LTJGs have seventeen percent (which is only two out of twelve) who have served on a QMB, while eight percent served on an ESC. Serving on an ESC is unusual for a junior lieutenant grade.

Examination of the designator variable reveals twenty percent (four out of twenty) of the 110Xs have served on a QMB and ten percent have acted as an Advisor. Again, bearing in mind the small numbers, five percent of the 131Xs (Aviators) have served as an Advisor and Coordinator. Twenty percent of

the Cryptology officers (161Xs) have been PAT members and served on an ESC, and thirty percent were on a QMB.

Females exceed the aggregate both for being a member of a QMB (fifteen percent) and for acting as an Advisor (seven percent). The percentages for FEMALEs and 110Xs are quite similar for all TQL experiences. Again, this is most likely attributed to 110Xs being predominately comprised of females and assigned to shore-based facilities.

Once again, in general, this cohort's TQL experience is low. Interestingly, a pattern for the 110Xs and FEMALEs seems to be developing. The pattern is that the 110Xs and FEMALEs have similar levels in TQL education and experience.

F. OPINION

The last section of the survey to be addressed is Part IV, the opinion/attitude questions 1 through 5. The data in Appendix J may be used in future comparison studies as a measure to assess changes in attitude about TQL. TABLE 6, on the following page, is an abbreviated list of these survey questions and the response scale. Only the first four questions will be briefly discussed in this section. Question 05 will be omitted since it reflects a self-assessment by the respondents, which is not of interest to this study.

TABLE 6

SYNOPSIS OF OPINION QUESTIONS

O1	Need for TQL in the DoN?
O2	Believe the TQL transformation is possible?
O3	Should TQL be a part of your curriculum at NPS?
O4	Is quality improvement just another management program?
O5	Confident in your TQL ability?

Response Scale
1 = not at all
2 = small extent
3 = some extent
4 = large extent
5 = very large extent
6 = do not know about TQL

TABLE 7 displays the aggregate results (obtained from Appendix J) for the first four opinion questions.

TABLE 7

AGGREGATE RESULTS:
OPINION QUESTIONS O1 THROUGH O4 BY SCALED RESPONSES 1 THROUGH 6
(rounded to nearest whole percent)

	O1	O2	O3	O4
1	5	6	31	17
2	3	10	8	9
3	28	37	18	25
4	21	10	10	14
5	22	8	18	17
6	20	18	11	18

In response to question O1, seventy-one percent of the aggregate population thought TQL is needed in the DoN from "some extent" to a "very large extent," while only five percent did not see a need and three percent only a "small"

need. Twenty percent of the population responded "do not know about TQL".

Sixty percent of the population believes a TQL transformation (question 02) is possible from "some extent" to a "very large extent", whereas only fourteen percent believe the transformation is possible to a "small extent", and six percent does not believe it possible at all. Eighteen percent selected the response "do not know about TQL."

Fifty percent of the entire population believe from "some extent" to a "very large extent" that TQL should be incorporated into the NPS curricula, whereas thirty-one percent did not. Eight percent believed TQL should be incorporated to only a "small extent." Eleven percent denied any familiarity with TQL.

Of those respondents familiar with TQL (responses 1 through 5), fifty-six percent of the population believe from "some extent" to a "very large extent" that TQL is "just another management program." Nine percent believe the same but only to a "small extent." Only seventeen percent of the entire population disagreed that TQL is "just another management program." Another eighteen percent selected the response "do not know about TQL."

It is interesting to examine the kind of break out created when responses 1 and 2 are combined, and responses 4 and 5, especially for question 03. Some of the respondents are somewhat on the fence at eighteen percent (response 3) and

some do not know about TQL (eleven percent). But, approximately one third are against (responses 1 and 2) and one third (responses 4 and 5) are for incorporating TQL into NPS curricula. It would be interesting to inspect this data further to see if those with positive attitudes toward TQL are also those with TQL experience, and if those "sitting on the fence" or against TQL are positively affected by TQL education and experience. A follow-on analysis would be enlightening as to the effects of TQL education and experience on attitude. A discussion of noteworthy specifics follow.

For those designators who did not select the response, "6 = do not know about TQL," approximately seventy-four percent do see a need (from "some extent" to a "very large extent") for TQL in the DoN. Approximately twenty-one percent of all designators responded with "6 = do not know about TQL." Consequently, approximately five percent of all designators either did not see a need for TQL at all or only to a small extent. Bearing in mind the small group sizes, 100 percent of the communities of 146X (Engineering Duty Officer), 161X (Cryptology), and 180X (Geophysics) see a need for TQL from "some extent" to a "very large extent." The aviation community (131X) notably exceeds the aggregate with fifteen percent of that community seeing no need for TQL in the DoN.

Figure 3 graphically displays how each rank responded to the first question. Interestingly, only the LTJGs do not respond negatively to the question of a need for TQL in the

DoN. Approximately seventy-five of those ranks that selected response six, agree there is "some extent" to a "very large extent" of a need for TQL in the DoN.

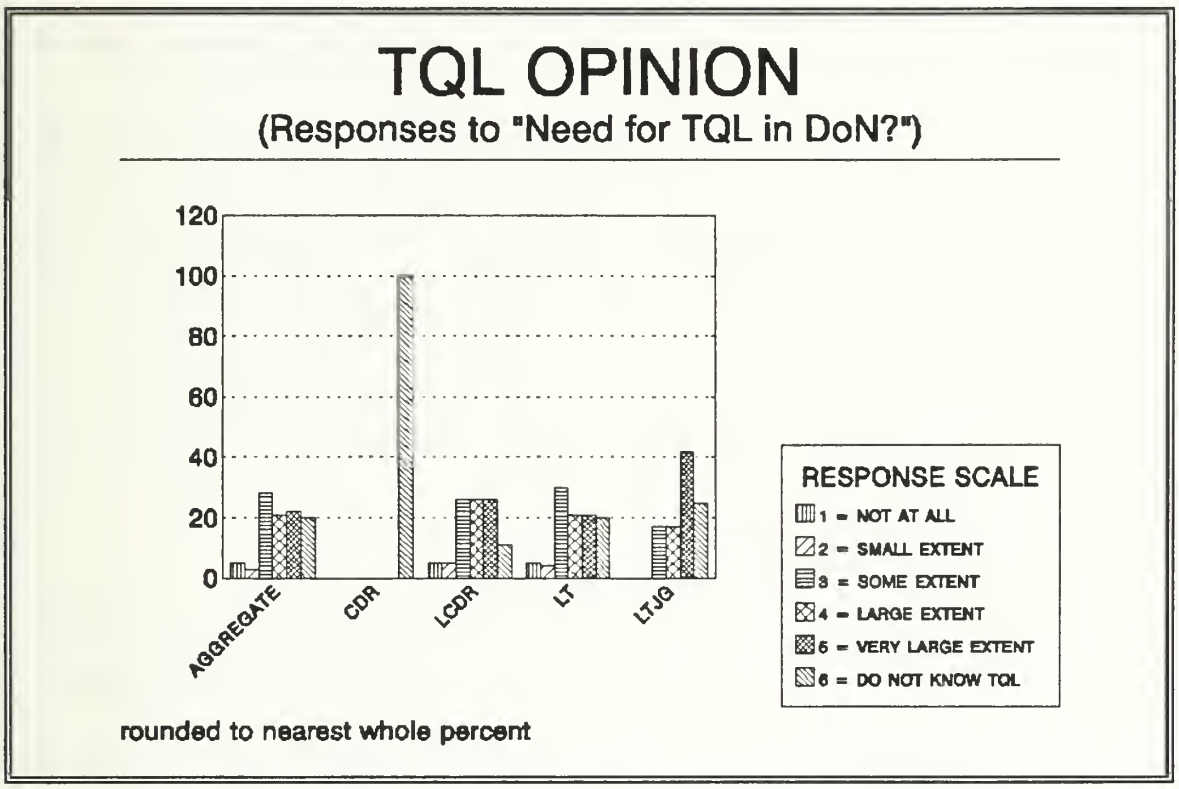

Figure 3 TQL Opinion by Select Demographic Variables

The general tone of the belief that a transformation to TQL was possible was lukewarm. No particular group raged for or against the possibility of a TQL transformation in the DoN. Sixty-five percent of the ranks, seventy-one percent of the designators, and sixty-nine percent of the males and females believe a TQL transformation is possible from "some extent" to a "very large extent." Of the ranks, LCDRs were the most

skeptical (eleven percent) in believing that a TQL transformation is possible.

The response to incorporating a TQL course into the NPS curricula (question 03) was not met with any strong opposition or support. This reflects the general trend of the aggregate population. On the other hand, in answer to question 04, thirty-seven percent of the LCDRs thought TQL to be "just another management program," while fifty percent of the cryptology community (161X) and fifty-seven percent of the Medical Department (230X and 290X) thought the opposite. The aggregate population is fairly evenly distributed across the response scale.

1. Content Analysis

The following is a brief description of the written comments to the first four questions in Part IV. One hundred thirty individuals of the entire population (approximately forty-eight percent), henceforth addressed as the commentors, offered any written comments. The written comments were categorized into percentage (rounded to the nearest whole percent) of positive and negative comments.

a. Is There a Need for TQL in the DoN?

Sixty-five percent of the commentors remarked on the need for TQL in the DoN, especially to ease the current downsizing of the military. The following is a brief

synopsis of the recurring themes of those comments about the need for TQL in the DoN.

Positive comments (sixty percent)

- Realize the importance to improve processes to produce a better product, combat readiness
- Recognize the need to include input from subordinates to improve processes
- Need to keep quality personnel
- Open lines of communications
- Improve relations between enlisted and officers

Negative comments (forty percent)

- TQL not appropriate for the fleet, an unstable environment
- TQL is incompatible with the Navy
- Navy is not an industry, TQL has no place in the Navy
- Cannot teach how to be a leader
- Rank structure prevents, EVALS and FITREPS contradict Deming's philosophy
- No time and people to do TQL

b. Is a TQL Transformation Possible in the DoN?

Sixty percent of the commentors reacted to this question about the possibility of a TQL transformation in the DoN. The next list is a summary of those written comments.

Positive comments (twenty-nine percent)

- People need and want a change
- More possible at shore base commands
- Through improved communication, the transformation will happen

Negative comments (seventy-one percent)

- Current evaluation system conflicts with transformation
- Senior leaders are not committed
- Need more manpower
- Twelve hour days interfere with implementation
- Mobility hinders implementation
- Only parts of TQL principles are appropriate in the military
- Will take decades to see the change

c. Should TQL be Incorporated into the NPS Curricula?

Forty-five percent of the commentors replied to the question regarding incorporating TQL into NPS curricula. The general themes of the written comments are as follows:

Positive comments (fifty-three percent)

- Greatly needed at NPS, elective or not
- Implement at accessions points like NROTC, OCS, PO INDOC,
- NPS should model TQL course for entire DoN

Negative comments (forty-seventy percent)

- No time to add to NPS curriculum
- Needed most in the fleet
- Would be a waste of time

d. Is TQL Just Another Management Program?

Thirty commentors (fifty-seven percent) explained their responses to the question whether or not TQL is just another management program. The following is a summary of those comments.

Definitely not a management program (forty-one percent)

- history has proven Deming's theory and philosophy by the well-known success of businesses in Japan and the United States
- TQL is not at all like MBO which is a management program that has proven its lack of success in today's market
- Current global events make TQL a great investment of time and resources to effect a positive cultural change
- Quality improvement is the name of the game for the future.

Is a another management program (sixty percent)

- just to fade as time passes and enthusiasm dwindles
- TQL is just like Leadership Management Education Training (LMET) and Petty Officer Indoctrination (PO INDOC)

Conclusions and recommendations of this study will follow in the final chapter.

V. CONCLUSIONS AND RECOMMENDATIONS

The intent of this study was to assess the TQL knowledge, education, experience, and attitude levels of Naval officers entering the Naval Postgraduate School in July 1993. The survey developed by the author and analyzed in Chapter IV is one method of measuring the success of the implementation phase of the TQL transformation in the Department of the Navy. Discussion of the conclusions and recommendations follow in the next sections, closing with recommendations for future research.

A. CONCLUSIONS

The following conclusions are made about the aggregate population and specific groups represented in this survey analysis:

- The TQL education, knowledge, experience, and attitude levels of this cohort are low. Survey results indicate the majority have not been formally exposed to TQL. The knowledge section suggests a low knowledge base or poor memory of the respondents. If the scores are truly indicative of a low knowledge base then improvements in training endeavors must be made. These low levels indicate that junior officers, crucial components and potential constituents of the critical mass, have not been adequately exposed to TQL theories and principles. This lack of exposure creates a fragmented TQL implementation phase and, therefore, an obstruction to a successful transformation toward Total Quality Leadership in the Department of the Navy.

- Officers who have designators that are predominately assigned to shore-based facilities have higher levels of TQL knowledge, education, and experience (i.e., General Unrestricted Lines officers (110Xs), Supply Corps officers (310Xs), and the Medical Department (Medical Service Corps (230Xs) and Nurse Corps (290Xs) officers)). Shore-based facilities generally lead in TQL implementation. However, attitudes of the aviation and fleet communities reflect not only a lack of TQL knowledge but a resistance to TQL. Although, this conclusion may be biased by the small sizes of the demographic groups, it is the author's professional experience and opinion that it does reflect reality.

- This survey instrument was, for the most part, appropriate for capturing the picture of the TQL knowledge, education, experience, and attitude levels of this cohort. Exceptions, found in several questions that confused respondents, were noted in Chapter IV. Future use of this survey will require some redesign to avoid the issues discussed.

B. RECOMMENDATIONS

The recommendations based on the aforementioned conclusions are as follows:

- TQL theory and principles should be introduced at every accession point, for both enlisted (basic training) and officers (NROTC, OIS, OCS, Naval Academy), and continued at every career milestone thereafter ("A" and "C" schools, Petty Officer Indoctrination, NAVLEAD, NPS, Department Head School, PXO school, advancement and promotion to middle management, etc.).

- Every community's mission and vision statements should reflect its strategies to educate and train personnel as part of its TQL implementation. Guidelines from the Department of the Navy must be incorporated to maintain continuity of that training.

- The Department of the Navy should include a goal for continuous education and training of all senior leaders of every community, especially as they are promoted to the flag ranks, in plans for the TQL transformation.

- Further study to determine if there is any correlation between attitude toward TQL and education and experience levels should be conducted.

- Further research should include a follow-on study of this cohort to see if an NPS education had any effect on TQL knowledge, education, and experience levels.
- Survey redesign issues should be addressed.

APPENDIX A

14 POINTS FOR MANAGEMENT

1. Create and publish to all employees a statement of the aims and purposes of the company or other organization. The management must demonstrate constantly their commitment to this statement.

2. Learn the new philosophy, top management and everybody.

3. Understand the purpose of inspection, for improvement of processes and reduction of cost.

4. End the practice of awarding business on the basis of price tag alone.

5. Improve constantly and forever the system of production and service.

6. Institute training (for skills).

7. Teach and institute leadership.

8. Drive out fear. Create trust. Create a climate for innovation.

9. Optimize toward the aims and purposes of the company, the efforts of teams, groups, staff areas, too.

10. Eliminate exhortations for the work force.

11. a. Eliminate numerical quotas for production. Instead, learn and institute methods for improvement.

    b. Eliminate M.B.O. (management by objective). Instead, learn the capabilities of processes, and how to improve them.

12. Remove barriers that rob people of pride of workmanship.

13. Encourage education and self-improvement for everyone.

14. Take action to accomplish the transformation.

APPENDIX B

THE SURVEY

06 July 1993

Dear New Student;

Hello!
Welcome to Monterey and the Naval Postgraduate School (NPS)!!

I am in my last quarter of the Manpower, Personnel, and Training Analysis (847) curriculum in the Administrative Sciences Department (Code 036). My thesis involves a survey of Total Quality Leadership (TQL) knowledge and experience of naval personnel. I have selected the new Navy students entering NPS in July 1993 as the cohort for my study.

I am asking you to participate in my thesis process by completing the enclosed survey. The survey will take ***only*** *about 15 minutes to complete.* ***Complete anonymity will be guaranteed.***

The usual demographic variables are collected in ***PART I.***
Questions in ***PART II*** *were developed from my literature review. They are designed to assess your TQL knowledge. The questions are not meant to be tricky. I realize many Naval officers have not yet been formally exposed to TQL. Feel free to select* ***"E" (I do not know)*** *instead of guessing at the correct answer.*
Your responses in ***PART III*** *identify your TQL education and experience.* ***PART IV*** *solicits your opinions and feedback regarding TQL.*

Please return the survey in the enclosed self-addressed envelope via the guardmail no later than ***13 July 1993.***

Thank you very much for your time and help in my thesis adventure!!

I am sure your experience here at NPS will be challenging and rewarding. The time certainly goes by fast!

Sincerely,
E. K. Kneller
LCDR USN
SMC #2097

PART I

Please....

1. Circle rank. ENS LTJG LT LCDR CDR

2. Circle years of service. <2 2-4 5-7 8-10 11-14 >14

3. Enter your designator. _____

4. Circle gender. Male Female

5. Enter your age. _____

6. Enter your curriculum number (i.e., 360, 683, etc) ___.

7. Circle type of last command.

A. School
B. Staff
C. Overseas
D. Sea duty
E. Shore/FISC
F. Other-describe:_____

8. Circle the primary function of last command.

A. Combat operational
B. Command and control
C. Intelligence
D. Maintenance
E. Production
F. Research
G. Supply
H. Training
I. Other-describe:_____

PART II

Please answer the following questions by choosing the best single response and circling the corresponding letter. Please feel free to select "E. I do not know", instead of guessing the correct response.

1. A stable process exhibits

A. special causes of variation.
B. related causes of variation.
* C. common causes of variation.
D. B and C
E. I do not know

2. Quality can be achieved through

A. continuous improvement of processes.
B. continuous improvement of products and services.
C. innovation of products and services.
* D. all of the above
E. I do not know

3. The Quality Management Board (QMB) consists of _____ who develop _____.

A. top leadership (product & service managers); the quality leadership philosophy.
B. top leadership (product & service managers); plans for process improvement.
C. middle managers (process owners); the quality leadership philosophy.
* D. middle managers (process owners); plans for process improvement.
E. I do not know

4. A(n) _____ displays categories of data in descending order of frequency.

A. histogram
B. scatter diagram
C. affinity diagram
* D. Pareto chart
E. I do not know

5. The concept that quality losses must be defined as deviation from the target and, not conformance to arbitrary specifications is called

* A. Taguchi Loss Function.
B. Quality Function Deployment.
C. Pareto Principle.
D. Standard Deviation.
E. I do not know

6. The definition of quality depends on

* A. context, customer's perception, customer's needs and wants.
B. specification, customer's needs and wants, customer's perceptions.
C. context, specifications, customer's perceptions.
D. industry standards, organization's perceptions, context.
E. I do not know

7. The scientific method for gaining knowledge based on data is

A. the 14 Points.
* B. PDCA Cycle.
C. qualitative analysis.
D. System of Profound Knowledge.
E. I do not know

8. The following is an example of suboptimization:

A. Leaders considering the effects of their decisions on the entire organization.
* B. Rewarding individuals for meeting standards or goals which are not aligned with the aims of the organization.
C. Close horizontal and vertical communication and cooperation during decision-making.
D. A and B
E. I do not know

9. The Executive Steering Committee (ESC) consists of ____ who develop _____.

* A. top leadership (product & service managers); the quality leadership philosophy.
B. top leadership (product & service managers); plans for process improvement.
C. middle managers (process owners); the quality leadership philosophy.
D. middle managers (process owners); plans for process improvement.
E. I do not know

10. _____ causes of variation are not part of the process all the time or do not affect everyone but arise because of specific circumstances.

* A. Special
B. Common
C. Random
D. Critical
E. I do not know

11. The _____ is useful for promoting understanding of how work gets done.

A. affinity diagram
* B. flow chart
C. Ishikawa diagram
D. B and C
E. I do not know

12. _____ describes the things that leaders must do to accomplish the transformation to TQL.

A. The U.S. Navy Handbook for Basic Process Improvement
* B. The 14 Points of Management
C. The System of Profound Knowledge
D. The DoN Executive Steering Group Guidance on TQL
E. I do not know

13. Which is <u>not</u> true according to Deming's "chain reaction": As quality improves

A. the organization becomes more competitive.
B. rework decreases.
* C. costs increase.
D. productivity improves.
E. I do not know

14. A stable process exhibits

A. special causes of variation.
B. related causes of variation.
* C. common causes of variation.
D. A and C
E. I do not know

15. An understanding of psychology helps leaders to

A. design motivational slogans to support cooperation.
B. promote management by objective to increase quality.
C. understand people and the way they learn to create competition.
* D. foster team work to effect a cultural change.
E. I do not know

16. Who is responsible for providing technical support, training, and TQL documentation for the command?

* A. TQL Coordinator
B. Quality Advisors
C. Statistician
D. Department Heads
E. I do not know

17. Who defines the quality of products/services?

A. the organization
* B. the customer
C. the worker
D. the supplier
E. I do not know

18. A diagram that shows the relationship between an effect and its possible causes is a(n)

A. affinity diagram.
* B. fishbone diagram.
C. scatter diagram.
D. histogram.
E. I do not know

19. The theory of knowledge guides leaders to

* A. make data-based decisions.
B. make policy decisions on a short term basis.
C. link customers and suppliers.
D. strive for individual goals for process improvement.
E. I do not know

20. An important purpose of the "Check" phase of the Plan-Do-Check-Act (PDCA) cycle is to

* A. determine whether changes led to improvement.
B. determine how, when, and by whom data will be collected.
C. assess application to other parts of the organization.
D. gather data to determine what happened after the changes.
E. I do not know

21. Quality is _____ the manufacturing of products and services.

A. added to
* B. built into
C. standardized in
D. inspected into
E. I do not know

22. Deming's System of Profound Knowledge contains the following elements:

A. subordinates, managers, executives, customers
* B. systems, variation, psychology, knowledge
C. variation, organization, knowledge, psychology
D. variation, systems, motivation, knowledge
E. I do not know

23. The Process Action Team (PAT) consists of _____ who _____.

A. middle managers (process owners); collect data and remove special causes of variation.
B. middle managers (process owners); plan for process improvement.
C. supervisors and staff (process workers); plan for process improvement.
* D. supervisors and staff (process workers); collect data and remove special causes of variation.
E. I do not know

24. Variation

A. can never be reduced.
* B. is inherent in all processes.
C. must be completely removed from all processes.
D. is always caused by accidental events.
E. I do not know

25. The DoN defines TQL as the use of quantitative methods and knowledge of people to assess and improve

A. suppliers' conformance to specifications.
B. workforce productivity.
* C. incoming materials and services.
D. employee performance.
E. I do not know

PART III

Please circle the corresponding number.

t extent.....	*not at all 1*	*small extent 2*	*some extent 3*	*large extent 4*	*very large extent 5*
e you seen or heard about your last command's Strategic ?	1	2	3	4	5
e you used the following basic graphic tools to help ove processes?					
in chart	1	2	3	4	5
stogram	1	2	3	4	5
areto chart	1	2	3	4	5
ow diagram	1	2	3	4	5
use & effect diagram	1	2	3	4	5
atter diagram	1	2	3	4	5
ontrol chart	1	2	3	4	5
e you collected data on your work processes and developed ess measures?	1	2	3	4	5
e you used the following Management and Planning Tools lp manage and improve processes?					
ffinity diagram	1	2	3	4	5
ee diagram	1	2	3	4	5
terrelationship diagram	1	2	3	4	5
rioritization matrices	1	2	3	4	5
atrices	1	2	3	4	5
rocess decision program art	1	2	3	4	5
ctivity network diagram	1	2	3	4	5

Please circle YES or NO.

5. Have you served as a

A. member on a PAT?	YES	NO
B. member on a QMB?	YES	NO
C. member on an ESC?	YES	NO
D. TQL team advisor facilitator?	YES	NO
E. command TQL coordinator?	YES	NO

6. Have you attended the following DoN courses?

A. TQL Orientation Briefing by senior leaders, mid-managers, or supervisors	YES	NO
B. Introduction to TQL (1-day)	YES	NO
C. Fundamentals of TQL (3-day)	YES	NO
D. Implementing TQL	YES	NO
E. Systems Approach to Process Improvement	YES	NO
F. Team Skills and Concepts of TQL	YES	NO
G. Methods for Managing Quality	YES	NO
H. Strategic Planning for Quality	YES	NO
I. Senior Leaders Seminar	YES	NO
J. Leadership Management Education Training	YES	NO
K. Deming 4-day seminar	YES	NO
L. Deming 2-day seminar	YES	NO

7. Have you had any Quality-related in-house training (developed within your command)? YES NO
If yes, please enter approximate number of hours:____

8. Have you had any Quality-related training from a source outside of your command? YES NO
If yes, please enter approximate number of hours:____

PART IV

Please circle the corresponding number.

To what extent.....	*not at all* 1	*small extent* 2	*some extent* 3	*large extent* 4	*very large extent* 5	*I do not kn about T* 6
1. Do you see a need for total quality leadership in the DoN? Please explain:	1	2	3	4	5	6
2. Do you believe the TQL transformation is possible in the DoN? Please explain:	1	2	3	4	5	6
3. Do you think a TQL course should be a part of your curriculum at NPS? Please explain.	1	2	3	4	5	6
4. Do you see quality improvement as just another management program? Please explain.	1	2	3	4	5	6
5. Are you confident of your ability to use TQL in your job? Please explain.	1	2	3	4	5	6

13 July 1993

Dear New Student;

Hello! How was your first week of classes? I hope you find your courses interesting and worthwhile.

The key to keeping your sanity (and of those you love) is to keep up with the reading assignments and still make time for yourself and your family. Believe me, the time will fly by fast! Just be sure to enjoy Monterey and the surrounding areas!!

I want to thank those of you who have already returned my thesis survey. Your prompt response is greatly appreciated!!

May I please remind those of you who have not yet completed and returned the survey, to do so as soon as possible. The survey should take ***approximately*** *15 minutes to complete.*

Simply return the survey by placing it in the "Student to Student" mail slot located outside the Student Mail Center in the basement of Hermann Hall.

Thank you very much for your time and help in my thesis endeavor!!

Sincerely,

E. K. Kneller
LCDR USN
SMC #2097

APPENDIX C

VARIABLE DEFINITIONS

Variable Information:

Name		Position
CASE	* No label *	1
RANK	* No label *	2
YOS	**Years of Service**	3
DESIG	**Designator**	4

Value	Label
1100	General Unrestricted Line - USN
1105	General Unrestricted Line - USNR
1107	General Unrestricted Line - TAR
1110	Surface Warfare - USN
1115	Surface Warfare - USNR
1117	Surface Warfare - TAR
1120	Submarine Warfare - USN
1130	Special Warfare - USN
1140	Special Operations - USN
1310	Aviator - USN
1315	Aviator - USNR
1320	Naval Flight Officer - USN
1325	Naval Flight Officer - USNR
1327	Naval Flight Officer - TAR
1460	Engineering Duty Officer - USN
1465	Engineering Duty Officer - USNR
1520	Aviation Maintenance - USN
1525	Aviation Maintenance - USNR
1610	Cryptology - USN
1615	Cryptology - USNR
1630	Intelligence - USN
1635	Intelligence - USNR
1637	Intelligence - TAR
1800	Geophysics - USN
1805	Geophysics - USNR
2300	Medical Service Corps - USN
2305	Medical Service Corps - USNR
2900	Nurse Corps - USN
3100	Supply Corps - USN
3105	Supply Corps - USNR

GENDER	* No label *	5
AGE	* No label *	6

CURRIC **Curriculum Number** 7

Value	Label
360	Operations Analysis
361	Operational Logistics
365	Joint Command, Control & Communications
366	Space Systems Operations
368	Computer Science
370	Information Technology Management
373	Air-Ocean Science
374	Operational Oceanography
380	Advanced Science - Applied Math
525	Antisubmarine Warfare
533	Combat Systems Science & Technology
570	Naval Engineering
590	Electronic Systems Engineering
591	Space Systems Engineering
595	Electronic Warfare
610	Aeronautical Engineering
611	Aeronautical Engineering Avionics
681	National Security Affairs - Mid East, So Asia, Africa
683	National Security Affairs - Western Hemisphere
684	National Security Affairs - Europe, USSR
688	National Security Affairs - Strategic Planning
699	S.O. Low Intensity Conflict
813	Material Movement
814	Transportation Management
815	Acquisition & Contract Management
819	Systems Inventory Management
825	Intelligence
827	Material Logistics Support Management
837	Financial Management
847	Manpower, Personnel & Training Analysis

COMMAND **Type of Last Command** 8

Value	Label
A	School
B	Staff
C	Overseas
D	Sea Duty
E	Shore/FISC
F	Other

FUNCTION **Primary Function of Last Command** 9

Value	Label
A	Combat Operational
B	Command and Control
C	Intelligence
D	Maintenance
E	Production
F	Research
G	Supply
H	Training
I	Other

K2D How to achieve quality 10

Value	Label
A	incorrect
B	incorrect
C	incorrect
D	CORRECT
E	do not know

K3D QMB consists of; develops 11

Value	Label
A	incorrect
B	incorrect
C	incorrect
D	CORRECT
E	do not know

K4D Pareto chart 12

Value	Label
A	incorrect
B	incorrect
C	incorrect
D	CORRECT
E	do not know

K5A Taguchi Loss Function 13

Value	Label
A	CORRECT
B	incorrect
C	incorrect
D	incorrect
E	do not know

K6A Definition of quality depends on 14

Value	Label
A	CORRECT
B	incorrect
C	incorrect
D	incorrect
E	do not know

K7B PDCA cycle to gain knowledge 15

Value	Label
A	incorrect
B	CORRECT
C	incorrect
D	incorrect
E	do not know

K8B Example of suboptimization 16

Value	Label
A	incorrect
B	CORRECT
C	incorrect
D	incorrect
E	do not know

K9A ESC consists of; develops 17

Value	Label
A	CORRECT
B	incorrect
C	incorrect
D	incorrect
E	do not know

K10A Special causes of variation 18

Value	Label
A	CORRECT
B	incorrect
C	incorrect
D	incorrect
E	do not know

K11B Flow chart tells how work is done 19

Value	Label
A	incorrect
B	CORRECT
C	incorrect
D	incorrect
E	do not know

K12B Leaders must do 14 PTS of MGT for transformation 20

Value	Label
A	incorrect
B	CORRECT
C	incorrect
D	incorrect
E	do not know

K13C Chain reaction, quality and costs 21

Value	Label
A	incorrect
B	incorrect
C	CORRECT
D	incorrect
E	do not know

K14C Stable process exhibits 22

Value	Label
A	incorrect
B	incorrect
C	CORRECT
D	incorrect
E	do not know

K15D Psychology, teamwork, and change 23

Value	Label
A	incorrect
B	incorrect
C	incorrect
D	CORRECT
E	do not know

K16A TQL Coordinator's responsibilities 24

Value	Label
A	CORRECT
B	incorrect
C	incorrect
D	incorrect
E	do not know

K17B Customer defines quality 25

Value	Label
A	incorrect
B	CORRECT
C	incorrect
D	incorrect
E	do not know

K18B Fishbone (cause & effect) diagram 26

Value	Label
A	incorrect
B	CORRECT
C	incorrect
D	incorrect
E	do not know

K19A Theory of knowledge; data-based decisions 27

Value	Label
A	CORRECT
B	incorrect
C	incorrect
D	incorrect
E	do not know

K20A "Check" phase of PDCA is 28

Value	Label
A	CORRECT
B	incorrect
C	incorrect
D	incorrect
E	do not know

K21B Quality is built into product 29

Value	Label
A	incorrect
B	CORRECT
C	incorrect
D	incorrect
E	do not know

K22B Elements of System of Profound Knowledge 30

Value	Label
A	incorrect
B	CORRECT
C	incorrect
D	incorrect
E	do not know

K23D PAT consists of; function 31

Value	Label
A	incorrect
B	incorrect
C	incorrect
D	CORRECT
E	do not know

K24B Variation is inherent in all processes 32

Value	Label
A	incorrect
B	CORRECT
C	incorrect
D	incorrect
E	do not know

K25C DoN definition of TQL 33

Value	Label
A	incorrect
B	incorrect
C	CORRECT
D	incorrect
E	do not know

E1 Strategic Plan 34

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E2A Run chart 35

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E2B **Histogram** 36

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E2C **Pareto chart** 37

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E2D **Flow diagram** 38

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E2E **Cause & effect diagram** 39

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E2F **Scatter diagram** 40

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E2G **Control chart** 41

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E3 **Collected data & developed process measures** 42

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E4A **Affinity diagram** 43

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E4B **Tree diagram** 44

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E4C **Interrelationship diagram** 45

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E4D **Prioritization matrices** 46

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E4E **Matrices** 47

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E4F **Process decision program chart** 48

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E4G **Activity network diagram** 49

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent

E5A	PAT member	50
E5B	QMB member	51
E5C	ESC member	52
E5D	TQL team advisor facilitator	53
E5E	Command TQL coordinator	54
E6A	TQL Orientation Brief by Sr leader	55
E6B	TQL Introduction (1-day)	56
E6C	TQL Fundamentals (3-day)	57
E6D	Implementing TQL	58
E6E	Systems Approach to Process Improvement	59
E6F	Teams Skills and Concepts of TQL	60
E6G	Methods for Managing Quality	61
E6H	Strategic Planning for Quality	62
E6I	Senior Leaders Seminar	63
E6J	Leadership Management Education & Training	64
E6K	Deming 4-day seminar	65
E6L	Deming 2-day seminar	66
E7	In-house developed by command	67
E7YES	Yes, approximate number of hours	68
E8	Outside training source	69
E8YES	Yes, approximate number hours	70

O1 Need for TQL in DoN? 71

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent
6	do not know about TQL

O2 TQL transformation possible? 72

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent
6	do not know about TQL

03 **Add TQL course to NPS curricula?** 73

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent
6	do not know about TQL

04 **Just another management program?** 74

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent
6	do not know about TQL

05 **Confident in ability to use TQL?** 75

Value	Label
1	not at all
2	small extent
3	some extent
4	large extent
5	very large extent
6	do not know about TQL

APPENDIX D

RAW DATA

THE VARIABLES ARE LISTED IN THE FOLLOWING ORDER:

LINE 1: CASE RANK YOS DESIG GENDER AGE CURRIC COMMAND FUNCTION K2D K3D K4D K5A K6A K7B K8B K9A K10A K11B K12B K13C K14C K15D K16A K17B K18B K19A K20A K21B K22B K23D K24B K25C E1 E2A E2B E2C E2D E2E E2F E2G E3 E4A E4B E4C E4D E4E E4F E4G E5A

LINE 2: E5B E5C E5D E5E E6A E6B E6C E6D E6E E6F E6G E6H E6I E6J E6K E6L E7 E7YES E8 E8YES O1 O2 O3 O4 O5 K2 K3 K4 K5 K6 K7 K8

LINE 3: K9 K10 K11 K12 K13 K14 K15 K16 K17 K18 K19 K20 K21 K22 K23 K24 K25 DES1G2 CORRECT INCORRCT UNKNOWN

LINE 4: PERCOR PERINC PERUNK NONE SMALL SOME LARGE VERY PERNONE PERSMALL PERSOME PERLARGE PERVERY

LINE 5: YES NO PERYES PERNO

CASE: 1 LT 8-10 1110 MALE 31 847 D A D E E E B C E E A B E C A C E B E E A C E E B B 3 1 1 1 4 2 1 4 3 1 1 1 4 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 1 NO 0 6 3 1 5 1 1 9 9 9 2 2 9
K9: 9 1 1 9 1 2 2 9 1 9 9 1 2 9 9 1 2 111X 7.00 6.00 11.00
PERCOR: 29.17 25.00 45.83 10.00 1.00 2.00 3.00 .00 62.50 6.25 12.50 18.75 .00
YES: 1.00 18.00 5.26 94.74

CASE: 2 LT 2-4 1110 MALE 26 365 D A D E E E E E C E E A E A C C D A B E E A B E C B D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 1 1 1 5 1 1 9 9 9 9 2 9
K9: 9 1 9 2 1 1 1 1 1 9 9 1 1 9 2 1 2 111X 10.00 4.00 10.00
PERCOR: 41.67 16.67 41.67 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 3 LT 5-7 1100 FEMALE 33 590 C I D D A E A C E A A B B C A D A B B E A B E A D E 5 1 3 3 5 4 1 1 4 1 3 5 4 4 1 1 NO
E5B: YES YES YES NO NO YES YES NO NO YES NO YES NO NO NO NO YES 12 YES 96 5 3 4 1 5 1 1 2 9 1 2 9
K9: 1 1 1 1 1 2 1 1 1 1 9 1 1 9 2 2 9 110X 14.00 5.00 5.00
PERCOR: 58.33 20.83 20.83 6.00 .00 3.00 4.00 3.00 37.50 .00 18.75 25.00 18.75
YES: 9.00 10.00 47.37 52.63

CASE: 4 LT 5-7 1100 FEMALE 27 684 B B D B E E D C E B A B E C E E A B E E D B E B B B 5 1 1 1 2 1 1 1 2 1 1 1 1 1 1 2 NO
E5B: NO NO NO NO YES YES NO NO NO NO NO NO NO NO NO NO YES 4 NO 0 3 2 1 4 2 1 2 9 9 2 2 9
K9: 2 1 1 9 1 9 9 1 1 9 9 2 1 9 2 1 2 110X 8.00 7.00 9.00
PERCOR: 33.33 29.17 37.50 12.00 3.00 .00 .00 1.00 75.00 18.75 .00 .00 6.25
YES: 3.00 16.00 15.79 84.21

CASE: 5 LCDR 11-14 1140 MALE 39 827 D A D E E E A E E A A B B C E D A B E E D B E C E B 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 4 5 5 5 3 1 9 9 9 1 9 9
K9: 1 1 1 1 1 9 1 1 1 9 9 2 1 9 2 9 2 114X 11.00 3.00 10.00
PERCOR: 45.83 12.50 41.67 15.00 .00 1.00 .00 .00 93.75 .00 6.25 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 6 LT 5-7 1130 MALE 28 699 D A E E E E E E E E E E B E E E A E E E E A E E B D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 2 NO 0 3 2 1 5 5 9 9 9 9 9 9 9
K9: 9 9 9 1 9 9 9 1 9 9 9 9 2 9 9 1 2 113X 3.00 2.00 19.00
PERCOR: 12.50 8.33 79.17 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 7 LT 5-7 1615 FEMALE 29 837 C I A D E E E C D A A E B C E D A B E D A B E D B B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 4 3 1 3 6 2 1 9 9 9 2 2
K9: 1 1 9 1 1 9 1 1 1 9 2 1 1 9 1 1 2 161X 12.00 5.00 7.00
PERCOR: 50.00 20.83 29.17 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 8 LT 5-7 1310 MALE 27 610 D A A D E E E E E A E E E C E E E B E E A B E B E B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO YES 1 YES 1 4 5 3 1 1 2 1 9 9 9 9 9
K9: 1 9 9 9 1 9 9 9 1 9 9 1 1 9 2 9 2 131X 6.00 3.00 15.00
PERCOR: 25.00 12.50 62.50 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: 3.00 16.00 15.79 84.21

CASE: 9 LT >14 3100 MALE 36 827 D A D E E E E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 3 1 4 5 1 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 310X 1.00 .00 23.00
PERCOR: 4.17 .00 95.83 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 10 LT 8-10 3100 MALE 41 370 E G D D A E B C B B C B E C D D A B A A A B A C B B 3 1 3 3 3 1 3 1 2 1 2 1 2 1 1 1 YES
E5B: NO NO NO NO NO YES YES NO NO NO NO NO NO NO NO NO NO YES 8 NO 0 3 2 2 4 2 1 1 2 9 2 2 1
K9: 2 2 1 9 1 2 1 1 1 2 1 1 1 2 2 1 2 310X 12.00 10.00 2.00
PERCOR: 50.00 41.67 8.33 8.00 3.00 5.00 .00 .00 50.00 18.75 31.25 .00 .00
YES: 4.00 15.00 21.05 78.95

CASE: 11 LT 5-7 1110 MALE 28 374 D A B E E E E B E E E E E E B E B C A B E E E E B E B E D 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 2 1 3 3 2 9 9 9 2 9 9
K9: 9 9 9 1 9 2 2 1 1 9 9 9 1 9 2 9 2 111X 4.00 6.00 14.00
PERCOR: 16.67 25.00 58.33 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 12 LT 8-10 1117 MALE 29 837 B A D B E E E E E E A C E D C B B B E E D E E E E B B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO YES NO YES NO NO NO NO NO NO NO NO NO NO 0 NO 0 4 2 5 3 2 1 2 9 9 9 9 9
K9: 1 2 9 2 1 2 2 2 9 9 2 9 9 9 2 1 2 111X 4.00 9.00 11.00
PERCOR: 16.67 37.50 45.83 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 13 LCDR >14 3100 MALE 44 370 B G D E E E D E E E E E E D E E E A A E E D B E E B B 2 1 3 1 4 2 4 1 1 1 2 1 5 5 2 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 1 2 5 2 1 9 9 9 2 9 9
K9: 9 9 9 2 9 9 9 1 2 9 9 2 1 9 9 1 2 310X 4.00 5.00 15.00
PERCOR: 16.67 20.83 62.50 7.00 4.00 1.00 2.00 2.00 43.75 25.00 6.25 12.50 12.50
YES: .00 19.00 .00 100.00

CASE: 14 LT 5-7 1320 MALE 28 611 D A D E E E E E E D A E E E E E E E A E E E E E B E E E E E 1 1 1 1 1 1 1 1 1 2 1 1 1 1 3 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 5 NO 0 3 3 5 2 2 1 9 9 9 9 9 2
K9: 1 9 9 9 9 9 9 1 9 9 9 9 1 9 9 9 9 132X 4.00 1.00 19.00
PERCOR: 16.67 4.17 79.17 14.00 1.00 1.00 .00 .00 87.50 6.25 6.25 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 15 LT 5-7 1320 MALE 29 368 F H D D B E E E E E A A E E C E D A B A E A B E C B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO YES YES NO NO NO NO NO NO NO NO NO NO YES 4 NO 0 4 5 1 2 6 1 1 2 9 9 9 9
K9: 1 1 9 9 1 9 1 1 1 2 9 1 1 9 2 1 2 132X 11.00 4.00 9.00
PERCOR: 45.83 16.67 37.50 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 3.00 16.00 15.79 84.21

CASE: 16 LT >14 1110 MALE 38 688 B A B D B E C C B A A E D B E B A A A A E B E E E B B 1 1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO YES NO NO NO NO NO NO NO NO YES NO NO NO 0 NO 0 3 3 1 5 3 2 1 2 9 2 2 1
K9: 1 1 9 2 2 9 2 1 2 2 1 9 1 9 9 1 2 111X 8.00 10.00 6.00
PERCOR: 33.33 41.67 25.00 14.00 2.00 .00 .00 .00 87.50 12.50 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 17 LTJG 2-4 1105 FEMALE 28 814 E I E E E E E A E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 6 3 3 6 9 9 9 9 9 2 9
K9: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 110X .00 1.00 23.00
PERCOR: .00 4.17 95.83 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 18 LTJG >14 2305 FEMALE 37 370 E I D B D E A C B A C B B C E C B B B A A B E D B B 2 1 1 3 1 1 1 1 4 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO 0 YES 20 5 4 1 3 3 1 2 1 9 1 2 1
K9: 1 2 1 1 1 9 2 2 1 1 1 1 1 9 1 1 2 230X 15.00 6.00 3.00
PERCOR: 62.50 25.00 12.50 13.00 1.00 1.00 1.00 .00 81.25 6.25 6.25 6.25 .00
YES: 2.00 17.00 10.53 89.47

CASE: 19 LT 5-7 1100 FEMALE 30 814 B I A E E E B E B A A D B C D D A B B E A B E C B B 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO YES YES NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 3 3 3 3 2 9 9 9 2 9 1
K9: 1 1 2 1 1 2 1 1 1 1 9 1 1 9 2 1 2 110X 12.00 6.00 6.00
PERCOR: 50.00 25.00 25.00 15.00 .00 1.00 .00 .00 93.75 .00 6.25 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 20 LT 8-10 1610 MALE 30 595 E D A D D E A C B A A B E C A D A B B E A A E D B B 5 1 3 3 3 3 3 1 3 3 3 1 1 1 1 1 YES
E5B: YES YES NO NO NO NO NO NO NO NO NO NO NO NO NO YES 25 YES 60 5 5 1 1 5 2 1 1 9 1 2 1
K9: 1 1 1 9 1 2 1 1 1 1 9 1 2 9 1 1 2 161X 15.00 5.00 4.00
PERCOR: 62.50 20.83 16.67 7.00 .00 8.00 .00 1.00 43.75 .00 50.00 .00 6.25
YES: 5.00 14.00 26.32 73.68

CASE: 21 CDR >14 1310 MALE 38 361 B 1 D E E E E C E E A B E B E E A E E E E B E E B E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 6 6 6 1 9 9 9 9 2 9
K9: 9 1 1 9 2 9 9 1 9 9 9 9 1 9 9 1 9 131X 6.00 2.00 16.00
PERCOR: 25.00 8.33 66.67 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 22 LCDR 11-14 2300 MALE 42 370 C 1 D E E E E B E A C D E C E D D B E E B B E C B E 3 3 3 1 3 1 3 3 3 1 4 1 1 1 1 1 NO
E5B: YES NO NO NO NO NO YES NO NO NO NO NO NO YES NO NO NO 0 NO 0 4 3 1 1 3 1 9 9 9 9 1 9
K9: 1 2 2 9 1 9 1 2 1 9 9 2 1 9 2 1 9 230X 8.00 5.00 11.00
PERCOR: 33.33 20.83 45.83 8.00 .00 7.00 1.00 .00 50.00 .00 43.75 6.25 .00
YES: 3.00 16.00 15.79 84.21

CASE: 23 LT 5-7 1130 MALE 28 699 D A D E E E E E E E E E C E E E B E E E E E E E B E 2 1 1 1 3 2 1 1 2 1 1 1 2 2 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 6 6 6 1 9 9 9 9 9 9 9
K9: 9 9 9 9 1 9 9 9 1 9 9 9 9 9 9 1 9 1 13X 4.00 .00 20.00
PERCOR: 16.67 .00 83.33 10.00 5.00 1.00 .00 .00 62.50 31.25 6.25 .00 .00
YES: .00 19.00 .00 100.00

CASE: 24 LT 5-7 1110 MALE 26 361 C A D E E E E C C E E A E D C E D E A C E A B E E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 1 NO 0 3 3 5 5 6 1 9 9 9 2 2 9
K9: 9 1 9 2 1 9 1 9 2 2 9 1 1 9 9 1 2 11X 7.00 6.00 11.00
PERCOR: 29.17 25.00 45.83 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 25 LTJG 2-4 1610 MALE 25 590 C C B E C E B B E E E B E E E C A A A E E B D E C C 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO NO 0 NO 0 3 3 3 4 2 2 9 2 9 2 1 9
K9: 9 9 1 9 9 9 2 1 2 2 9 9 1 2 9 2 1 16X 5.00 8.00 11.00
PERCOR: 20.83 33.33 45.83 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 26 LT 8-10 1130 MALE 31 825 C A A E E E E C E A E E B C E E E B E E E B E E E A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 3 1 6 6 2 9 9 9 9 2 9
K9: 1 9 9 1 1 9 9 9 1 9 9 9 1 9 9 9 2 13X 5.00 3.00 16.00
PERCOR: 20.83 12.50 66.67 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 27 LT 5-7 1320 MALE 26 595 D A D E A E E E E E E B E E E C E D E E E B E E E E 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 YES 20 6 6 6 6 6 1 9 2 9 9 9 9
K9: 9 9 1 9 9 9 2 9 2 9 9 9 1 9 9 9 9 132X 3.00 3.00 18.00
PERCOR: 12.50 12.50 75.00 15.00 .00 .00 1.00 .00 93.75 .00 .00 6.25 .00
YES: 1.00 18.00 5.26 94.74

CASE: 28 LTJG 2-4 1610 MALE 25 591 C C D D E E E E E A C B E E E D E B B A E B E D B B 3 1 1 1 1 1 1 1 3 1 1 3 1 1 1 1 NO
E5B: YES NO NO NO YES YES NO NO NO NO NO NO NO NO NO NO NO YES 10 NO 0 3 1 1 1 1 1 1 9 9 9 9 9
K9: 1 2 1 9 9 9 1 9 1 1 1 9 1 9 1 1 2 16X 11.00 2.00 11.00
PERCOR: 45.83 8.33 45.83 13.00 .00 3.00 .00 .00 81.25 .00 18.75 .00 .00
YES: 4.00 15.00 21.05 78.95

CASE: 29 LT 8-10 3100 MALE 31 837 D I A D A E A C E A E B E E E E E A B B E D B E D E E 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO YES 1 YES 24 1 1 5 1 1 2 1 2 9 1 2 9
K9: 1 9 1 9 9 9 9 1 1 1 9 2 1 9 1 9 9 310X 9.00 4.00 11.00
PERCOR: 37.50 16.67 45.83 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: 3.00 16.00 15.79 84.21

CASE: 30 LTJG 2-4 1100 FEMALE 26 366 E H A D A D B E E B A B B C C E A B B A A B E D B B 4 3 3 3 3 3 3 3 4 1 3 1 1 1 1 1 YES
E5B: YES NO NO NO YES YES YES NO NO NO NO NO NO NO NO NO YES 10 NO 0 5 4 2 3 5 2 1 2 2 2 9 9
K9: 2 1 1 1 1 1 9 1 1 1 1 1 1 9 1 1 2 110X 14.00 6.00 4.00
PERCOR: 58.33 25.00 16.67 6.00 .00 8.00 2.00 .00 37.50 .00 50.00 12.50 .00
YES: 6.00 13.00 31.58 68.42

CASE: 31 LT 5-7 1100 FEMALE 27 682 E H B E E E E E E E B E E B E E E E B E E E E B E E E E 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO YES YES YES NO NO NO NO NO NO YES NO NO YES 30 NO 0 3 3 1 4 2 2 9 9 9 9 9 9
K9: 2 9 9 1 9 9 9 2 9 9 9 9 1 9 9 9 9 110X 2.00 3.00 19.00
PERCOR: 8.33 12.50 79.17 15.00 .00 1.00 .00 .00 93.75 .00 6.25 .00 .00
YES: 5.00 14.00 26.32 73.68

CASE: 32 LT 2-4 1100 FEMALE 27 814 F I D E D E B E E E E E E E C D C A B B E E B E E B D 2 3 3 3 3 2 1 1 3 1 3 1 3 2 1 1 NO
E5B: NO NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 3 4 2 4 1 9 1 9 2 9 9
K9: 9 9 9 9 1 2 2 1 1 1 9 9 1 9 9 1 2 110X 8.00 4.00 12.00
PERCOR: 33.33 16.67 50.00 6.00 3.00 7.00 .00 .00 37.50 18.75 43.75 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 33 LT 8-10 3100 MALE 35 827 D A A E E E B E B E A B A C B B A B C A D B D C B B 1 1 3 1 4 1 5 3 5 1 3 2 2 1 1 3 NO
E5B: NO NO NO NO NO YES YES NO NO YES NO NO NO NO NO NO YES 8 NO 0 3 4 3 3 3 2 9 9 9 2 9 1
K9: 9 1 1 2 1 2 2 1 1 2 1 2 1 2 2 1 2 310X 9.00 10.00 5.00
PERCOR: 37.50 41.67 20.83 7.00 2.00 4.00 1.00 2.00 43.75 12.50 25.00 6.25 12.50
YES: 4.00 15.00 21.05 78.95

CASE: 34 LT 5-7 1110 MALE 27 682 B A A E E E E E E E E E A E E D A B E E E A C E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 YES 3 4 4 5 2 4 2 9 9 9 9 9 9
K9: 9 9 9 2 9 9 1 1 1 9 9 1 2 9 9 9 9 111X 4.00 3.00 17.00
PERCOR: 16.67 12.50 70.83 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 35 LT 5-7 1110 MALE 28 370 B I D C E E A E C A D E D C E B A C E E D B E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO 0 NO 0 3 3 4 4 3 1 2 9 9 1 9 2
K9: 1 2 9 2 1 9 2 1 2 9 9 2 1 9 9 1 2 111X 7.00 8.00 9.00
PERCOR: 29.17 33.33 37.50 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

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 CASE: 36 LT  2-4  1100 FEMALE 26 837 E H D E E E B E E E A E E C E E A B E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 3 NO  0 4 3 5 1 1   1   9   9   9   2   9   9
   K9:  9   1   9   9   1   9   9   1   1   9   9   9   9   9   9   9   9 110X    5.00    1.00   18.00
PERCOR:  20.83    4.17   75.00   16.00     .00     .00     .00     .00  100.00     .00     .00     .00     .00
  YES:   1.00   18.00    5.26   94.74

 CASE: 37 LT  2-4  1320 MALE  27 366 D A D E E E E E E E E E E E E A B E E E B E E B E 1 1 1 1 4 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 5 5 5 5 5   1   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   1   1   9   9   9   1   9   9   1   9 132X    5.00     .00   19.00
PERCOR:  20.83     .00   79.17   15.00     .00     .00    1.00     .00   93.75     .00     .00    6.25     .00
  YES:    .00   19.00     .00  100.00

 CASE: 38 LT  5-7  1110 MALE  28 368 B H D E E E C E E E C E D E C C A A E A E B E E B B 3 1 1 1 4 1 1 1 3 1 4 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES NO  NO  YES 2 NO  0 6 6 6 6 6   1   9   9   9   2   9   9
   K9:  9   2   9   2   9   1   2   1   2   9   1   9   1   9   9   1   2 111X    6.00    6.00   12.00
PERCOR:  25.00   25.00   50.00   12.00     .00    2.00    2.00     .00   75.00     .00   12.50   12.50     .00
  YES:   2.00   17.00   10.53   89.47

 CASE: 39 LT  5-7  1310 MALE  27 368 D A D C E E E E E E E A E E E E E D B E E E B E E E B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 5 5 4 1 4   1   2   9   9   9   9   9
   K9:  9   1   9   9   9   9   9   2   1   9   9   9   1   9   9   9   2 131X    4.00    3.00   17.00
PERCOR:  16.67   12.50   70.83   16.00     .00     .00     .00     .00  100.00     .00     .00     .00     .00
  YES:    .00   19.00     .00  100.00

 CASE: 40 LT  8-10 1310 MALE  30 370 E H E E E E E C E E A E E C E C A B E E E E E E E B D 1 1 1 1 1 1 1 1 1 1 3 3 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 6 3 6 1   9   9   9   9   9   2   9
   K9:  9   1   9   9   1   9   2   1   1   9   9   9   9   9   9   1   2 131X    5.00    3.00   16.00
PERCOR:  20.83   12.50   66.67   14.00     .00    2.00     .00     .00   87.50     .00   12.50     .00     .00
  YES:   2.00   17.00   10.53   89.47

 CASE: 41 LT  5-7  1320 MALE  26 533 D A D E E E E E E E A B E C E D C B E E E B E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 2 NO  0 5 2 3 4 2   1   9   9   9   9   9   9
   K9:  9   1   1   9   1   9   1   2   1   9   9   9   1   9   9   1   2 132X    8.00    2.00   14.00
PERCOR:  33.33    8.33   58.33   16.00     .00     .00     .00     .00  100.00     .00     .00     .00     .00
  YES:   1.00   18.00    5.26   94.74

 CASE: 42 LTJG 2-4  1610 MALE  25 360 C C D D E E E C E A E E B E E C A B E A A B B D E B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 5 5 5 2 5   1   1   9   9   9   2   9
   K9:  1   9   9   1   9   9   2   1   1   9   1   1   1   1   1   9   2 161X   11.00    3.00   10.00
PERCOR:  45.83   12.50   41.67   16.00     .00     .00     .00     .00  100.00     .00     .00     .00     .00
  YES:   1.00   18.00    5.26   94.74

 CASE: 43 LTJG 5-7  2305 MALE  31 837 F G A E A E A C B A E B B E C E A B E E E B E C B E 3 1 5 5 5 3 4 2 5 4 5 2 2 2 4 3 NO
  E5B: NO  NO  NO  NO  YES NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 20 NO  0 5 3 4 2 5   2   9   2   9   1   2   1
   K9:  1   9   1   1   9   1   9   1   1   9   9   9   1   9   2   1   9 230X   10.00    4.00   10.00
PERCOR:  41.67   16.67   41.67    1.00    4.00    3.00    3.00    5.00    6.25   25.00   18.75   18.75   31.25
  YES:   3.00   16.00   15.79   84.21

 CASE: 44 LT  8-10 1310 MALE  31 525 E H A D A E B C B A A B D C D C A B A E D C D D B B 4 1 3 1 5 1 4 1 5 5 1 4 3 1 1 1 YES
  E5B: NO  NO  NO  NO  YES NO  NO  YES NO  YES NO  NO  NO  YES YES NO  YES 14 YES 32 3 2 1 6 3   2   1   2   9   2   2   1
   K9:  1   1   1   2   1   2   2   1   1   2   9   2   2   2   1   1   2 131X   10.00   12.00    2.00
PERCOR:  41.67   50.00    8.33    8.00     .00    2.00    3.00    3.00   50.00     .00   12.50   18.75   18.75
  YES:   8.00   11.00   42.11   57.89

 CASE: 45 LT  8-10 1610 MALE  30 366 C I E D E E A C B A C B D C C D A B A E A B E C B B 3 1 1 1 3 1 1 3 3 1 1 1 4 4 1 1 YES
  E5B: YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 1 NO  0 3 4 2 5 3   9   1   9   9   1   2   1
   K9:  1   2   1   2   1   1   1   1   1   2   9   1   1   9   2   1   2 161X   13.00    6.00    5.00
PERCOR:  54.17   25.00   20.83   10.00     .00    4.00    2.00     .00   62.50     .00   25.00   12.50     .00
  YES:   3.00   16.00   15.79   84.21

 CASE: 46 LT  5-7  1140 MALE  31 368 D I D E E E E E E A A B D E C C A E E E A A E B B B 1 1 1 1 3 1 1 1 2 1 1 1 4 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 6 3 6 6   1   9   9   9   9   9   9
   K9:  1   1   1   2   9   1   2   1   9   9   9   1   2   9   2   1   2 114X    8.00    5.00   11.00
PERCOR:  33.33   20.83   45.83   13.00    1.00    1.00    1.00     .00   81.25    6.25    6.25    6.25     .00
  YES:    .00   19.00     .00  100.00

 CASE: 47 LT  5-7  1110 MALE  26 684 D A D E E E E E E E B E E E E E E B E B E E E B E E E B 3 1 1 1 1 1 1 1 1 1 1 1 2 3 3 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 4 3 4 3 2   1   9   9   9   9   9   9
   K9:  2   9   9   9   9   9   2   9   1   9   9   9   1   9   9   9   2 111X    3.00    3.00   18.00
PERCOR:  12.50   12.50   75.00   12.00    1.00    3.00     .00     .00   75.00    6.25   18.75     .00     .00
  YES:    .00   19.00     .00  100.00

 CASE: 48 LT  5-7  1110 MALE  27 370 D A E E E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 1 NO  0 6 6 5 6 6   9   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9 111X     .00     .00   24.00
PERCOR:   .00     .00  100.00   16.00     .00     .00     .00     .00  100.00     .00     .00     .00     .00
  YES:   1.00   18.00    5.26   94.74
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 CASE: 49 LT  2-4  1110 MALE  28 847 D I E E E E E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 5 2 4 4 3   9   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9 1 1 1 X    .00    .00   24.00
PERCOR:  .00   .00  100.00  16.00   .00   .00   .00   .00  100.00   .00   .00   .00   .00
  YES:  .00  19.00   .00  100.00

 CASE: 50 LT  5-7  1320 MALE  28 595 C A D E E E E C E E E E D C C C A E E E E E E E E B D 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 3 3 1 4 2   1   9   9   9   9   2   9
   K9:  9   9   9   2   1   1   2   1   9   9   9   9   9   9   9   1   2 1 3 2 X   5.00   4.00  15.00
PERCOR: 20.83  16.67  62.50  15.00   1.00   .00   .00   .00  93.75   6.25   .00   .00   .00
  YES:  .00  19.00   .00  100.00

 CASE: 51 LT  5-7  1310 MALE  28 370 D A D E E E D C B B A E D E C C A B E A D B E E B B 1 1 1 1 3 2 1 3 4 1 2 2 3 3 2 2 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 2 YES 2 3 3 3 3 4   1   9   9   9   2   2   1
   K9:  2   1   9   2   9   1   2   1   1   9   1   2   1   9   9   1   2 1 3 1 X   9.00   7.00   8.00
PERCOR: 37.50  29.17  33.33   6.00   5.00   4.00   1.00   .00  37.50  31.25  25.00   6.25   .00
  YES:  2.00  17.00  10.53  89.47

 CASE: 52 LT  5-7  1105 FEMALE 29 847 C I A E E E E E E E E E E E E A E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 6 6 6 6   2   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   1   9   9   9   9   9   9   9   9   9 1 1 0 X   1.00   1.00  22.00
PERCOR: 4.17   4.17  91.67  16.00   .00   .00   .00   .00  100.00   .00   .00   .00   .00
  YES:  .00  19.00   .00  100.00

 CASE: 53 LT  8-10 1110 MALE  28 684 D A D B E E B C C B A B B B C B D A B E B D C C B A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 1 1 5 1   1   2   9   9   2   2   2
   K9:  2   1   1   1   2   1   2   2   2   1   9   2   2   2   2   1   2 1 1 1 X   7.00  14.00   3.00
PERCOR: 29.17  58.33  12.50  16.00   .00   .00   .00   .00  100.00   .00   .00   .00   .00
  YES:  .00  19.00   .00  100.00

 CASE: 54 LT  8-10 1320 MALE  29 684 D B E E E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 6 6 5 6   9   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9 1 3 2 X    .00    .00   24.00
PERCOR:  .00    .00  100.00  16.00   .00   .00   .00   .00  100.00   .00   .00   .00   .00
  YES:  .00  19.00   .00  100.00

 CASE: 55 LT  5-7  3100 MALE  34 819 D G A D E E E C C B C E E C C B E E B E D E D B E B E 1 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES NO  NO  NO  NO  0 YES 3 3 3 4 2 1   2   1   9   9   9   2   2
   K9:  2   2   9   9   1   1   2   9   1   9   2   9   2   1   9   1   9 3 1 0 X   6.00   8.00  10.00
PERCOR: 25.00  33.33  41.67  15.00   1.00   .00   .00   .00  93.75   6.25   .00   .00   .00
  YES:  2.00  17.00  10.53  89.47

 CASE: 56 LT  5-7  1110 MALE  28 847 D A D A E A B C E A A E B C E D A B E E E B D E B B 4 1 1 1 1 1 1 1 1 1 3 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 3 2 5 3 2   1   2   9   1   2   2   9
   K9:  1   1   9   1   1   9   1   1   1   9   9   9   1   2   9   1   2 1 1 1 X  11.00   5.00   8.00
PERCOR: 45.83  20.83  33.33  14.00   .00   1.00   1.00   .00  87.50   .00   6.25   6.25   .00
  YES:  .00  19.00   .00  100.00

 CASE: 57 LT  5-7  1110 MALE  26 374 D I D D D E A C E E E E A E D B A B E E E B E E B D 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 4 NO  0 4 3 1 3 3   1   1   1   9   1   2   9
   K9:  9   9   9   2   9   2   2   1   1   9   9   9   1   9   9   1   2 1 1 1 X   8.00   5.00  11.00
PERCOR: 33.33  20.83  45.83  15.00   .00   .00   .00   1.00  93.75   .00   .00   .00   6.25
  YES:  2.00  17.00  10.53  89.47

 CASE: 58 LT  8-10 3100 MALE  32 370 C D D E E E B C E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 6 6 6 6   1   9   9   9   2   2   9
   K9:  9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9 3 1 0 X   1.00   2.00  21.00
PERCOR: 4.17   8.33  87.50  16.00   .00   .00   .00   .00  100.00   .00   .00   .00   .00
  YES:  .00  19.00   .00  100.00

 CASE: 59 LT  8-10 3100 MALE  30 813 D A D E D E A E E E E E E E E E D A B E E E C E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 3 1 3 4 1   1   9   1   9   1   9   9
   K9:  9   9   9   9   9   9   1   1   1   9   9   9   2   9   9   1   2 3 1 0 X   7.00   2.00  15.00
PERCOR: 29.17   8.33  62.50  16.00   .00   .00   .00   .00  100.00   .00   .00   .00   .00
  YES:  1.00  18.00   5.26  94.74

 CASE: 60 LT  5-7  1320 MALE  29 611 D A D E E E E E E E A E E E B B E B E C E E E E B E 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 4 3 2 3 1   1   9   9   9   9   9   9
   K9:  9   1   9   9   9   2   2   9   1   9   2   9   9   9   9   1   9 1 3 2 X   4.00   3.00  17.00
PERCOR: 16.67  12.50  70.83  15.00   1.00   .00   .00   .00  93.75   6.25   .00   .00   .00
  YES:  .00  19.00   .00  100.00

 CASE: 61 LT  5-7  1110 MALE  28 570 B A D D E D D C E A C A E C D E A B E E D B E C B B 4 1 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 YES 1 2 5 3 5 3 2   1   1   9   2   2   2   9
   K9:  1   2   2   9   1   2   9   1   1   9   9   2   1   9   2   1   2 1 1 1 X   8.00   9.00   7.00
PERCOR: 33.33  37.50  29.17  14.00   1.00   .00   1.00   .00  87.50   6.25   .00   6.25   .00
  YES:  1.00  18.00   5.26  94.74
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CASE: 62 LT 11-14 1610 MALE 32 370 B I B D E E A E A B A B E C C C D A E C A B E C B B 3 5 1 1 4 1 1 1 3 1 1 5 5 5 1 3 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO YES 40 NO 0 5 4 1 1 3 2 1 9 9 1 9 2
K9: 2 1 1 9 1 1 2 2 2 9 2 1 1 9 2 1 2 161X 9.00 9.00 6.00
PERCOR: 37.50 37.50 25.00 8.00 .00 3.00 1.00 4.00 50.00 .00 18.75 6.25 25.00
YES: 2.00 17.00 10.53 89.47

CASE: 63 LT 11-14 1460 MALE 34 533 D A D E E E B E C E A E E D B B A B E E C B E C B B 1 1 1 1 1 1 1 1 1 3 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 3 3 1 1 1 9 9 9 2 9 2
K9: 9 1 9 9 2 2 2 1 1 9 9 2 1 9 2 1 2 146X 6.00 8.00 10.00
PERCOR: 25.00 33.33 41.67 15.00 .00 1.00 .00 .00 93.75 .00 6.25 .00 .00
YES: .00 19.00 .00 100.00

CASE: 64 LT 5-7 1320 MALE 27 611 D A D E E E C C B E C E E E E E B D B E E E B E E B E 4 1 1 1 2 1 1 1 1 1 1 1 2 2 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 2 NO 0 3 3 4 3 3 1 9 9 9 2 2 1
K9: 9 2 9 9 9 9 9 2 2 1 9 9 9 1 9 9 1 9 132X 5.00 5.00 14.00
PERCOR: 20.83 20.83 58.33 12.00 3.00 .00 1.00 .00 75.00 18.75 .00 6.25 .00
YES: 1.00 18.00 5.26 94.74

CASE: 65 LT 5-7 1615 MALE 26 590 C C D A E D C C C B A B B C D C A B A A A B A D B C 3 1 1 1 3 1 1 3 4 1 4 4 4 4 4 4 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 4 YES 4 5 5 1 1 5 1 2 9 2 2 2 2
K9: 2 1 1 1 1 2 2 1 1 2 1 1 1 2 1 1 1 161X 13.00 10.00 1.00
PERCOR: 54.17 41.67 4.17 6.00 .00 3.00 7.00 .00 37.50 .00 18.75 43.75 .00
YES: 2.00 17.00 10.53 89.47

CASE: 66 LT 5-7 1120 MALE 28 570 A H E E E E E E E E E E B E E E D E E E E E E E E B E 1 1 2 1 1 1 1 1 2 1 1 2 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO 0 NO 0 3 6 4 1 6 9 9 9 9 9 9 9
K9: 9 9 1 9 9 9 1 9 9 9 9 9 9 9 9 1 9 112X 3.00 .00 21.00
PERCOR: 12.50 .00 87.50 13.00 3.00 .00 .00 .00 81.25 18.75 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 67 LT 5-7 1320 MALE 29 374 C A D E E E A C C A E E E C E D A A E E A B E E B B 3 1 1 1 2 1 1 1 2 1 1 1 1 1 1 2 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO 0 NO 0 4 3 3 4 3 1 9 9 9 1 2 2
K9: 1 9 9 9 1 9 1 1 2 9 9 1 1 9 9 1 2 132X 9.00 4.00 11.00
PERCOR: 37.50 16.67 45.83 12.00 3.00 1.00 .00 .00 75.00 18.75 6.25 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 68 LT 2-4 1320 MALE 29 366 D A E E E E E E C B B E E E E E E C A B E E D B E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 2 2 1 6 6 9 9 9 9 9 2 1
K9: 2 9 9 9 9 9 2 1 1 9 9 2 1 9 9 1 2 132X 5.00 5.00 14.00
PERCOR: 20.83 20.83 58.33 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 69 LT 5-7 1110 MALE 26 682 D A D E E E A C E E E B B C E C A B E A E C E E B D 3 1 1 1 3 1 1 1 2 1 1 2 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 1 NO 0 4 3 2 4 3 1 9 9 9 1 2 9
K9: 9 9 1 1 1 1 9 2 1 1 9 1 9 2 9 9 1 2 111X 9.00 4.00 11.00
PERCOR: 37.50 16.67 45.83 12.00 2.00 2.00 .00 .00 75.00 12.50 12.50 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 70 LCDR 11-14 1327 MALE 35 837 D A E E E E E E E E A A E B C D C E B E A A C E C B B 2 1 1 1 1 1 1 1 1 3 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 2 3 5 4 6 9 9 9 9 9 9 9
K9: 1 1 9 1 1 2 2 9 1 9 1 1 2 9 2 1 2 132X 8.00 5.00 11.00
PERCOR: 33.33 20.83 45.83 14.00 1.00 1.00 .00 .00 87.50 6.25 6.25 .00 .00
YES: .00 19.00 .00 100.00

CASE: 71 LCDR 11-14 1520 MALE 34 827 B H D E E E E E C E A A B D C B D E A E E D B E D B B 2 1 1 1 1 1 1 1 2 1 1 2 2 2 2 3 YES
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO 0 NO 0 5 3 3 2 3 1 9 9 9 9 2 9
K9: 1 1 1 2 1 2 1 9 2 9 9 2 1 9 1 1 2 152X 9.00 6.00 9.00
PERCOR: 37.50 25.00 37.50 9.00 6.00 1.00 .00 .00 56.25 37.50 6.25 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 72 LT 5-7 1320 MALE 27 591 D A D E E E A C E E E B D C E D A B E D E C E E B B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO YES NO NO NO NO NO NO NO YES NO NO YES 4 NO 0 3 1 1 4 1 1 9 9 9 1 2 9
K9: 9 9 1 2 1 9 1 1 1 9 2 9 2 9 9 1 2 132X 8.00 5.00 11.00
PERCOR: 33.33 20.83 45.83 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: 3.00 16.00 15.79 84.21

CASE: 73 LT 5-7 1320 MALE 26 611 D A D E E E A C E E A E D C E E A B E E E B E E E B 2 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO YES 4 NO 0 1 1 1 5 1 1 9 9 9 1 2 9
K9: 9 1 9 2 1 9 9 1 1 9 9 9 1 9 9 9 2 132X 7.00 3.00 14.00
PERCOR: 29.17 12.50 58.33 14.00 2.00 .00 .00 .00 87.50 12.50 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 74 LCDR 11-14 1460 MALE 34 570 D D A C D E C C E A A B B C C D A B D E D B E C B B 5 1 2 4 4 1 1 3 3 1 4 1 1 1 1 1 YES
E5B: YES NO NO NO YES YES NO NO NO NO NO NO NO NO NO NO YES 24 NO 0 3 2 1 5 3 2 2 1 9 2 2 9
K9: 1 1 1 1 1 1 1 1 1 1 2 9 2 1 9 2 1 2 146X 12.00 8.00 4.00
PERCOR: 50.00 33.33 16.67 9.00 1.00 2.00 3.00 1.00 56.25 6.25 12.50 18.75 6.25
YES: 5.00 14.00 26.32 73.68

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 CASE: 75 LCDR >14  1327 MALE  37 837 F H A D D E E B E A A B B C D D A B E A D B E D B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 3 3 4 2 3   2   1   1   9   9   1   9
   K9:  1   1   1   1   1   2   1   1   1   9   1   2   1   9   1   1   2 132X   15.00   4.00   5.00
PERCOR:  62.50  16.67  20.83  16.00   .00   .00   .00   .00 100.00   .00   .00   .00   .00
  YES:   2.00  17.00  10.53  89.47

 CASE: 76 LT  5-7  1110 MALE  28 684 B A B E E E E E C E A E E E E E E E E E E E E E E B E E E E E 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 6 6 6 6   2   9   9   9   9   2   9
   K9:  1   9   9   9   9   9   9   9   9   9   9   9   1   9   9   9   9 111X   2.00   2.00  20.00
PERCOR:   8.33   8.33  83.33  15.00   .00  1.00   .00   .00  93.75   .00  6.25   .00   .00
  YES:    .00  19.00   .00 100.00

 CASE: 77 LT  >14  1800 MALE  36 373 B B A D E E B E E A E B E C E D A B E E A B E D E B 3 1 1 1 3 1 1 1 3 1 1 2 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 2 YES 4 4 2 1 4 2   2   1   9   9   2   9   9
   K9:  1   9   1   9   1   9   1   1   1   9   9   1   1   9   1   9   2 180X   10.00   3.00  11.00
PERCOR:  41.67  12.50  45.83  12.00   1.00   3.00   .00   .00  75.00  6.25  18.75   .00   .00
  YES:   4.00  15.00  21.05  78.95

 CASE: 78 LT  11-14 1310 MALE  30 837 D A D D E E B C B B A E E C B C D B E A A B E C B D 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 2 NO  0 4 3 2 5 2   1   1   9   9   2   2   1
   K9:  2   1   9   9   1   2   2   2   1   9   1   1   1   9   2   1   2 131X   10.00   8.00   6.00
PERCOR:  41.67  33.33  25.00  15.00   1.00   .00   .00   .00  93.75  6.25   .00   .00   .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 79 LCDR 8-10  3100 MALE  45 370 B B A D D E A E B A A B E C C D A B B A A B B D A B 5 1 1 1 4 1 1 1 2 1 1 1 1 1 3 1 NO
  E5B: NO  NO  NO  NO  YES YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 24 NO  0 4 1 1 5 2   2   1   1   9   1   9   1
   K9:  1   1   1   9   1   1   1   1   1   1   1   1   1   1   1   2   2 310X   18.00   3.00   3.00
PERCOR:  75.00  12.50  12.50  12.00   1.00   1.00   1.00   1.00  75.00  6.25  6.25  6.25  6.25
  YES:   4.00  15.00  21.05  78.95

 CASE: 80 LT  8-10  1100 FEMALE 34 814 C I E E E E E E E E E E E E E E E B E E E B E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES NO  NO  NO  0 NO  0 1 3 3 5 6   9   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   9   1   9   9   9   1   9   9   9   9 110X   2.00   .00  22.00
PERCOR:   8.33   .00  91.67  16.00   .00   .00   .00   .00 100.00   .00   .00   .00   .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 81 LT  8-10  3100 MALE  34 813 D G D D E D B C E B A E E C D D A E E A E B E D B E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 4 4 5 3 2   1   1   9   2   2   2   9
   K9:  2   1   9   9   1   2   1   1   9   9   1   9   1   9   1   1   9 310X   10.00   5.00   9.00
PERCOR:  41.67  20.83  37.50  16.00   .00   .00   .00   .00 100.00   .00   .00   .00   .00
  YES:    .00  19.00   .00 100.00

 CASE: 82 LT  8-10  1520 MALE  32 827 D A D C E E A C E B E E B E C C A B E D E A E D B D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 8 NO  0 2 4 5 1 3   1   2   9   9   1   2   9
   K9:  2   9   9   1   9   1   2   1   1   9   2   9   2   9   1   1   2 152X   8.00   7.00   9.00
PERCOR:  33.33  29.17  37.50  16.00   .00   .00   .00   .00 100.00   .00   .00   .00   .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 83 LT  8-10  1110 MALE  32 368 D H D E E E E E E E A E E E E E E E A A E E E E E E B E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  1 NO  0 2 3 1 4 1   1   9   9   9   9   9   9
   K9:  1   9   9   9   9   9   9   1   2   9   9   9   9   9   2   9   9 111X   3.00   2.00  19.00
PERCOR:  12.50   8.33  79.17  16.00   .00   .00   .00   .00 100.00   .00   .00   .00   .00
  YES:    .00  19.00   .00 100.00

 CASE: 84 LT  5-7  1610 FEMALE 30 590 C I D E E E E E E E E E E D E E A B E E E B E C B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 5 4 2 6 1   1   9   9   9   9   9   9
   K9:  9   9   9   9   2   9   9   1   1   9   9   9   1   9   2   1   2 161X   5.00   3.00  16.00
PERCOR:  20.83  12.50  66.67  16.00   .00   .00   .00   .00 100.00   .00   .00   .00   .00
  YES:    .00  19.00   .00 100.00

 CASE: 85 LTJG 2-4  1100 FEMALE 25 370 D I E E E E E E E E E E E E E E E A B E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 6 3 3 1   9   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   1   1   9   9   9   9   9   9   9   9 110X   2.00   .00  22.00
PERCOR:   8.33   .00  91.67  16.00   .00   .00   .00   .00 100.00   .00   .00   .00   .00
  YES:    .00  19.00   .00 100.00

 CASE: 86 LT  8-10  1320 MALE  26 591 D A D E E D E C E A E B B C E C A B E A E B E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 3 4 1 1   1   9   9   2   9   2   9
   K9:  1   9   1   1   1   9   2   1   1   9   1   9   1   9   9   1   2 132X   10.00   4.00  10.00
PERCOR:  41.67  16.67  41.67  16.00   .00   .00   .00   .00 100.00   .00   .00   .00   .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 87 LT  8-10  1310 MALE  30 374 D A D E E E E C E E E E D E E E A B E E E B E B B E 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 YES
  E5B: YES YES YES YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  YES NO  NO  NO  0 NO  0 3 3 1 3 2   1   9   9   9   9   2   9
   K9:  9   9   9   2   9   9   9   1   1   9   9   9   1   9   2   1   9 131X   5.00   3.00  16.00
PERCOR:  20.83  12.50  66.67  15.00   .00  1.00   .00   .00  93.75   .00  6.25   .00   .00
  YES:   6.00  13.00  31.58  68.42
```

CASE: 88 LCDR 11-14 1327 MALE 35 837 D A D E E E B E E A A E E E C B A B E E E E B E E B C 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO 0 YES 15 5 3 5 1 6 1 9 9 9 2 9 9
K9: 1 1 9 9 9 1 2 1 1 9 9 9 1 9 9 1 1 132X 9.00 2.00 13.00
PERCOR: 37.50 8.33 54.17 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 89 LT 8-10 3100 MALE 31 370 D I A B D E A C B A A B E B C D A B E A D B E C B B 4 1 1 4 4 1 1 4 5 1 3 4 1 3 3 1 NO
E5B: NO NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO YES 3 NO 0 5 4 5 2 3 2 2 1 9 1 2 1
K9: 1 1 1 9 2 1 1 1 1 9 1 2 1 9 2 1 2 310X 13.00 7.00 4.00
PERCOR: 54.17 29.17 16.67 7.00 .00 3.00 5.00 1.00 43.75 .00 18.75 31.25 6.25
YES: 2.00 17.00 10.53 89.47

CASE: 90 LT 2-4 1110 MALE 26 570 D A A D A E C C C B E B E C A C D B D A A D E E B E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 6 6 6 2 1 2 9 2 2 2
K9: 2 9 1 9 1 2 2 2 1 2 1 1 2 9 9 1 9 111X 7.00 11.00 6.00
PERCOR: 29.17 45.83 25.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 91 LT 5-7 1310 MALE 27 366 D A A E E E E E C E E E B E E E E E E E E E E E E B E 1 1 1 1 2 2 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 1 NO 0 4 4 3 6 1 2 9 9 9 9 2 9
K9: 9 9 1 9 9 9 9 9 9 9 9 9 9 9 9 1 9 131X 2.00 2.00 20.00
PERCOR: 8.33 8.33 83.33 14.00 2.00 .00 .00 .00 87.50 12.50 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 92 LT 5-7 1320 MALE 27 525 C A D E E E E E E D D E E E E E E C E B E E E E E E C E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 3 3 6 1 9 9 9 9 9 2
K9: 2 9 9 9 9 9 2 9 1 9 9 9 9 9 2 9 9 132X 2.00 4.00 18.00
PERCOR: 8.33 16.67 75.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 93 LT >14 1140 MALE 36 825 D A B D B E A C C B A E E C E B A B E E E E B E C B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 2 3 4 1 5 1 2 1 2 9 1 2 2
K9: 2 1 9 9 1 9 2 1 1 9 9 9 1 9 2 1 2 114X 8.00 8.00 8.00
PERCOR: 33.33 33.33 33.33 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 94 LT 5-7 1110 MALE 27 611 D A D E E E E B E A A A B E E E E C A B E D A B E E E B D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO NO 0 NO 0 4 3 3 3 3 1 9 9 9 2 9 2
K9: 1 1 1 9 9 9 2 1 1 9 2 1 1 9 9 1 2 111X 9.00 5.00 10.00
PERCOR: 37.50 20.83 41.67 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 95 LT 8-10 1460 MALE 32 570 D A D E E E B E E E E E E E E E C A B E E E E E E E B B 5 1 1 1 1 1 1 1 1 1 1 1 5 1 1 1 NO
E5B: NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 4 2 1 5 5 1 9 9 9 2 9 9
K9: 9 9 9 9 9 9 9 2 1 1 9 9 9 9 9 1 2 146X 4.00 3.00 17.00
PERCOR: 16.67 12.50 70.83 14.00 .00 .00 .00 2.00 87.50 .00 .00 .00 12.50
YES: 1.00 18.00 5.26 94.74

CASE: 96 LT 5-7 1630 MALE 31 370 E H E E E E E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 1 6 6 9 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 163X .00 .00 24.00
PERCOR: .00 .00 100.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 97 LT 8-10 2900 FEMALE 41 847 C A D E E E E E E E A E E E E E E E A E E E E B E E B B 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO YES YES YES NO NO NO NO NO NO YES NO NO NO 0 NO 0 4 4 4 4 1 1 9 9 9 9 9 9
K9: 1 9 9 9 9 9 9 1 9 9 9 9 1 9 9 1 2 290X 5.00 1.00 18.00
PERCOR: 20.83 4.17 75.00 15.00 .00 1.00 .00 .00 93.75 .00 6.25 .00 .00
YES: 4.00 15.00 21.05 78.95

CASE: 98 LCDR 11-14 1320 MALE 34 361 A H A E B E B C D E C E E E E E D A B E E E E B E B B B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 5 3 6 1 2 2 9 2 9 2 2 2
K9: 9 2 9 9 9 9 1 1 1 9 9 9 1 9 2 1 2 132X 5.00 8.00 11.00
PERCOR: 20.83 33.33 45.83 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 99 LT 8-10 3100 MALE 33 815 E G D D E E A E E A A E E D C E D B E A A B E B B E 5 1 1 1 1 3 3 1 4 4 4 2 1 3 2 2 YES
E5B: YES NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO YES 24 NO 0 4 3 1 3 4 1 1 9 9 1 9 9
K9: 1 1 9 9 2 1 9 2 1 9 1 1 1 9 2 1 9 310X 11.00 3.00 10.00
PERCOR: 45.83 12.50 41.67 6.00 3.00 3.00 3.00 1.00 37.50 18.75 18.75 18.75 6.25
YES: 4.00 15.00 21.05 78.95

CASE: 100 LT >14 1320 MALE 31 847 D A D E E E B C E E E E B C E D A B E E E B E E B D 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO NO 0 YES 1 3 2 1 4 4 1 9 9 9 2 2 9
K9: 9 9 9 1 1 9 1 1 1 9 9 9 1 9 9 1 2 132X 8.00 3.00 13.00
PERCOR: 33.33 12.50 54.17 15.00 .00 .00 .00 1.00 93.75 .00 .00 .00 6.25
YES: 2.00 17.00 10.53 89.47

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 CASE: 101 LT  2-4  1110 MALE  26 370 D A D E E E C C E A A E B C D D E B E E A A E C B B 2 1 1 1 1 1 1 1 3 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 5 4 4 3 4   1   9   9   9   2   2   9
   K9:  1   1   9   1   1   2   1   9   1   9   9   1   2   9   2   1   2 111X   9.00   6.00   9.00
PERCOR:  37.50  25.00  37.50  14.00   1.00   1.00    .00    .00  87.50   6.25   6.25    .00    .00
  YES:   2.00  17.00  10.53  89.47

 CASE: 102 LT  5-7  1105 FEMALE 26 591 F H E E E E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES NO  NO  NO  0 NO  0 6 6 6 6 6   9   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9 110X    .00    .00   24.00
PERCOR:   .00    .00  100.00  16.00    .00    .00    .00    .00 100.00    .00    .00    .00    .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 103 LT  2-4  1110 FEMALE 25 365 D A D E E E A E B B C E E D C C A B E E E B E E B B 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 6 5 5 6   1   9   9   9   1   9   1
   K9:  2   2   9   9   2   1   2   1   1   9   9   9   1   9   9   1   2 111X   8.00   5.00  11.00
PERCOR:  33.33  20.83  45.83  15.00    .00   1.00    .00    .00  93.75    .00   6.25    .00    .00
  YES:    .00  19.00    .00 100.00

 CASE: 104 LT  >14  3100 MALE  33 819 D A D C B E B C B E E E E E A D D E C E A E A E D B E 1 1 1 1 1 1 1 1 1 1 1 4 1 1 1 1 1 1 1 YES
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 2 2 2 1 5 3   1   2   2   9   2   2   1
   K9:  9   9   9   9   2   2   1   9   2   9   1   9   2   9   1   1   9 310X   6.00   8.00  10.00
PERCOR:  25.00  33.33  41.67  15.00    .00    .00   1.00    .00  93.75    .00    .00   6.25    .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 105 LT  11-14 1320 MALE  33 368 D B D E E E E E E E E E C B E D A C E E E B E E E E 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 5 3 3 1 4   1   9   9   9   9   9   9
   K9:  9   9   9   2   2   9   1   1   2   9   9   9   1   9   9   9   9 132X   4.00   3.00  17.00
PERCOR:  16.67  12.50  70.83  15.00    .00    .00   1.00    .00  93.75    .00    .00   6.25    .00
  YES:   2.00  17.00  10.53  89.47

 CASE: 106 LTJG 11-14 1130 MALE  34 699 D A D C E E C E B C A C B C B D A C B D A B E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 4 4 4 3 2   1   2   9   9   2   9   1
   K9:  2   1   2   1   1   2   1   1   2   1   2   1   1   9   9   1   2 113X  11.00   8.00   5.00
PERCOR:  45.83  33.33  20.83  16.00    .00    .00    .00    .00 100.00    .00    .00    .00    .00
  YES:    .00  19.00    .00 100.00

 CASE: 107 LT  5-7  1100 FEMALE 30 370 E A D B B D B C B B A B D C D B A B C D D C B D B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 4 5 1 1 5   1   2   2   2   2   2   1
   K9:  2   1   1   2   1   2   2   1   1   2   2   2   2   1   1   1   2 110X  10.00  14.00    .00
PERCOR:  41.67  58.33    .00  16.00    .00    .00    .00    .00 100.00    .00    .00    .00    .00
  YES:   2.00  17.00  10.53  89.47

 CASE: 108 LT  5-7  1320 MALE  29 368 B H A D A E B C E A C C B C E D B B E C A E E C B B 1 3 3 1 3 3 1 1 1 1 3 3 3 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  YES YES NO  NO  NO  NO  NO  NO  NO  NO  YES 4 NO  0 2 2 4 5 1   2   1   2   9   2   2   9
   K9:  1   2   2   1   1   9   1   2   1   9   2   1   9   9   2   1   2 132X   8.00  10.00   6.00
PERCOR:  33.33  41.67  25.00   9.00    .00   7.00    .00    .00  56.25    .00  43.75    .00    .00
  YES:   3.00  16.00  15.79  84.21

 CASE: 109 LCDR 11-14 3100 MALE  36 815 E G D E A E A E B E A D D C B C A B A E D B A B B B 1 3 1 1 4 2 1 4 2 1 4 3 2 1 1 2 YES
  E5B: NO  NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 YES 4 4 3 3 5 4   1   9   2   9   1   9   1
   K9:  9   1   2   2   1   2   2   1   1   2   9   2   1   2   2   1   2 310X   9.00  10.00   5.00
PERCOR:  37.50  41.67  20.83   7.00   4.00   2.00   3.00    .00  43.75  25.00  12.50  18.75    .00
  YES:   3.00  16.00  15.79  84.21

 CASE: 110 LT  5-7  1320 MALE  30 684 B H D B E E A A E C E E E E E E A B E E E C E D B E 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 4 4 1 1 1   1   2   9   9   1   2   9
   K9:  2   9   9   9   9   9   9   1   1   9   9   9   2   9   1   1   9 132X   6.00   4.00  14.00
PERCOR:  25.00  16.67  58.33  15.00    .00    .00    .00   1.00  93.75    .00    .00    .00   6.25
  YES:   2.00  17.00  10.53  89.47

 CASE: 111 LT  11-14 1310 MALE  33 595 E H D D D E A C B A A B D C D D A B D A A B E D B B 3 2 3 2 3 3 2 2 2 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 10 NO  0 4 3 2 2 3   1   1   1   9   1   2   1
   K9:  1   1   1   2   1   2   1   1   1   2   1   1   1   9   1   1   2 131X  17.00   5.00   2.00
PERCOR:  70.83  20.83   8.33   7.00   5.00   4.00    .00    .00  43.75  31.25  25.00    .00    .00
  YES:   3.00  16.00  15.79  84.21

 CASE: 112 LCDR 11-14 1460 MALE  33 533 D A B D E E C C E A A E B C C C A B E D A C E A B B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 3 3 1 5 1   2   1   9   9   2   2   9
   K9:  1   1   9   1   1   1   2   1   1   9   2   1   2   9   2   1   2 146X  10.00   8.00   6.00
PERCOR:  41.67  33.33  25.00  15.00   1.00    .00    .00    .00  93.75   6.25    .00    .00    .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 113 LT  5-7  1110 MALE  26 361 B A D E C E E C E E E E E C E E E E E D E B E E B E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 3 3 1 6 6   1   9   2   9   9   2   9
   K9:  9   9   9   9   1   9   9   9   9   9   2   9   1   9   9   1   9 111X   4.00   3.00  17.00
PERCOR:  16.67  12.50  70.83  16.00    .00    .00    .00    .00 100.00    .00    .00    .00    .00
  YES:    .00  19.00    .00 100.00
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CASE: 114 LT 5-7 1320 MALE 28 610 D A E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 6 6 6 9 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 132X .00 .00 24.00
PERCOR: .00 .00 100.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 115 LCDR 11-14 3100 MALE 35 837 D G A C E E A E B A A B D D E D A B E E A B E D E D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 YES
E5B: NO NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 3 5 4 6 2 2 9 9 1 9 1
K9: 1 1 1 2 2 9 1 1 1 9 9 1 1 9 1 9 2 310X 11.00 5.00 8.00
PERCOR: 45.83 20.83 33.33 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 116 LT 5-7 1630 MALE 28 825 B B D E E E C E E E E E E C E C E B E E E E E E E B B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 6 6 6 1 9 9 9 2 9 9
K9: 9 9 9 9 1 9 2 9 1 9 9 9 9 9 9 1 2 163X 4.00 3.00 17.00
PERCOR: 16.67 12.50 70.83 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 117 LCDR > 14 1117 MALE 42 368 D 1 E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 1 3 1 5 5 9 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 111X .00 .00 24.00
PERCOR: .00 .00 100.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 118 LT 8-10 1320 MALE 27 380 D A E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 6 6 6 9 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 132X .00 .00 24.00
PERCOR: .00 .00 100.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 119 LCDR 11-14 1100 FEMALE 34 684 B I A E E E A C B E A B E C A D E B E D E B D A B E 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO 0 NO 0 4 2 1 3 1 2 9 9 9 1 2 1
K9: 9 1 1 9 1 2 1 9 1 9 2 9 1 2 2 1 9 110X 9.00 6.00 9.00
PERCOR: 37.50 25.00 37.50 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 120 LT 8-10 1310 MALE 29 610 D A D E E E E E C E E A E E E E E E E E A E A E E E B B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 5 1 3 4 1 9 9 9 9 2 9
K9: 9 1 9 9 9 9 9 9 9 2 9 1 9 9 9 1 2 131X 4.00 3.00 17.00
PERCOR: 16.67 12.50 70.83 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 121 LT 11-14 1800 MALE 32 374 D A D D E E A C E A E E D C E B A B E C D B E D B A 3 1 1 1 3 1 1 1 2 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 5 4 4 3 5 1 1 9 9 1 2 9
K9: 1 9 9 2 1 9 2 1 1 9 2 2 1 9 1 1 2 180X 10.00 6.00 8.00
PERCOR: 41.67 25.00 33.33 13.00 1.00 2.00 .00 .00 81.25 6.25 12.50 .00 .00
YES: .00 19.00 .00 100.00

CASE: 122 LT 5-7 1800 MALE 28 373 C I D E E E B E E E E E E C E D E B E E E E E E C E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO NO 0 NO 0 5 4 3 3 5 1 9 9 9 2 9 9
K9: 9 9 9 9 1 9 1 9 1 9 9 9 9 9 9 2 9 180X 4.00 2.00 18.00
PERCOR: 16.67 8.33 75.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 123 LT 5-7 1325 MALE 28 610 D A D E A D A E E B A E D E E C D A A A D B E E B B 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO NO 0 NO 0 4 4 4 4 2 1 9 2 2 1 9 9
K9: 2 1 9 2 9 9 2 2 2 2 1 2 1 9 9 1 2 132X 6.00 10.00 8.00
PERCOR: 25.00 41.67 33.33 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 124 LT 5-7 1310 MALE 27 591 D A D E A E E C E E A E E E E B A B E A A C E E B B 1 1 1 1 1 1 1 1 5 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 YES 1 1 1 1 5 2 1 9 2 9 9 2 9
K9: 9 1 9 9 9 9 9 2 1 1 9 1 1 2 9 9 1 2 131X 7.00 5.00 12.00
PERCOR: 29.17 20.83 50.00 15.00 .00 .00 .00 1.00 93.75 .00 .00 .00 6.25
YES: 1.00 18.00 5.26 94.74

CASE: 125 LT 5-7 1310 MALE 28 610 D A E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 1 1 1 5 6 9 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 131X .00 .00 24.00
PERCOR: .00 .00 100.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 126 LCDR 8-10 3100 MALE 34 815 E I D D D D B E C A C E E C C B A B E E E E B E D E D 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO 0 YES 10 5 3 3 4 1 1 1 1 2 2 9 2
K9: 1 2 9 9 1 1 2 1 1 9 9 9 1 9 1 9 2 310X 10.00 6.00 8.00
PERCOR: 41.67 25.00 33.33 15.00 .00 .00 .00 1.00 93.75 .00 .00 .00 6.25
YES: 2.00 17.00 10.53 89.47

CASE: 127 LT 2-4 1110 MALE 27 591 D A D E E E A E C A C E B C E D A B E E E D E E B B 1 1 1 1 2 1 1 1 2 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO YES 0 NO 0 3 2 5 3 2 1 9 9 9 1 9 2
K9: 1 2 9 1 1 9 1 1 1 9 9 9 2 9 9 1 2 111X 9.00 4.00 11.00
PERCOR: 37.50 16.67 45.83 14.00 2.00 .00 .00 .00 87.50 12.50 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 128 CDR >14 1320 MALE 38 688 B I D E E E E E E E E C E E E E E E E B E E E B E E B E 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 2 5 6 6 1 9 9 9 9 9 9 9
K9: 9 2 9 9 9 9 9 9 1 9 9 9 1 9 9 1 9 132X 4.00 1.00 19.00
PERCOR: 16.67 4.17 79.17 15.00 .00 .00 1.00 .00 93.75 .00 .00 6.25 .00
YES: .00 19.00 .00 100.00

CASE: 129 LT 8-10 1310 MALE 33 610 D E A D E E E E E E E E E C E E E E E E E B E E E E 4 1 1 1 3 1 1 3 2 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 4 6 1 3 4 2 1 9 9 9 9 9
K9: 9 9 9 9 1 9 9 9 9 9 9 1 9 9 9 9 131X 3.00 1.00 20.00
PERCOR: 12.50 4.17 83.33 12.00 1.00 2.00 1.00 .00 75.00 6.25 12.50 6.25 .00
YES: .00 19.00 .00 100.00

CASE: 130 LT 5-7 1110 MALE 28 370 D A A D E E A C E B A E E C E D E B E E E E B E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO YES 8 NO 0 5 4 4 1 5 2 1 9 9 1 2 9
K9: 2 1 9 9 1 9 1 9 1 9 9 9 1 9 9 1 2 111X 8.00 4.00 12.00
PERCOR: 33.33 16.67 50.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 131 LT >14 1100 FEMALE 38 370 F I D D E E E E E A E B E C E D A B E E E E B E E C B 1 1 1 1 4 2 1 1 2 1 1 1 1 1 3 3 NO
E5B: NO NO NO NO YES YES NO NO NO NO NO NO NO YES NO NO NO 0 NO 0 5 3 2 4 1 1 1 9 9 9 9 9
K9: 1 9 1 9 1 9 1 1 1 9 9 9 9 1 9 9 2 2 110X 9.00 2.00 13.00
PERCOR: 37.50 8.33 54.17 11.00 2.00 2.00 1.00 .00 68.75 12.50 12.50 6.25 .00
YES: 3.00 16.00 15.79 84.21

CASE: 132 LT 8-10 3100 MALE 32 815 D G D C E E A C E E E E B C B C A B E E E E B A B B B 4 2 1 1 2 2 1 1 3 2 2 2 3 3 3 3 YES
E5B: YES YES NO YES NO NO NO NO NO NO NO NO NO NO NO YES 4 YES 6 4 3 4 2 4 1 2 9 9 1 2 9
K9: 9 9 9 1 1 2 2 1 1 9 9 9 1 2 2 1 2 310X 8.00 7.00 9.00
PERCOR: 33.33 29.17 37.50 4.00 6.00 5.00 1.00 .00 25.00 37.50 31.25 6.25 .00
YES: 6.00 13.00 31.58 68.42

CASE: 133 LTJG 11-14 2300 MALE 31 847 B H D E E E E B C E A C B E C A D A B E A D B E C B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO YES YES NO NO NO NO NO NO NO NO NO YES 4 NO 0 5 4 5 1 5 1 9 9 9 2 2 9
K9: 1 2 1 9 1 2 1 1 1 9 1 2 1 9 2 1 2 230X 10.00 7.00 7.00
PERCOR: 41.67 29.17 29.17 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 3.00 16.00 15.79 84.21

CASE: 134 LT 8-10 1320 MALE 30 591 B I D D A E B C B B A B B C E C A B A D C B E E B B 2 1 1 1 3 1 1 1 1 1 5 5 1 2 3 4 NO
E5B: NO NO NO NO NO NO YES NO NO NO NO NO NO NO YES NO NO YES 5 NO 0 4 3 2 3 4 1 1 2 9 2 2 1
K9: 2 1 1 1 1 9 2 1 1 2 2 2 1 9 9 1 2 132X 11.00 9.00 4.00
PERCOR: 45.83 37.50 16.67 9.00 2.00 2.00 1.00 2.00 56.25 12.50 12.50 6.25 12.50
YES: 3.00 16.00 15.79 84.21

CASE: 135 LT 2-4 1110 MALE 28 590 D A D E E E C C E B E E B E E C A B E E E E B E E E E 2 3 1 1 3 1 1 4 1 1 3 3 4 3 2 3 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 YES 2 5 5 5 5 5 1 9 9 9 2 2 9
K9: 2 9 9 1 9 9 2 1 1 9 9 9 1 9 9 9 9 111X 5.00 4.00 15.00
PERCOR: 20.83 16.67 62.50 6.00 2.00 6.00 2.00 .00 37.50 12.50 37.50 12.50 .00
YES: 1.00 18.00 5.26 94.74

CASE: 136 LTJG >14 2305 MALE 37 847 F I E E E E E E E E E E E E E E A B E E E E E E E E 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO YES NO NO NO NO NO NO NO YES NO NO NO 0 NO 0 6 6 4 6 6 9 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 9 1 1 9 9 9 9 9 9 9 230X 2.00 .00 22.00
PERCOR: 8.33 .00 91.67 14.00 2.00 .00 .00 .00 87.50 12.50 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 137 LT 5-7 1110 MALE 27 847 D A D E E E E E E E E E E E E D E B E E E E E E B B 1 1 1 1 1 2 1 1 2 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO YES 3 NO 0 6 6 5 6 6 1 9 9 9 9 9 9 9
K9: 9 9 9 9 9 9 1 9 1 9 9 9 9 9 9 1 2 111X 4.00 1.00 19.00
PERCOR: 16.67 4.17 79.17 14.00 2.00 .00 .00 .00 87.50 12.50 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 138 LT >14 1100 FEMALE 33 590 E I A D D A A B B A A E B C D D A B B A D B B D B B 5 2 1 1 4 3 3 3 3 1 2 4 1 1 3 1 NO
E5B: YES NO YES NO YES YES YES YES NO YES NO NO NO NO NO NO NO 0 YES 6 0 5 5 1 2 5 2 1 1 1 1 1 1
K9: 1 1 9 1 1 2 1 1 1 1 1 2 1 1 1 1 2 110X 19.00 4.00 1.00
PERCOR: 79.17 16.67 4.17 6.00 2.00 5.00 2.00 1.00 37.50 12.50 31.25 12.50 6.25
YES: 8.00 11.00 42.11 57.89

CASE: 139 LT 8-10 1110 MALE 32 814 D A D E E E D C D E C E B C D D A B C B E C A E B B 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO YES 6 NO 0 5 5 3 3 5 1 9 9 9 2 2 2
K9: 9 2 9 1 1 2 1 1 1 2 2 9 2 2 9 1 2 111X 7.00 10.00 7.00
PERCOR: 29.17 41.67 29.17 15.00 .00 1.00 .00 .00 93.75 .00 6.25 .00 .00
YES: 2.00 17.00 10.53 89.47

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 CASE: 140 LCDR 11-14 1320 MALE  36 365 D C A D E E A C E A A E D D B B A B C E E B E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 4 4 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 3 NO  0 3 2 4 3 3   2   1   9   9   1   2   9
   K9:  1   1   9   2   2   2   2   1   1   2   9   9   1   9   9   1   2 132X   8.00   8.00   8.00
PERCOR:  33.33  33.33  33.33  14.00   .00   .00  2.00   .00  87.50   .00   .00  12.50   .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 141 LT  5-7  1100 FEMALE 27 365 D 1 D E E E E C E E E B D C E C A B B E A B E C B B 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 4 3 2 3 2   1   9   9   9   9   2   9
   K9:  9   9   1   2   1   9   2   1   1   1   9   1   1   9   2   1   2 110X   9.00   5.00  10.00
PERCOR:  37.50  20.83  41.67  15.00   .00  1.00   .00   .00  93.75   .00  6.25   .00   .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 142 LT  5-7  3100 MALE  31 819 B G A D E E A C B A A B E C E C A B E E A B E D B B 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  YES NO  NO  YES 3 NO  0 3 3 5 3 1   2   1   9   9   1   2   1
   K9:  1   1   1   9   1   9   2   1   1   9   9   1   1   9   1   1   2 310X  13.00   4.00   7.00
PERCOR:  54.17  16.67  29.17  15.00   .00  1.00   .00   .00  93.75   .00  6.25   .00   .00
  YES:   3.00  16.00  15.79  84.21

 CASE: 143 LT  5-7  1320 MALE  26 360 D A A A E E B C C A A B B C A D A B E E A B E C B B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 3 2 1 4 3   2   2   9   9   2   2   2
   K9:  1   1   1   1   1   2   1   1   1   9   9   1   1   9   2   1   2 132X  11.00   8.00   5.00
PERCOR:  45.83  33.33  20.83  15.00  1.00   .00   .00   .00  93.75  6.25   .00   .00   .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 144 LT  5-7  1100 FEMALE 31 370 E 1 D B E E E E E A A B B E D E A B B A A B E D B E 1 1 1 1 3 1 1 1 2 1 1 1 1 1 1 1 NO
  E5B: YES NO  NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 1 YES 7 5 3 5 1 2   1   2   9   9   9   9   9
   K9:  1   1   1   1   9   2   9   1   1   1   1   1   1   9   1   1   9 110X  13.00   2.00   9.00
PERCOR:  54.17   8.33  37.50  14.00  1.00  1.00   .00   .00  87.50  6.25  6.25   .00   .00
  YES:   4.00  15.00  21.05  78.95

 CASE: 145 LT  8-10  3100 MALE  35 819 D G D D D E B E B A C B A C B D A B D A C B E C B B 1 3 3 3 3 3 3 3 3 4 2 2 4 4 2 4 2 YES
  E5B: YES NO  NO  NO  NO  YES YES YES YES YES YES YES YES NO  YES NO  YES YES 50 NO  0 5 3 3 1 4   1   1   1   9   2   9   1
   K9:  1   2   1   2   1   2   1   1   1   2   1   2   1   9   2   1   2 310X  13.00   8.00   3.00
PERCOR:  54.17  33.33  12.50  1.00  4.00  7.00  4.00   .00  6.25  25.00  43.75  25.00   .00
  YES:  13.00   6.00  68.42  31.58

 CASE: 146 LT  8-10  1100 FEMALE 32 688 E I D D E E A E E B C B B C C D A B E A D B B C B B 1 1 1 1 3 3 1 1 3 1 1 2 2 2 2 2 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 18 NO  0 4 4 3 3 2   1   1   9   9   1   9   9
   K9:  2   2   1   1   1   1   1   1   1   9   1   2   1   1   2   1   2 110X  14.00   5.00   5.00
PERCOR:  58.33  20.83  20.83   8.00  5.00  3.00   .00   .00  50.00  31.25  18.75   .00   .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 147 LT  5-7  1310 MALE  28 360 E H E E E E E E E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 6 6 1 6 6   9   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9   9 131X   .00   .00  24.00
PERCOR:   .00   .00  100.00  16.00   .00   .00   .00   .00  100.00   .00   .00   .00   .00
  YES:   .00  19.00   .00  100.00

 CASE: 148 LT  8-10  3100 MALE  32 815 D G D E E E B E E E A B B E E E A B E E E E E E E B B 1 1 1 1 3 1 1 1 3 1 3 2 3 3 3 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 3 3 3 3 2   1   9   9   9   2   9   9
   K9:  9   1   1   1   9   9   9   1   1   9   9   9   9   9   9   1   2 310X   7.00   2.00  15.00
PERCOR:  29.17   8.33  62.50   9.00  1.00  6.00   .00   .00  56.25  6.25  37.50   .00   .00
  YES:   .00  19.00   .00  100.00

 CASE: 149 LT  8-10  1327 MALE  32 370 E H D D D E E C E A A E B C C E A B D E D B E C E D 3 1 1 1 1 1 1 1 5 1 1 1 1 1 1 1 1 YES
  E5B: NO  NO  NO  NO  YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 6 YES 40 3 3 5 4 4   1   1   1   9   9   2   9
   K9:  1   1   9   1   1   1   9   1   1   2   9   2   1   9   2   9   2 132X  11.00   5.00   8.00
PERCOR:  45.83  20.83  33.33  14.00   .00  1.00   .00  1.00  87.50   .00  6.25   .00  6.25
  YES:   5.00  14.00  26.32  73.68

 CASE: 150 LTJG >14  1610 MALE  35 368 C I D E E E B C C B A B B C B C A B E E D E E D C B 3 1 1 1 4 1 1 1 2 1 2 1 1 1 3 3 NO
  E5B: NO  YES NO  NO  YES YES YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 8 NO  0 4 3 2 1 2   1   9   9   9   2   2   2
   K9:  2   1   1   1   1   1   2   2   1   1   9   9   2   9   9   1   2   2 161X   8.00   9.00   7.00
PERCOR:  33.33  37.50  29.17  10.00  2.00  3.00  1.00   .00  62.50  12.50  18.75  6.25   .00
  YES:   5.00  14.00  26.32  73.68

 CASE: 151 LT  8-10  1310 MALE  30 611 B A A D E E B C E B E B E E D C A B A E E B E A B E 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  YES 3 NO  0 4 3 1 3 1   2   1   9   9   2   2   9
   K9:  2   9   1   9   9   2   2   1   1   2   9   9   1   9   2   1   9 131X   6.00   8.00  10.00
PERCOR:  25.00  33.33  41.67  15.00   .00   .00  1.00   .00  93.75   .00   .00  6.25   .00
  YES:   1.00  18.00   5.26  94.74

 CASE: 152 LT  5-7  1105 FEMALE 34 683 B B E E E E E E E E E E E E E E E E E E E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
  E5B: NO  NO  NO  NO  NO  NO  NO  YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  0 NO  0 3 3 4 3 3   9   9   9   9   9   9   9
   K9:  9   9   9   9   9   9   9   9   9   9   9   9   9   1   9   9   9   9 110X   1.00   .00  23.00
PERCOR:  4.17   .00  95.83  16.00   .00   .00   .00   .00  100.00   .00   .00   .00   .00
  YES:   1.00  18.00   5.26  94.74
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CASE: 153 LT 5-7 1320 MALE 28 611 D A D E E E E C E E E E E E E B E B E E E E E E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 4 4 3 2 1 9 9 9 9 9 2 9
K9: 9 9 9 9 9 9 2 9 1 9 9 9 9 9 9 1 2 132X 3.00 3.00 18.00
PERCOR: 12.50 12.50 75.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 154 LT 11-14 1120 MALE 34 837 F I D E E E E E E E E E E E E E E E A E E E E E E 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO 0 NO 0 6 6 6 6 6 1 9 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 9 9 9 1 9 9 9 9 9 9 112X 2.00 .00 22.00
PERCOR: 8.33 .00 91.67 15.00 .00 .00 .00 1.00 93.75 .00 .00 .00 6.25
YES: 1.00 18.00 5.26 94.74

CASE: 155 LT 8-10 2900 MALE 33 847 C 1 D E A E A C D A A B E C D D A B D E D B E B B B 3 1 3 1 4 1 2 1 3 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO NO YES 4 NO 0 5 5 3 2 4 1 9 2 9 1 2 2
K9: 1 1 1 9 1 2 1 1 1 2 9 2 1 9 2 1 2 290X 11.00 8.00 5.00
PERCOR: 45.83 33.33 20.83 11.00 1.00 3.00 1.00 .00 68.75 6.25 18.75 6.25 .00
YES: 2.00 17.00 10.53 89.47

CASE: 156 LT 8-10 1310 MALE 31 847 D A E E E E E A E E B E B E C E E A B E E E E E E E B D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 1 3 1 5 1 9 9 9 9 1 9 9
K9: 2 9 1 9 1 9 9 1 1 9 9 9 9 9 9 1 2 131X 6.00 2.00 16.00
PERCOR: 25.00 8.33 66.67 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 157 LCDR 11-14 1460 MALE 34 590 E 1 A E E E E E E E A E E D E E E E E B E E E A B E C E B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 5 5 5 2 2 2 9 9 9 9 9 9 9
K9: 1 9 9 2 9 9 9 9 1 9 9 1 1 9 2 9 2 146X 4.00 4.00 16.00
PERCOR: 16.67 16.67 66.67 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 158 LT 5-7 1320 MALE 26 360 D A A D A E B E D A A B E C C D A B C A D B B C B B 5 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 YES
E5B: YES NO NO NO YES YES YES YES NO NO NO NO NO NO NO NO YES 12 YES 40 3 3 3 5 4 2 1 2 9 2 9 2
K9: 1 1 1 9 1 1 1 1 1 2 1 2 1 1 2 1 2 132X 13.00 8.00 3.00
PERCOR: 54.17 33.33 12.50 14.00 .00 1.00 .00 1.00 87.50 .00 6.25 .00 6.25
YES: 8.00 11.00 42.11 57.89

CASE: 159 LT 5-7 1110 MALE 26 837 D A D D E E E E B A E B E C E D A B E E E B E C B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 5 6 1 1 1 9 9 9 9 1
K9: 1 9 1 9 1 9 1 1 1 9 9 9 1 9 2 1 2 111X 11.00 2.00 11.00
PERCOR: 45.83 8.33 45.83 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 160 LCDR 11-14 1120 MALE 33 688 B A D D E E E C B A E B E E E C A B E E A B E C B D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO YES 1 NO 0 6 2 6 6 6 1 1 9 9 9 2 1
K9: 1 9 1 9 9 9 2 1 1 9 9 1 1 9 2 1 2 112X 10.00 4.00 10.00
PERCOR: 41.67 16.67 41.67 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 161 LT 5-7 1310 MALE 29 366 D A E E E E E E E E E E E E E E E E E E E E E E E 3 1 3 1 3 1 1 1 1 1 3 1 3 3 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 4 NO 0 4 2 3 6 1 9 9 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 131X .00 .00 24.00
PERCOR: .00 .00 100.00 10.00 .00 6.00 .00 .00 62.50 .00 37.50 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 162 LT >14 2300 FEMALE 38 847 B I D B E E E E B A C E E C B B E E E E E E B E E B B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO YES NO YES NO YES NO YES NO NO YES NO NO YES 4 YES 40 3 2 5 1 4 1 2 9 9 9 9 1
K9: 1 2 9 9 1 2 2 9 9 9 9 9 1 9 9 1 2 230X 6.00 5.00 13.00
PERCOR: 25.00 20.83 54.17 15.00 1.00 .00 .00 .00 93.75 6.25 .00 .00 .00
YES: 7.00 12.00 36.84 63.16

CASE: 163 LT 8-10 1320 MALE 30 595 C C D E E E E C E B A E E E E E E E B E E E E E E B B 1 1 1 1 1 1 1 1 1 1 1 4 3 4 3 3 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO 0 YES 40 6 6 6 6 6 1 9 9 9 9 2 9
K9: 2 1 9 9 9 9 9 9 1 9 9 9 9 9 9 1 2 132X 4.00 3.00 17.00
PERCOR: 16.67 12.50 70.83 11.00 .00 3.00 2.00 .00 68.75 .00 18.75 12.50 .00
YES: 2.00 17.00 10.53 89.47

CASE: 164 LT 5-7 1110 MALE 28 370 D A D E E E E E E E E E B C E D E E E E E E B E E E B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 5 3 1 1 3 1 9 9 9 9 9 9 9
K9: 9 9 9 1 1 9 1 9 9 9 9 9 1 9 9 9 2 111X 5.00 1.00 18.00
PERCOR: 20.83 4.17 75.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 165 LT >14 2300 FEMALE 35 837 F I D D E E C C E A E B B E D C A B E E E E B E C B B 2 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO YES 5 NO 0 5 5 3 1 3 1 1 9 9 2 2 9
K9: 1 9 1 1 9 2 2 1 1 9 9 9 1 9 2 1 2 230X 9.00 6.00 9.00
PERCOR: 37.50 25.00 37.50 14.00 2.00 .00 .00 .00 87.50 12.50 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 166 LT 5-7 1310 MALE 30 590 D A D E E E A E E E E E E C E D A A A E E B E E E E E 1 1 1 1 1 1 1 1 1 4 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO YES YES NO NO NO NO NO NO NO NO NO NO NO 0 YES 28 3 3 1 3 2 1 9 9 9 1 9 9
K9: 9 9 9 9 1 9 1 1 2 2 9 9 1 9 9 9 9 131X 6.00 2.00 16.00
PERCOR: 25.00 8.33 66.67 15.00 .00 .00 1.00 .00 93.75 .00 .00 6.25 .00
YES: 3.00 16.00 15.79 84.21

CASE: 167 LT 5-7 1310 MALE 29 366 E H A E E E A C E E C E D C E D A B D E E B E E E E D 3 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO YES NO NO NO NO NO NO NO NO NO NO NO YES 6 NO 0 3 2 2 3 2 2 9 9 9 1 2 9
K9: 9 2 9 2 1 9 1 1 1 2 9 9 1 9 9 9 2 131X 6.00 6.00 12.00
PERCOR: 25.00 25.00 50.00 14.00 1.00 1.00 .00 .00 87.50 6.25 6.25 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 168 LT 8-10 3100 MALE 35 815 D G A E E E A C E E E E E C E E A B E E E E E E E E E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO YES 2 NO 0 6 6 6 3 6 2 9 9 9 1 2 9
K9: 9 9 9 9 1 9 9 1 1 9 9 9 9 9 9 9 9 310X 4.00 2.00 18.00
PERCOR: 16.67 8.33 75.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 169 LT 8-10 1140 MALE 33 361 D 1 D E E E A E E E E E E E E E B E B E E E E E E E B B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO YES NO NO NO 0 NO 0 5 5 1 1 5 1 9 9 9 1 9 9
K9: 9 9 9 9 9 9 2 9 1 9 9 9 9 9 9 1 2 114X 4.00 2.00 18.00
PERCOR: 16.67 8.33 75.00 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 1.00 18.00 5.26 94.74

CASE: 170 LT 8-10 3105 MALE 32 360 D G D D A E A C B B A B B C D D A B A A D B E C B B 1 3 3 3 4 3 3 2 3 1 2 4 1 1 1 3 NO
E5B: NO NO NO NO YES YES NO NO NO NO NO NO NO NO NO NO NO NO 0 YES 36 5 4 5 4 5 1 1 2 9 1 2 1
K9: 2 1 1 1 1 2 1 1 1 2 1 2 1 9 2 1 2 310X 14.00 8.00 2.00
PERCOR: 58.33 33.33 8.33 5.00 2.00 7.00 2.00 .00 31.25 12.50 43.75 12.50 .00
YES: 3.00 16.00 15.79 84.21

CASE: 171 LT 8-10 3100 MALE 37 813 D A A E E E E E E E C E B E E E A E E E E E E E B E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO YES YES NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 5 3 1 3 3 2 9 9 9 9 9 9
K9: 9 2 9 1 9 9 9 1 9 9 9 9 9 9 9 1 9 310X 3.00 2.00 19.00
PERCOR: 12.50 8.33 79.17 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: 2.00 17.00 10.53 89.47

CASE: 172 LT 5-7 1320 MALE 27 684 D A D E E E C C E E E E D E E E E B C E E E E E E B B 1 1 1 1 2 1 2 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 6 6 6 6 6 1 9 9 9 2 2 9
K9: 9 9 9 2 9 9 9 9 1 2 9 9 9 9 9 1 2 132X 3.00 5.00 16.00
PERCOR: 12.50 20.83 66.67 14.00 2.00 .00 .00 .00 87.50 12.50 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 173 LT 5-7 1110 MALE 28 360 B I D E E E E E E E E E E E E C A A E D E D E E E B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 5 4 5 1 5 1 9 9 9 9 9 9
K9: 9 9 9 9 9 9 9 2 1 2 9 2 9 2 9 9 9 2 111X 2.00 5.00 17.00
PERCOR: 8.33 20.83 70.83 16.00 .00 .00 .00 .00 100.00 .00 .00 .00 .00
YES: .00 19.00 .00 100.00

CASE: 174 LT 11-14 3100 MALE 32 815 B B D E E E B C E E E E B D D B A B E A E B E E E B 1 1 1 1 5 1 1 1 3 1 1 1 1 3 4 3 1 NO
E5B: NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO 0 NO 0 3 3 3 3 3 1 9 9 9 2 2 9
K9: 9 9 9 1 2 2 2 1 1 9 1 9 1 9 9 9 2 310X 6.00 6.00 12.00
PERCOR: 25.00 25.00 50.00 11.00 .00 3.00 1.00 1.00 68.75 .00 18.75 6.25 6.25
YES: .00 19.00 .00 100.00

APPENDIX E

VARIABLE FREQUENCIES

RANK

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	CDR	2	1.1	1.1	1.1
	LCDR	19	10.9	10.9	12.1
	LT	141	81.0	81.0	93.1
	LTJG	12	6.9	6.9	100.0
	Total	174	100.0	100.0	

YOS Years of Service

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	>14	18	10.3	10.3	10.3
	11-14	24	13.8	13.8	24.1
	2-4	17	9.8	9.8	33.9
	5-7	71	40.8	40.8	74.7
	8-10	44	25.3	25.3	100.0
	Total	174	100.0	100.0	

DESIG2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
GENERAL UNRESTRICTED	110X	20	11.5	11.5	11.5
SURFACE WARFARE	111X	33	19.0	19.0	30.5
SUBMARINE WARFARE	112X	3	1.7	1.7	32.2
SPECIAL WARFARE	113X	4	2.3	2.3	34.5
SPECIAL OPERATIONS	114X	4	2.3	2.3	36.8
AVIATOR	131X	20	11.5	11.5	48.3
NAVAL FLIGHT OFFICER	132X	35	20.1	20.1	68.4
ENGINEERING DUTY OFF	146X	5	2.9	2.9	71.3
AVIATION MAINTENANCE	152X	2	1.1	1.1	72.4
CRYPTOLOGY	161X	10	5.7	5.7	78.2
INTELLIGENCE	163X	2	1.1	1.1	79.3
GEOPHYSICS	180X	3	1.7	1.7	81.0
MEDICAL SERVICE CORP	230X	7	4.0	4.0	85.1
NURSE CORPS	290X	2	1.1	1.1	86.2
SUPPLY CORPS	310X	24	13.8	13.8	100.0
	Total	174	100.0	100.0	

GENDER

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	FEMALE	27	15.5	15.5	15.5
	MALE	147	84.5	84.5	100.0
	Total	174	100.0	100.0	

AGE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	25	5	2.9	2.9	2.9
	26	19	10.9	10.9	13.8
	27	19	10.9	10.9	24.7
	28	26	14.9	14.9	39.7
	29	12	6.9	6.9	46.6
	30	14	8.0	8.0	54.6
	31	13	7.5	7.5	62.1
	32	13	7.5	7.5	69.5
	33	11	6.3	6.3	75.9
	34	13	7.5	7.5	83.3
	35	8	4.6	4.6	87.9
	36	5	2.9	2.9	90.8
	37	4	2.3	2.3	93.1
	38	5	2.9	2.9	96.0
	39	1	.6	.6	96.6
	41	2	1.1	1.1	97.7
	42	2	1.1	1.1	98.9
	44	1	.6	.6	99.4
	45	1	.6	.6	100.0
	Total	174	100.0	100.0	

CURRIC Curriculum Number

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Operations Analysis	360	6	3.4	3.4	3.4
Operational Logistics	361	5	2.9	2.9	6.3
Joint Command, Contrl & Comm	365	4	2.3	2.3	8.6
Space Systems Operations	366	7	4.0	4.0	12.6
Computer Science	368	9	5.2	5.2	17.8
Information Technology Mgt	370	21	12.1	12.1	29.9
Air-Ocean Science	373	2	1.1	1.1	31.0
Operational Oceanography	374	5	2.9	2.9	33.9
Advanced Science - Math	380	1	.6	.6	34.5
Antisubmarine Warfare	525	2	1.1	1.1	35.6
Combat Systems Sci & Tech	533	3	1.7	1.7	37.4
Naval Engineering	570	5	2.9	2.9	40.2
Electronic Systems ENG.	590	8	4.6	4.6	44.8
Space Systems Engineering	591	7	4.0	4.0	48.9
Electronic Warfare	595	5	2.9	2.9	51.7
Aeronautical Engineering	610	6	3.4	3.4	55.2
Aeronautical ENG. Avionics	611	7	4.0	4.0	59.2
NSA - Mid East, So Asia, Afr	682	3	1.7	1.7	60.9
NSA - Western Hemisphere	683	1	.6	.6	61.5
NSA - Europe, USSR	684	8	4.6	4.6	66.1
NSA - Strategic Planning	688	4	2.3	2.3	68.4
S.O. Low Intensity Conflict	699	3	1.7	1.7	70.1
Material Movement	813	3	1.7	1.7	71.8
Transportation Management	814	5	2.9	2.9	74.7
Acquistion & Contract Mgt	815	7	4.0	4.0	78.7
Systems Inventory Management	819	4	2.3	2.3	81.0
Intelligence	825	3	1.7	1.7	82.8
Material Logistics Support	827	5	2.9	2.9	85.6
Financial Management	837	13	7.5	7.5	93.1
Mnpwr, Pers & Train Analysis	847	12	6.9	6.9	100.0
	Total	174	100.0	100.0	

COMMAND Type of Last Command

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
School	A	2	1.1	1.1	1.1
Staff	B	30	17.2	17.2	18.4
Overseas	C	22	12.6	12.6	31.0
Sea Duty	D	89	51.1	51.1	82.2
Shore/FISC	E	22	12.6	12.6	94.8
Other	F	9	5.2	5.2	100.0
	Total	174	100.0	100.0	

FUNCTION Primary Function of Last Command

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Combat Operational	A	81	46.6	46.6	46.6
Command and Control	B	8	4.6	4.6	51.1
Intelligence	C	6	3.4	3.4	54.6
Maintenance	D	3	1.7	1.7	56.3
Production	E	1	.6	.6	56.9
Supply	G	14	8.0	8.0	64.9
Training	H	21	12.1	12.1	77.0
Other	I	40	23.0	23.0	100.0
	Total	174	100.0	100.0	

K2 HOW TO ACHIEVE QUALITY

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	107	61.5	61.5	61.5
INCORRECT	2	44	25.3	25.3	86.8
UNKNOWN	9	23	13.2	13.2	100.0
	Total	174	100.0	100.0	

K3 QMB CONSISTS OF; DEVELOPS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	46	26.4	26.4	26.4
INCORRECT	2	20	11.5	11.5	37.9
UNKNOWN	9	108	62.1	62.1	100.0
	Total	174	100.0	100.0	

K4 PARETO CHART

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	14	8.0	8.0	8.0
INCORRECT	2	24	13.8	13.8	21.8
UNKNOWN	9	136	78.2	78.2	100.0
	Total	174	100.0	100.0	

K5 TAGUCHI LOSS FUNCTION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	2	1.1	1.1	1.1
INCORRECT	2	8	4.6	4.6	5.7
UNKNOWN	9	164	94.3	94.3	100.0
	Total	174	100.0	100.0	

K6 DEFINITION OF QUALITY DEPENDS ON

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	42	24.1	24.1	24.1
INCORRECT	2	55	31.6	31.6	55.7
UNKNOWN	9	77	44.3	44.3	100.0
	Total	174	100.0	100.0	

K7 PDCA CYCLE TO GAIN KNOWLEDGE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	4	2.3	2.3	2.3
INCORRECT	2	83	47.7	47.7	50.0
UNKNOWN	9	87	50.0	50.0	100.0
	Total	174	100.0	100.0	

K8 EXAMPLE OF SUBOPTIMIZATION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	31	17.8	17.8	17.8
INCORRECT	2	21	12.1	12.1	29.9
UNKNOWN	9	122	70.1	70.1	100.0
	Total	174	100.0	100.0	

K9 ESC CONSISTS OF; DEVELOPS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	62	35.6	35.6	35.6
INCORRECT	2	31	17.8	17.8	53.4
UNKNOWN	9	81	46.6	46.6	100.0
	Total	174	100.0	100.0	

K10 SPECIAL CAUSES OF VARIATION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	65	37.4	37.4	37.4
INCORRECT	2	24	13.8	13.8	51.1
UNKNOWN	9	85	48.9	48.9	100.0
	Total	174	100.0	100.0	

K11 FLOW CHART TELLS HOW WORK IS DONE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	58	33.3	33.3	33.3
INCORRECT	2	6	3.4	3.4	36.8
UNKNOWN	9	110	63.2	63.2	100.0
	Total	174	100.0	100.0	

K12 LEADERS MUST DO 14 PTS OF MGT FOR TRANSFORMATION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	43	24.7	24.7	24.7
INCORRECT	2	32	18.4	18.4	43.1
UNKNOWN	9	99	56.9	56.9	100.0
	Total	174	100.0	100.0	

K13 CHAIN REACTION, QUALITY AND COSTS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	87	50.0	50.0	50.0
INCORRECT	2	13	7.5	7.5	57.5
UNKNOWN	9	74	42.5	42.5	100.0
	Total	174	100.0	100.0	

K14 STABLE PROCESS EXHIBITS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	23	13.2	13.2	13.2
INCORRECT	2	43	24.7	24.7	37.9
UNKNOWN	9	108	62.1	62.1	100.0
	Total	174	100.0	100.0	

K15 PSYCHOLOGY, TEAMWORK, AND CHANGE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	54	31.0	31.0	31.0
INCORRECT	2	62	35.6	35.6	66.7
UNKNOWN	9	58	33.3	33.3	100.0
	Total	174	100.0	100.0	

K16 TQL COORDINATORS RESPONSIBILITIES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	109	62.6	62.6	62.6
INCORRECT	2	14	8.0	8.0	70.7
UNKNOWN	9	51	29.3	29.3	100.0
	Total	174	100.0	100.0	

K17 CUSTOMER DEFINES QUALITY

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	121	69.5	69.5	69.5
INCORRECT	2	18	10.3	10.3	79.9
UNKNOWN	9	35	20.1	20.1	100.0
	Total	174	100.0	100.0	

K18 FISHBONE (CAUSE & EFFECT) DIAGRAM

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	14	8.0	8.0	8.0
INCORRECT	2	28	16.1	16.1	24.1
UNKNOWN	9	132	75.9	75.9	100.0
	Total	174	100.0	100.0	

K19 THEORY OF KNOWLEDGE; DATA-BASED DECISION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	33	19.0	19.0	19.0
INCORRECT	2	18	10.3	10.3	29.3
UNKNOWN	9	123	70.7	70.7	100.0
	Total	174	100.0	100.0	

K20 "CHECK" PHASE OF PDCA IS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	40	23.0	23.0	23.0
INCORRECT	2	31	17.8	17.8	40.8
UNKNOWN	9	103	59.2	59.2	100.0
	Total	174	100.0	100.0	

K21 QUALITY IS BUILT INTO PRODUCT

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	108	62.1	62.1	62.1
INCORRECT	2	23	13.2	13.2	75.3
UNKNOWN	9	43	24.7	24.7	100.0
	Total	174	100.0	100.0	

K22 ELEMENTS OF SYSTEM OF PROFOUND KNOWLEDGE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	7	4.0	4.0	4.0
INCORRECT	2	11	6.3	6.3	10.3
UNKNOWN	9	156	89.7	89.7	100.0
	Total	174	100.0	100.0	

K23 PAT CONSISTS OF; FUNCTION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	26	14.9	14.9	14.9
INCORRECT	2	50	28.7	28.7	43.7
UNKNOWN	9	98	56.3	56.3	100.0
	Total	174	100.0	100.0	

K24 VARIATION IS INHERENT IN ALL PROCESSES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	117	67.2	67.2	67.2
INCORRECT	2	6	3.4	3.4	70.7
UNKNOWN	9	51	29.3	29.3	100.0
	Total	174	100.0	100.0	

K25 DON DEFINITION OF TQL

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
CORRECT	1	3	1.7	1.7	1.7
INCORRECT	2	113	64.9	64.9	66.7
UNKNOWN	9	58	33.3	33.3	100.0
	Total	174	100.0	100.0	

E1 Strategic Plan

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	92	52.9	52.9	52.9
SMALL EXTENT	2	26	14.9	14.9	67.8
SOME EXTENT	3	30	17.2	17.2	85.1
LARGE EXTENT	4	12	6.9	6.9	92.0
VERY LARGE EXTENT	5	14	8.0	8.0	100.0
	Total	174	100.0	100.0	

E2A Run chart

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	162	93.1	93.1	93.1
SMALL EXTENT	2	3	1.7	1.7	94.8
SOME EXTENT	3	8	4.6	4.6	99.4
VERY LARGE EXTENT	5	1	.6	.6	100.0
	Total	174	100.0	100.0	

E2B Histogram

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	155	89.1	89.1	89.1
SMALL EXTENT	2	2	1.1	1.1	90.2
SOME EXTENT	3	16	9.2	9.2	99.4
VERY LARGE EXTENT	5	1	.6	.6	100.0
	Total	174	100.0	100.0	

E2C Pareto chart

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	162	93.1	93.1	93.1
SMALL EXTENT	2	1	.6	.6	93.7
SOME EXTENT	3	8	4.6	4.6	98.3
LARGE EXTENT	4	2	1.1	1.1	99.4
VERY LARGE EXTENT	5	1	.6	.6	100.0
	Total	174	100.0	100.0	

E2D Flow diagram

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	.1	122	70.1	70.1	70.1
SMALL EXTENT	2	10	5.7	5.7	75.9
SOME EXTENT	3	23	13.2	13.2	89.1
LARGE EXTENT	4	15	8.6	8.6	97.7
VERY LARGE EXTENT	5	4	2.3	2.3	100.0
	Total	174	100.0	100.0	

E2E Cause & effect diagram

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	152	87.4	87.4	87.4
SMALL EXTENT	2	11	6.3	6.3	93.7
SOME EXTENT	3	10	5.7	5.7	99.4
LARGE EXTENT	4	1	.6	.6	100.0
	Total	174	100.0	100.0	

E2F Scatter diagram

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	159	91.4	91.4	91.4
SMALL EXTENT	2	3	1.7	1.7	93.1
SOME EXTENT	3	8	4.6	4.6	97.7
LARGE EXTENT	4	3	1.7	1.7	99.4
VERY LARGE EXTENT	5	1	.6	.6	100.0
	Total	174	100.0	100.0	

E2G Control chart

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	157	90.2	90.2	90.2
SMALL EXTENT	2	3	1.7	1.7	92.0
SOME EXTENT	3	10	5.7	5.7	97.7
LARGE EXTENT	4	4	2.3	2.3	100.0
	Total	174	100.0	100.0	

E3 Collected data & developed process measure

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	114	65.5	65.5	65.5
SMALL EXTENT	2	26	14.9	14.9	80.5
SOME EXTENT	3	20	11.5	11.5	92.0
LARGE EXTENT	4	8	4.6	4.6	96.6
VERY LARGE EXTENT	5	6	3.4	3.4	100.0
	Total	174	100.0	100.0	

E4A Affinity diagram

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	167	96.0	96.0	96.0
SMALL EXTENT	2	2	1.1	1.1	97.1
SOME EXTENT	3	1	.6	.6	97.7
LARGE EXTENT	4	3	1.7	1.7	99.4
VERY LARGE EXTENT	5	1	.6	.6	100.0
	Total	174	100.0	100.0	

E4B Tree diagram

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	144	82.8	82.8	82.8
SMALL EXTENT	2	9	5.2	5.2	87.9
SOME EXTENT	3	12	6.9	6.9	94.8
LARGE EXTENT	4	7	4.0	4.0	98.9
VERY LARGE EXTENT	5	2	1.1	1.1	100.0
	Total	174	100.0	100.0	

E4C Interrelationship diagram

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	148	85.1	85.1	85.1
SMALL EXTENT	2	11	6.3	6.3	91.4
SOME EXTENT	3	6	3.4	3.4	94.8
LARGE EXTENT	4	6	3.4	3.4	98.3
VERY LARGE EXTENT	5	3	1.7	1.7	100.0
	Total	174	100.0	100.0	

E4D Prioritization matrices

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	145	83.3	83.3	83.3
SMALL EXTENT	2	9	5.2	5.2	88.5
SOME EXTENT	3	8	4.6	4.6	93.1
LARGE EXTENT	4	9	5.2	5.2	98.3
VERY LARGE EXTENT	5	3	1.7	1.7	100.0
	Total	174	100.0	100.0	

E4E Matrices

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	149	85.6	85.6	85.6
SMALL EXTENT	2	8	4.6	4.6	90.2
SOME EXTENT	3	10	5.7	5.7	96.0
LARGE EXTENT	4	5	2.9	2.9	98.9
VERY LARGE EXTENT	5	2	1.1	1.1	100.0
	Total	174	100.0	100.0	

E4F Process decision program chart

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	154	88.5	88.5	88.5
SMALL EXTENT	2	6	3.4	3.4	92.0
SOME EXTENT	3	11	6.3	6.3	98.3
LARGE EXTENT	4	3	1.7	1.7	100.0
	Total	174	100.0	100.0	

E4G Activity network diagram

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
NOT AT ALL	1	156	89.7	89.7	89.7
SMALL EXTENT	2	7	4.0	4.0	93.7
SOME EXTENT	3	9	5.2	5.2	98.9
LARGE EXTENT	4	2	1.1	1.1	100.0
	Total	174	100.0	100.0	

E5A PAT member

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	158	90.8	90.8	90.8
	YES	16	9.2	9.2	100.0
	Total	174	100.0	100.0	

E5B QMB member

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	160	92.0	92.0	92.0
	YES	14	8.0	8.0	100.0
	Total	174	100.0	100.0	

E5C ESC member

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	169	97.1	97.1	97.1
	YES	5	2.9	2.9	100.0
	Total	174	100.0	100.0	

E5D TQL team advisor facilitator

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	171	98.3	98.3	98.3
	YES	3	1.7	1.7	100.0
	Total	174	100.0	100.0	

E5E Command TQL coordinator

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	171	98.3	98.3	98.3
	YES	3	1.7	1.7	100.0
	Total	174	100.0	100.0	

E6A TQL Orientation Brief by SR leader

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	137	78.7	78.7	78.7
	YES	37	21.3	21.3	100.0
	Total	174	100.0	100.0	

E6B TQL Introduction (1-day)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	127	73.0	73.0	73.0
	YES	47	27.0	27.0	100.0
	Total	174	100.0	100.0	

E6C TQL Fundamentals (3-day)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	152	87.4	87.4	87.4
	YES	22	12.6	12.6	100.0
	Total	174	100.0	100.0	

E6D Implementing TQL

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	169	97.1	97.1	97.1
	YES	5	2.9	2.9	100.0
	Total	174	100.0	100.0	

E6E Systems Approach to Process Improvement

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	172	98.9	98.9	98.9
	YES	2	1.1	1.1	100.0
	Total	174	100.0	100.0	

E6F Teams Skills and Concepts of TQL

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	169	97.1	97.1	97.1
	YES	5	2.9	2.9	100.0
	Total	174	100.0	100.0	

E6G Methods for Managing Quality

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	172	98.9	98.9	98.9
	YES	2	1.1	1.1	100.0
	Total	174	100.0	100.0	

E6H Strategic Planning for Quality

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	172	98.9	98.9	98.9
	YES	2	1.1	1.1	100.0
	Total	174	100.0	100.0	

E6I Senior Leaders Seminar

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	174	100.0	100.0	100.0
	Total	174	100.0	100.0	

E6J Leadership Management Education & Training

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	138	79.3	79.3	79.3
	YES	36	20.7	20.7	100.0
	Total	174	100.0	100.0	

E6K Deming 4-day seminar

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	173	99.4	99.4	99.4
	YES	1	.6	.6	100.0
	Total	174	100.0	100.0	

E6L Deming 2-day seminar

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	172	98.9	98.9	98.9
	YES	2	1.1	1.1	100.0
	Total	174	100.0	100.0	

E7 In-house developed by command

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	111	63.8	63.8	63.8
	YES	63	36.2	36.2	100.0
	Total	174	100.0	100.0	

E7YES Yes, approximate number of hours

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	111	63.8	63.8	63.8
	1	11	6.3	6.3	70.1
	2	8	4.6	4.6	74.7
	3	6	3.4	3.4	78.2
	4	12	6.9	6.9	85.1
	5	3	1.7	1.7	86.8
	6	3	1.7	1.7	88.5
	8	5	2.9	2.9	91.4
	10	3	1.7	1.7	93.1
	12	2	1.1	1.1	94.3
	14	1	.6	.6	94.8
	18	1	.6	.6	95.4
	20	1	.6	.6	96.0
	24	3	1.7	1.7	97.7
	25	1	.6	.6	98.3
	30	1	.6	.6	98.9
	40	1	.6	.6	99.4
	50	1	.6	.6	100.0
	Total	174	100.0	100.0	

E8 Outside training source

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	NO	145	83.3	83.3	83.3
	YES	29	16.7	16.7	100.0
	Total	174	100.0	100.0	

E8YES Yes, approximate number hours

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	145	83.3	83.3	83.3
	1	3	1.7	1.7	85.1
	2	3	1.7	1.7	86.8
	3	2	1.1	1.1	87.9
	4	3	1.7	1.7	89.7
	6	1	.6	.6	90.2
	7	1	.6	.6	90.8
	10	1	.6	.6	91.4
	12	1	.6	.6	92.0
	15	1	.6	.6	92.5
	20	2	1.1	1.1	93.7
	24	1	.6	.6	94.3
	28	1	.6	.6	94.8
	32	1	.6	.6	95.4
	36	1	.6	.6	96.0
	40	4	2.3	2.3	98.3
	60	2	1.1	1.1	99.4
	96	1	.6	.6	100.0
	Total	174	100.0	100.0	

O1 Need for TQL in DoN?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
not at all	1	8	4.6	4.6	4.6
small extent	2	6	3.4	3.4	8.0
some extent	3	49	28.2	28.2	36.2
large extent	4	37	21.3	21.3	57.5
very large extent	5	39	22.4	22.4	79.9
do not know about TQ	6	35	20.1	20.1	100.0
	Total	174	100.0	100.0	

O2 TQL transformation possible?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
not at all	1	11	6.3	6.3	6.3
small extent	2	25	14.4	14.4	20.7
some extent	3	65	37.4	37.4	58.0
large extent	4	25	14.4	14.4	72.4
very large extent	5	17	9.8	9.8	82.2
do not know about TQL	6	31	17.8	17.8	100.0
	Total	174	100.0	100.0	

03 Add TQL course to NPS curricula?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
not at all	1	54	31.0	31.0	31.0
small extent	2	14	8.0	8.0	39.1
some extent	3	31	17.8	17.8	56.9
large extent	4	24	13.8	13.8	70.7
very large extent	5	32	18.4	18.4	89.1
do not know about TQL	6	19	10.9	10.9	100.0
	Total	174	100.0	100.0	

04 Just another management program?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
not at all	1	29	16.7	16.7	16.7
small extent	2	15	8.6	8.6	25.3
some extent	3	44	25.3	25.3	50.6
large extent	4	25	14.4	14.4	64.9
very large extent	5	29	16.7	16.7	81.6
do not know about TQL	6	32	18.4	18.4	100.0
	Total	174	100.0	100.0	

05 Confident in ability to use TQL?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
not at all	1	32	18.4	18.4	18.4
small extent	2	31	17.8	17.8	36.2
some extent	3	31	17.8	17.8	54.0
large extent	4	18	10.3	10.3	64.4
very large extent	5	22	12.6	12.6	77.0
do not know about TQL	6	40	23.0	23.0	100.0
	Total	174	100.0	100.0	

APPENDIX F

AGGREGATE AVERAGES OF THREE MAJOR THEMES BY DEMOGRAPHIC VARIABLES (rounded to the nearest whole percent)

	KNOWLEDGE K2 THRU K25			SKILLS E1 THRU E4G			EDUCATION EXPERIENCE E5A THRU E8	
	CORRECT	INCORRECT	UNKNOWN	NONE	FEW	MORE	NO	YES
OVERALL (n=174)	29	19	52	84	12	4	91	9
RANK								
CDR (2)	25	6	73	97	0	3	100	0
LCDR (19)	37	22	41	84	12	6	91	9
LT (141)	25	19	54	84	12	6	91	9
LTJG (12)	34	49	49	78	15	2	88	12
YOS								
>14 (18)	32	19	50	84	12	5	88	12
11-14 (24)	34	20	39	85	13	5	88	8
2-4 (17)	25	16	58	85	13	2	94	8
5-7 (71)	25	19	59	84	9	3	93	7
8-10 (44)	32	20	49	78	15	7	88	12
DESIGNATOR								
110X (20)	32	15	53	85	15	2	87	13
111X (33)	25	21	55	91	9	2	94	4
112X (3)	21	6	74	92	9	2	93	8
113X (4)	21	49	49	84	9	2	93	8
114X (4)	32	49	49	84	9	2	94	8
131X (20)	25	19	61	84	12	3	91	8
132X (35)	27	17	56	90	7	3	93	7

	KNOWLEDGE K2 THRU K25			SKILLS E1 THRU E4G			EDUCATION EXPERIENCE E5A THRU E8	
	CORRECT	INCORRECT	UNKNOWN	NONE	FEW	MORE	NO	YES
OVERALL (n=174)	29	19	52	84	12	4	91	9
146X (5)	36	20	53	84	6	0	93	7
152X (2)	36	27	38	84	22	3	92	8
161X (10)	43	23	38	73	19	10	87	13
163X (2)	8	6	10	97	3	3	100	0
180X (3)	33	10	51	85	19	0	84	9
230X (7)	36	23	10	72	19	3	93	17
290X (2)	33	10	10	81	19	3	84	16
310X (24)	35	20	42	71	21	0	87	13
GENDER								
FEMALE (27)	33	10	51	83	19	3	87	13
MALE (147)	28	10	52	84	11	3	92	0
CURRICULUM								
360 (6)	35	20	42	85	11	0	84	11
361 (5)	22	10	58	84	1	3	98	2
365 (4)	36	23	58	84	3	3	87	3
366 (7)	27	10	58	84	20	3	90	10
368 (9)	28	10	58	85	11	0	84	9
370 (21)	33	20	47	85	19	0	90	17
373 (2)	29	10	50	84	19	3	87	13
374 (5)	36	20	50	84	11	1	91	9
380 (1)	0	0	100	100	0	0	100	0
525 (2)	29	38	42	85	6	19	79	21
533 (3)	33	20	42	84	6	0	87	4
570 (5)	28	20	10	83	3	3	92	8
590 (8)	37	21	42	67	17	16	84	16

	KNOWLEDGE K2 THRU K25			SKILLS E1 THRU E4G			EDUCATION EXPERIENCE E5A THRU E8	
	CORRECT	INCORRECT	UNKNOWN	NONE	FEW	MORE	NO	YES
OVERALL (n=174)	29	19	52	84	12	4	91	9
591 (7)	38	17	18	83	0	4	89	11
595 (5)	38	17	17	88	20	0	98	12
610 (6)	13	18	75	83	0	4	97	3
611 (7)	23	17	41	91	7	0	95	5
682 (3)	21	18	65	80	10	0	98	12
683 (1)	4	0	56	100	0	0	95	5
684 (8)	21	21	58	80	0	0	98	3
688 (4)	38	21	42	83	10	2	98	8
699 (3)	25	13	61	88	13	0	98	2
813 (3)	21	13	10	100	0	0	95	5
814 (5)	21	18	58	85	15	0	92	8
815 (7)	38	21	18	91	20	0	98	12
819 (4)	40	29	31	72	20	8	75	25
825 (3)	21	19	57	93	2	0	98	2
827 (5)	38	22	17	79	10	0	92	8
837 (13)	38	18	18	88	7	0	92	8
847 (12)	25	18	18	80	7	3	90	12
COMMAND								
SCHOOL (2)	17	17	17	83	13	4	97	3
STAFF (30)	30	23	42	83	10	0	92	5
OVERSEAS (22)	30	18	53	83	11	0	90	12
SEA DUTY (89)	21	18	56	88	10	0	93	3
SHORE (22)	38	21	41	73	20	0	92	16
OTHER (9)	38	11	56	76	17	7	90	11
FUNCTION								

	KNOWLEDGE K2 THRU K25			SKILLS E1 THRU E4G			EDUCATION EXPERIENCE E5A THRU E8	
	CORRECT	INCORRECT	UNKNOWN	NONE	FEW	MORE	NO	YES
OVERALL (n=174)	29	19	52	84	12	4	91	9
COMBAT OPS(81)	26	19	55	91	7	2	94	6
CMD CTRLCOM(8)	27	13	60	85	10	5	91	9
INTELIGENCE(6)	39	24	60	78	10	11	90	17
MAINTENANCE(3)	39	24	60	67	23	10	82	17
PRODUCTION (1)	13	4	83	78	10	5	100	9
SUPPLY (14)	39	24	37	56	32	12	83	17
TRAINING (21)	29	18	53	83	13	4	87	13
OTHER (40)	31	17	52	82	12	6	90	10

APPENDIX G

EDUCATION

	ORIENT		INTRO		FUND		IMPLEM		SYSTEMS	
	E6A		E6B		E6C		E6D		E6E	
OVERALL	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
(n=174)	79	21	73	27	87	13	97	3	99	1
RANK	////	////	////	////	////	////	////	////	////	////
CDR (2)	100	0	100	0	100	0	100	0	100	0
LCDR (19)	84	16	68	32	84	16	100	0	100	0
LT (141)	79	21	75	26	90	10	97	4	99	1
LTJG (12)	58	42	58	42	58	42	100	0	100	0
YO6	////	////	////	////	////	////	////	////	////	////
1-14 (18)	67	33	56	44	72	28	94	6	94	6
11-14 (24)	83	17	75	25	88	13	100	0	100	0
2-4 (17)	71	29	77	24	94	6	100	0	100	0
5-7 (71)	85	16	79	21	89	11	99	1	100	0
8-10 (44)	75	25	68	32	89	11	93	7	98	2
DESIGNATOR	////	////	////	////	////	////	////	////	////	////
110Z (20)	65	35	50	50	70	30	95	5	100	0
111X (33)	91	9	88	12	100	0	97	3	100	0
112X (3)	100	0	100	0	100	0	100	0	100	0
113X (4)	100	0	100	0	100	0	100	0	100	0
114X (4)	100	0	75	25	100	0	100	0	100	0
131X (20)	85	15	85	15	90	10	95	5	100	0
132X (35)	80	20	71	29	91	9	97	3	100	0
146X (5)	40	60	80	20	100	0	100	0	100	0
152X (2)	100	0	100	0	100	0	100	0	100	0
161X (10)	70	30	70	30	90	10	100	0	100	0
163X (2)	100	0	100	0	100	0	100	0	100	0
180X (3)	67	33	67	33	100	0	100	0	100	0
230X (7)	71	29	57	43	29	71	100	0	86	14
290X (2)	0	100	50	50	50	50	100	0	100	0
310X (24)	75	25	58	42	83	17	96	4	96	4
GENDER	////	////	////	////	////	////	////	////	////	////
FEMALE (27)	67	33	52	48	67	33	96	4	96	4
MALE (147)	81	19	77	23	91	9	97	3	99	1

	ORIENT		INTRO		FUND		IMPLEM		SYSTEMS	
	E6A		E6B		E6C		E6D		E6E	
OVERALL	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
(n=174)	79	21	73	27	87	13	97	3	99	1
CURRICULUM	////	////	////	////	////	////	////	////	////	////
360 (6)	50	50	67	33	67	33	83	17	100	0
361 (5)	100	0	100	0	100	0	100	0	100	0
365 (4)	100	0	75	25	100	0	100	0	100	0
366 (7)	86	14	71	29	86	14	100	0	100	0
368 (9)	56	44	56	44	89	11	100	0	100	0
370 (21)	67	33	62	38	81	19	100	0	100	0
373 (2)	50	50	50	50	100	0	100	0	100	0
374 (5)	100	0	80	20	100	0	100	0	100	0
380 (1)	100	0	100	0	100	0	100	0	100	0
525 (2)	50	50	100	0	100	0	50	50	100	0
533 (3)	67	33	100	0	100	0	100	0	100	0
570 (5)	60	40	80	20	100	0	100	0	100	0
590 (8)	88	13	63	38	63	38	88	13	100	0
591 (7)	71	29	43	57	100	0	100	0	100	0
595 (5)	80	20	100	0	80	20	100	0	100	0
610 (6)	100	0	100	0	100	0	100	0	100	0
611 (7)	100	0	100	0	100	0	100	0	100	0
682 (3)	67	33	67	33	67	33	100	0	100	0
683 (1)	100	0	100	0	0	100	100	0	100	0
684 (8)	75	25	75	25	100	0	100	0	100	0
688 (4)	100	0	75	25	100	0	100	0	100	0
699 (3)	100	0	100	0	100	0	100	0	100	0
813 (3)	67	33	67	33	100	0	100	0	100	0
814 (5)	80	20	60	40	100	0	100	0	100	0
815 (7)	100	0	71	29	100	0	100	0	100	0
819 (4)	50	50	75	25	75	25	75	25	75	25
825 (3)	100	0	100	0	100	0	100	0	100	0
827 (5)	100	0	60	40	80	20	100	0	100	0
837 (13)	92	8	62	39	77	23	92	8	100	0
847 (12)	58	42	75	25	75	25	100	0	92	8

	ORIENT		INTRO		FUND		IMPLEM		SYSTEMS	
	E6A		E6B		E6C		E6D		E6E	
OVERALL	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
(n=174)	79	21	73	27	87	13	97	3	99	1
COMMAND	////	////	////	////	////	////	////	////	////	////
SCHOOL (2)	100	0	100	0	100	0	100	0	100	0
STAFF (30)	73	27	67	33	87	13	97	3	97	3
OVERSEAS (22)	77	23	77	23	82	18	100	0	100	0
SEA DUTY (89)	87	14	82	18	93	7	98	2	99	1
SHORE (22)	59	41	55	46	73	27	91	9	100	0
OTHER (9)	67	33	33	67	78	22	100	0	100	0
FUNCTION	////	////	////	////	////	////	////	////	////	////
COMBAT OPS (81)	88	12	85	15	94	6	98	3	100	0
CMDCTRLCOM (8)	50	50	50	50	75	25	100	0	100	0
INTELIGENCE (6)	67	33	83	17	100	0	100	0	100	0
MAINTENANCE (3)	67	33	67	33	100	0	100	0	100	0
PRODUCTION (1)	100	0	100	0	100	0	100	0	100	0
SUPPLY (14)	64	36	57	43	86	14	93	7	93	7
TRAINING (21)	57	43	52	48	76	24	95	5	100	0
OTHER (40)	85	15	68	33	80	20	98	3	98	3

	TEAM		METHODS		STRRT		SLS		LMET	
	E6F		E6G		E6H		E6I		E6J	
OVERALL	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
(n=174)	97	3	99	1	99	1	100	0	79	21
RANK	////	////	////	////	////	////	////	////	////	////
CDR (2)	100	0	100	0	100	0	100	0	100	0
LCDR (19)	100	0	100	0	100	0	100	0	74	26
LT (141)	97	4	99	1	99	1	100	0	79	21
LTJG (12)	100	0	100	0	100	0	100	0	83	17
YO6	////	////	////	////	////	////	////	////	////	////
1-14 (18)	94	6	94	6	100	0	100	0	78	22
11-14 (24)	100	0	100	0	100	0	100	0	75	25
2-4 (17)	100	0	100	0	100	0	100	0	94	6
5-7 (71)	99	1	100	0	99	1	100	0	79	21
8-10 (44)	93	7	98	2	98	2	100	0	77	23
DESIGNATOR	////	////	////	////	////	////	////	////	////	////
110Z (20)	90	10	100	0	95	5	100	0	80	20
111X (33)	100	0	100	0	100	0	100	0	82	18
112X (3)	100	0	100	0	100	0	100	0	0	100
113X (4)	100	0	100	0	100	0	100	0	100	0
114X (4)	100	0	100	0	100	0	100	0	75	25
131X (20)	95	5	100	0	100	0	100	0	85	15
132X (35)	100	0	100	0	100	0	100	0	80	20
146X (5)	100	0	100	0	100	0	100	0	100	100
152X (2)	100	0	100	0	100	0	100	0	50	50
161X (10)	100	0	100	0	100	0	100	0	80	20
163X (2)	100	0	100	0	100	0	100	0	100	0
180X (3)	100	0	100	0	100	0	100	0	67	33
230X (7)	100	0	86	14	100	0	100	0	57	43
290X (2)	100	0	100	0	100	0	100	0	50	50
310X (24)	92	8	96	4	96	4	100	0	83	17
GENDER	////	////	////	////	////	////	////	////	////	////
FEMALE (27)	93	7	96	4	96	4	100	0	78	22
MALE (147)	98	2	99	1	99	1	100	0	80	20

	TEAM		METHODS		STRAT		SLS		LMET	
	E6F		E6G		E6H		E6I		E6J	
OVERALL	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
(n=174)	97	3	99	1	99	1	100	0	79	21
CURRICULUM	////	////	////	////	////	////	////	////	////	////
360 (6)	100	0	100	0	100	0	100	0	100	0
361 (5)	100	0	100	0	100	0	100	0	80	20
365 (4)	100	0	100	100	100	100	100	0	100	0
366 (7)	100	0	100	0	100	0	100	0	100	0
368 (9)	100	0	100	0	100	0	100	0	89	11
370 (21)	100	0	100	0	100	0	100	0	76	24
373 (2)	100	0	100	0	100	0	100	0	50	50
374 (5)	100	0	100	0	100	0	100	0	60	40
380 (1)	100	0	100	0	100	0	100	0	100	0
525 (2)	50	50	100	0	100	0	100	0	50	50
533 (3)	100	0	100	0	100	0	100	0	100	0
570 (5)	100	0	100	0	100	0	100	0	80	20
590 (8)	75	25	100	0	88	13	100	0	88	13
591 (7)	100	0	100	0	100	0	100	0	57	43
595 (5)	100	0	100	0	100	0	100	0	80	20
610 (6)	100	0	100	0	100	0	100	0	67	33
611 (7)	100	0	100	0	100	0	100	0	71	29
682 (3)	100	0	100	0	100	0	100	0	67	33
683 (1)	100	0	100	0	0	100	100	0	100	0
684 (8)	100	0	100	0	100	0	100	0	100	0
688 (4)	100	0	100	0	100	0	100	0	50	50
699 (3)	100	0	100	0	100	0	100	0	100	0
813 (3)	100	0	100	0	100	0	100	0	100	0
814 (5)	100	0	100	0	100	0	100	0	60	40
815 (7)	100	0	100	0	100	0	100	0	86	14
819 (4)	75	25	75	25	75	25	100	0	25	75
825 (3)	100	0	100	0	100	0	100	0	100	0
827 (5)	80	20	100	0	100	0	100	0	80	20
837 (13)	100	0	100	0	100	0	100	0	85	15
847 (12)	100	0	92	8	100	0	100	0	75	25

	TEAM		METHOD		STRAT		SLS		LMET	
	E6F		E6G		E6H		E6I		E6J	
OVERALL	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
(n=174)	97	3	99	1	99	1	100	0	79	21
COMMAND	////	////	////	////	////	////	////	////	////	////
SCHOOL (2)	100	0	100	0	100	0	100	0	50	50
STAFF (30)	100	0	97	3	100	0	100	0	70	30
OVERSEAS (22)	96	5	100	0	96	5	100	0	68	32
SEA DUTY (89)	98	2	99	1	99	1	100	0	87	14
SHORE (22)	91	9	100	0	100	0	100	0	86	14
OTHER (9)	100	0	100	0	100	0	100	0	56	44
FUNCTION	////	////	////	////	////	////	////	////	////	////
COMBAT OPS (81)	99	1	100	0	100	0	100	0	84	16
CMDCTRLCOM (8)	100	0	100	0	100	0	100	0	100	0
INTELIGENCE (6)	100	0	100	0	100	0	100	0	67	33
MAINTENANCE (3)	100	0	100	0	100	0	100	0	100	0
PRODUCTION (1)	100	0	100	0	100	0	100	0	100	0
SUPPLY (14)	93	7	93	7	93	7	100	0	79	21
TRAINING (21)	95	5	100	0	100	0	100	0	71	29
OTHER (40)	95	5	98	3	98	3	100	0	70	30

	4DAY		2DAY		IN		OUT	
	E6K		E6L		E7		E8	
OVERALL	NO	YES	NO	YES	NO	YES	NO	YES
(n=174)	99	1	99	1	64	36	83	17
RANK	////	////	////	////	////	////	////	////
CDR (2)	100	0	100	0	100	0	100	0
LCDR (19)	100	0	95	5	79	21	84	16
LT (141)	99	1	99	1	62	38	82	18
LTJG (12)	100	0	100	0	58	42	92	8
YO6	////	////	////	////	////	////	////	////
1-14 (18)	100	0	100	0	78	22	67	33
11-14 (24)	100	0	96	4	71	29	92	8
2-4 (17)	100	0	100	0	77	24	94	6
5-7 (71)	100	0	100	0	61	39	83	17
8-10 (44)	98	2	98	2	55	46	82	18
DESIGNATOR	////	////	////	////	////	////	////	////
110Z (20)	100	0	95	5	65	35	85	15
111X (33)	100	0	100	0	70	30	91	9
112X (3)	100	0	100	0	67	33	100	0
113X (4)	100	0	100	0	75	25	100	0
114X (4)	100	0	100	0	100	0	75	25
131X (20)	95	5	100	0	55	45	75	25
132X (35)	100	0	100	0	69	31	83	17
146X (5)	100	0	100	0	80	20	100	0
152X (2)	100	0	100	0	50	50	100	0
161X (10)	100	0	100	0	40	60	80	20
163X (2)	100	0	100	0	100	0	100	0
180X (3)	100	0	100	0	67	33	67	33
230X (7)	100	0	100	0	43	57	71	29
290X (2)	100	0	100	0	50	50	100	0
310X (24)	100	0	96	4	58	42	75	25
GENDER	////	////	////	////	////	////	////	////
FEMALE (27)	100	0	96	4	67	33	82	19
MALE (147)	99	1	99	1	63	37	84	16

	4DAY		2DAY		IN		OUT	
	E6K		E6L		E7		E8	
OVERALL	NO	YES	NO	YES	NO	YES	NO	YES
(n=174)	99	1	99	1	64	36	83	17
CURRICULUM	////	////	////	////	////	////	////	////
360 (6)	100	0	100	0	83	17	67	33
361 (5)	100	0	100	0	80	20	100	0
365 (4)	100	0	100	0	75	25	100	0
366 (7)	100	0	100	0	29	71	100	0
368 (9)	100	0	100	0	56	44	100	0
370 (21)	100	0	100	0	57	43	81	19
373 (2)	100	0	100	0	50	50	50	50
374 (5)	100	0	100	0	80	20	100	0
380 (1)	100	0	100	0	100	0	100	0
525 (2)	50	50	100	0	50	50	50	50
533 (3)	100	0	100	0	67	33	100	0
570 (5)	100	0	100	0	80	20	80	20
590 (8)	100	0	100	0	75	25	38	63
591 (7)	100	0	100	0	43	57	86	14
595 (5)	100	0	100	0	60	40	40	60
610 (6)	100	0	100	0	83	17	83	17
611 (7)	100	0	100	0	43	57	100	0
682 (3)	100	0	100	0	33	67	100	0
683 (1)	100	0	100	0	0	100	67	33
684 (8)	100	0	88	13	88	13	100	0
688 (4)	100	0	100	0	50	50	100	0
699 (3)	100	0	100	0	67	33	100	0
813 (3)	100	0	100	0	100	0	100	0
814 (5)	100	0	100	0	80	20	100	0
815 (7)	100	0	100	0	57	43	57	43
819 (4)	100	0	75	25	50	50	75	25
825 (3)	100	0	100	0	100	0	67	33
827 (5)	100	0	100	0	60	40	100	0
837 (13)	100	0	100	0	62	39	85	15
847 (12)	100	0	100	0	58	42	83	17

	4DAY		2DAY		IN		OUT	
	E6K		E6L		E7		E8	
OVERALL	NO	YES	NO	YES	NO	YES	NO	YES
(n=174)	99	1	99	1	64	36	83	17
COMMAND	////	////	////	////	////	////	////	////
SCHOOL (2)	100	0	100	0	100	0	100	0
STAFF (30)	100	0	97	3	60	40	87	13
OVERSEAS (22)	100	0	100	0	68	32	87	14
SEA DUTY (89)	100	0	99	1	67	33	84	16
SHORE (22)	96	5	100	0	46	55	64	36
OTHER (9)	100	0	100	0	67	33	100	0
FUNCTION	////	////	////	////	////	////	////	////
COMBAT OPS (81)	100	0	100	0	70	30	85	15
CMDCTRLCOM (8)	100	0	100	0	63	38	88	13
INTELIGENCE (6)	100	0	100	0	50	50	67	33
MAINTENANCE (3)	100	0	100	0	33	67	67	33
PRODUCTION (1)	100	0	100	0	100	0	100	0
SUPPLY (14)	100	0	93	7	50	50	71	29
TRAINING (21)	95	5	100	0	48	52	91	10
OTHER (40)	100	0	98	3	68	33	83	18

APPENDIX H

KNOWLEDGE QUESTIONS

(rounded to nearest whole percent)

	CORRECT		INCORRECT		UNKNOWN	
Overall (N=174)	29		19		52	
	N	%	N	%	N	%
K2 HOW TO ACHIEVE QUALITY	107	62	44	25	23	13
K3 QMB CONSISTS OF; DEVELOPS	46	26	20	12	108	62
K4 PARETO CHART	14	8	24	14	136	78
K5 TAGUCHI LOSS FUNCTION	2	1	8	5	164	94
K6 DEFINITION OF QUALITY DEPENDS ON	42	24	55	32	77	44
K7 PDCA CYCLE TO GAIN KNOWLEDGE	4	2	83	48	87	50
K8 EXAMPLE OF SUBOPTIMIZATION	31	18	21	12	122	70
K9 ESC CONSISTS OF; DEVELOPS	62	36	31	18	81	47
K10 SPECIAL CAUSES OF VARIATION	65	37	2	14	85	49
K11 FLOW CHART TELLS HOW WORK IS DONE	58	33	6	3	110	63
K12 LEADERS MUST DO 14 PTS TRANSFORMATION	43	25	32	18	99	57
K13 CHAIN REACTION, QUALITY AND COSTS	87	50	13	8	74	43
K14 STABLE PROCESS EXHIBITS	23	13	43	25	108	62
K15 PSYCHOLOGY, TEAMWORK, AND CHANGE	54	31	62	36	58	33
K16 TQL COORDINATORS RESPONSIBILITIES	109	63	14	8	51	29
K17 CUSTOMER DEFINES QUALITY	121	70	18	10	35	20
K18 FISHBONE (CAUSE & EFFECT) DIAGRAM	14	8	28	16	132	76
K19 THEORY OF KNOWLEDGE;DATA-BASED DECISION	33	19	18	10	123	71
K20 "CHECK" PHASE OF PDCA IS	40	23	31	18	103	59
K21 QUALITY IS BUILT INTO PRODUCT	108	62	23	13	43	25
K22 ELEMENTS: SYSTEM OF PROFOUND KNOWLEDGE	7	4	11	6	156	90
K23 PAT CONSISTS OF; FUNCTION	26	15	50	29	98	56
K24 VARIATION IS INHERENT IN ALL PROCESSES	117	67	6	3	51	29
K25 DON DEFINITION OF TQL	3	2	113	65	58	33

APPENDIX I

EXPERIENCE

(rounded to the nearest whole percent)

	PAT		QMB		ESC		ADVISOR		COORD	
	E5A		E5B		E5C		E5D		E5E	
	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
OVERALL (n=174)	91	9	92	8	97	3	98	2	98	2
RANK	////	////	////	////	////	////	////	////	////	////
CDR (2)	100	0	100	0	100	0	100	0	100	0
LCDR (19)	79	21	90	11	100	0	100	0	100	0
LT (141)	92	8	93	7	97	3	98	2	98	2
LTJG (12)	92	8	83	17	92	8	100	0	100	0
YOS	////	////	////	////	////	////	////	////	////	////
1-14 (18)	94	6	94	6	94	6	94	6	100	0
11-14 (24)	83	17	92	8	100	0	100	0	100	0
2-4 (17)	94	6	88	12	100	0	100	0	100	0
5-7 (71)	99	1	96	4	99	1	99	1	100	0
8-10 (44	80	21	87	14	93	7	98	2	93	7
DESIGNATOR	////	////	////	////	////	////	////	////	////	////
110X (20)	95	5	80	20	95	5	90	10	100	0
111X (33)	100	0	100	0	100	0	100	0	100	0
112X (3)	100	0	100	0	100	0	100	0	100	0
113X (4)	100	0	100	0	100	0	100	0	100	0
114X (4)	100	0	100	0	100	0	100	0	100	0
131X (20)	90	10	95	5	95	5	95	5	95	5
132X (35)	94	6	97	3	100	0	100	0	100	0
146X (5)	80	20	80	20	100	0	100	0	100	0
152X (6)	50	50	100	0	100	0	100	0	100	0
161X (20)	80	20	70	30	80	20	100	0	100	0
163X (2)	100	0	100	0	100	0	100	0	100	0
180X (3)	100	0	100	0	100	0	100	0	100	0
230X (7)	100	0	86	14	100	0	100	0	100	0
290X (2)	100	0	100	0	100	0	100	0	100	0
310X (24)	71	29	88	13	96	4	100	0	92	8
GENDER	////	////	////	////	////	////	////	////	////	////
FEMALE (27)	96	4	85	15	96	4	93	7	100	0
MALE (147)	90	10	93	7	97	3	99	1	98	2

	PAT		QMB		ESC		ADVISOR		COORD	
	E5A		E5B		E5C		E5D		E5E	
	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
OVERALL (n=174)	91	9	92	8	97	3	98	2	98	2
CURRICULUM	////	////	////	////	////	////	////	////	////	////
360 (6)	83	17	83	17	100	0	100	0	100	0
361 (5)	100	0	100	0	100	0	100	0	100	0
365 (4)	100	0	100	0	100	0	100	0	100	0
366 (7)	71	29	71	29	100	0	100	0	100	0
368 (9)	100	0	100	0	89	11	100	0	100	0
370 (21)	91	10	91	10	100	0	100	0	100	0
373 (2)	100	0	100	0	100	0	100	0	100	0
374 (5)	80	20	80	20	80	20	80	20	80	20
380 (1)	100	0	100	0	100	0	100	0	100	0
525 (2)	50	50	100	0	100	0	100	0	100	0
533 (3)	100	0	100	0	100	0	100	0	100	0
570 (5)	80	20	80	20	100	0	100	0	100	0
590 (8)	100	0	75	25	88	13	75	25	100	0
592 (7)	100	0	86	14	100	0	100	0	100	0
595 (5)	80	20	80	20	80	20	100	0	100	0
610 (6)	100	0	100	0	100	0	100	0	100	0
611 (7)	100	0	100	0	100	0	100	0	100	0
682 (3)	100	0	100	0	100	0	100	0	100	0
683 (1)	100	0	100	0	100	0	100	0	100	0
684 (8)	100	0	100	0	100	0	100	0	100	0
688 (4)	100	0	100	0	100	0	100	0	100	0
699 (3)	100	0	100	0	100	0	100	0	100	0
813 (3)	100	0	100	0	100	0	100	0	67	33
814 (5)	100	0	100	0	100	0	100	0	100	0
815 (7)	57	43	71	29	86	14	100	0	86	14
819 (4)	50	50	75	25	100	0	100	0	100	0
825 (3)	100	0	100	0	100	0	100	0	100	0
827 (5)	80	20	100	0	100	0	100	0	100	0
837 (13)	92	8	100	0	100	0	100	0	100	0
847 (12)	100	0	100	0	100	0	100	0	100	0

	PAT		QMB		ESC		ADVISOR		COORD	
	E5A		E5B		E5C		E5D		E5E	
	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES
OVERALL (n=174)	91	9	92	8	97	3	98	2	98	2
COMMAND	////	////	////	////	////	////	////	////	////	////
SCHOOL (2)	100	0	100	0	100	0	100	0	100	0
STAFF (30)	97	3	100	0	100	0	100	0	100	0
OVERSEAS (22)	96	5	82	18	91	9	96	5	100	0
SEADUTY (89)	92	8	94	6	98	2	99	1	97	3
SHORE (22)	68	32	77	23	96	5	96	5	100	0
OTHER (9)	100	0	100	0	100	0	100	0	100	0
FUNCTION	////	////	////	////	////	////	////	////	////	////
COMBAT OPS (81)	96	4	98	3	99	1	99	1	98	3
CMD CTROLCOM (8)	100	0	100	0	100	0	100	0	100	0
INTELIGENCE (6)	100	0	83	17	100	0	100	0	100	0
MAINTENANCE (3)	33	67	33	67	67	33	100	0	100	0
PRODUCTION (1)	100	0	100	0	100	0	100	0	100	0
SUPPLY (14)	57	43	79	21	93	7	100	0	93	7
TRAINING (21)	81	19	95	5	100	0	100	0	100	0
OTHER (40)	98	3	88	13	95	5	95	5	100	0

APPENDIX I

OPINION

(rounded to the nearest whole percent)

	NEED FOR TQL IN DON?						TQL TRANSFORMATION POSSIBLE?					
	01						02					
	1	2	3	4	5	6	1	2	3	4	5	6
OVERALL (n=174)	5	3	28	21	22	20	6	14	37	14	9	18
RANK												
CDR (2)	0	0	0	0	0	100	0	50	0	0	0	50
LCDR (19)	5	5	26	26	26	11	11	21	58	0	11	0
LT (141)	5	4	30	21	21	20	6	14	36	15	10	20
LTJG (12)	0	0	17	17	42	25	9	0	25	33	8	25
YOG												
1-14 (18)	6	6	39	11	22	17	6	28	33	11	11	11
11-14 (24)	0	4	21	29	33	13	0	17	54	17	8	4
2-4 (17)	6	6	24	6	35	24	12	18	18	12	18	24
5-7 (71)	4	1	32	23	17	23	6	13	38	13	7	24
8-10 (44)	7	5	23	25	21	21	9	9	36	18	11	16
DESIGNATOR												
110X	5	0	25	25	25	20	0	10	50	10	10	20
111X (33)	6	3	21	18	24	27	6	15	40	12	6	21
112X (3)	0	0	33	0	0	67	0	33	0	0	0	67
113X (4)	0	0	50	25	0	25	0	25	25	25	0	25
114X (4)	0	0	25	25	25	25	0	0	0	25	50	25
131X (20)	15	0	30	35	5	15	10	15	35	5	15	20
132X (35)	3	9	31	17	14	26	6	20	40	9	6	20
146X (5)	0	0	60	20	20	0	0	40	40	0	20	0
152X (2)	0	50	0	0	50	0	0	0	50	50	0	0
161X (10)	0	0	30	20	50	0	10	0	30	30	30	0
163X (2)	0	0	0	0	0	100	0	0	0	0	0	100
180X (3)	0	0	0	33	67	0	0	33	0	67	0	0
230X (7)	0	0	14	14	57	14	0	14	29	29	14	14
290X (2)	0	0	0	50	50	0	0	0	0	50	50	0
310X (24)	4	4	38	21	21	13	17	9	50	17	0	8
GENDER												
FEMALE (27)	4	0	22	26	30	19	0	11	41	19	11	19
MALE (147)	5	4	30	20	21	20	8	15	37	14	10	18

	NEED FOR TQL IN DON? 01						TQL TRANSFORMATION POSSIBLE? 02					
	1	2	3	4	5	6	1	2	3	4	5	6
OVERALL (n=174)	5	3	28	21	22	20	6	14	37	14	9	18
CURRICULUM												
360 (6)	0	0	33	0	50	17	0	17	17	33	17	17
361 (5)	0	0	40	0	40	20	0	0	60	0	20	20
365 (4)	25	0	25	25	0	25	25	25	25	0	0	25
366 (7)	0	14	29	29	29	0	0	43	0	43	14	0
368 (9)	11	22	0	22	22	22	0	11	44	0	22	22
370 (21)	0	0	24	14	38	24	10	5	33	24	5	24
373 (2)	0	0	0	50	50	0	0	50	0	50	0	0
374 (5)	0	0	40	40	20	0	0	20	60	20	0	0
380 (1)	0	0	0	0	0	100	0	0	0	0	0	100
525 (2)	0	0	50	0	0	50	0	50	0	0	0	50
533 (3)	0	0	67	0	33	0	0	33	67	0	0	0
570 (5)	0	0	40	20	20	20	0	40	20	0	0	40
590 (8)	0	0	25	0	75	0	0	0	38	13	50	0
591 (7)	14	0	43	14	0	29	43	14	29	0	0	14
595 (5)	0	0	20	20	20	40	0	0	40	0	20	40
610 (6)	17	0	17	50	0	17	17	0	0	17	33	33
611 (7)	14	0	43	43	0	0	14	0	71	14	0	0
682 (3)	0	0	33	67	0	0	0	0	67	33	0	0
683 (1)	0	0	100	0	0	0	0	0	100	0	0	0
684 (8)	0	0	13	38	0	50	13	25	13	13	0	38
688 (4)	0	0	25	25	0	50	0	50	25	25	0	0
699 (3)	0	0	33	33	0	33	0	33	0	33	0	33
813 (3)	0	0	33	33	33	0	33	0	33	33	0	0
814 (5)	20	0	40	0	20	20	0	0	60	0	20	20
815 (7)	0	0	29	43	14	14	0	0	86	0	0	14
819 (4)	0	25	50	0	25	0	0	25	75	0	0	0
825 (3)	0	0	67	0	0	33	0	0	33	33	0	33
827 (5)	0	20	40	20	20	0	0	0	40	40	20	0
837 (13)	8	8	8	31	23	23	8	8	62	0	8	25
847 (12)	8	0	25	8	25	33	0	33	17	17	8	25

	NEED FOR TQL IN DON? 01						TQL TRANSFORMATION POSSIBLE? 02					
	1	2	3	4	5	6	1	2	3	4	5	6
OVERALL (n=174)	5	3	28	21	22	20	6	14	37	14	9	18
COMMAND												
SCHOOL (2)	0	0	50	0	50	0	0	0	50	0	0	50
STAFF (30)	0	3	33	27	16	20	7	27	37	17	0	13
OVERSEAS (22)	5	0	27	23	27	18	5	0	46	18	14	18
SEA DUTY (89)	8	6	28	19	19	20	9	16	35	25	9	17
SHORE (22)	0	0	23	27	32	18	0	14	36	14	18	18
OTHER (9)	0	0	22	11	33	33	0	0	44	0	22	33
FUNCTION												
COMBAT OPS (81)	6	5	32	22	15	20	9	16	36	15	10	15
CMD CTRLCOM (8)	0	0	38	25	13	25	13	25	38	0	0	25
INTELIGENCE (6)	0	0	50	0	33	17	17	17	17	0	33	17
MAINTENANCE (3)	0	0	33	0	33	33	0	33	0	0	33	33
PRODUCTION (1)	0	0	0	100	0	0	0	0	0	0	0	100
SUPPLY (14)	0	0	36	29	21	14	7	7	64	14	0	7
TRAINING (21)	0	10	29	19	19	24	0	14	38	14	5	29
OTHER (40)	8	0	13	20	40	20	3	10	38	20	13	18

	ADD TQL COURSE TO CURRICULA? 03						JUST ANOTHER MGMT PROGRAM? 04					
	1	2	3	4	5	6	1	2	3	4	5	6
OVERALL (n=174)	31	8	18	14	18	11	17	9	25	14	17	18
RANK												
CDR (2)	0	0	0	0	50	50	0	0	0	0	0	100
LCDR (19)	32	5	16	11	26	11	16	16	11	16	37	5
LT (141)	32	8	18	14	17	11	16	7	26	15	16	20
LTJG (12)	17	17	25	25	17	0	25	17	42	8	0	8
YOS												
1-14 (18)	50	17	6	11	11	6	17	11	6	22	28	17
11-14 (24)	21	8	21	13	25	13	29	13	21	8	21	8
2-4 (17)	18	6	18	18	35	6	12	12	29	12	24	12
5-7 (71)	30	7	17	18	16	13	16	7	27	14	10	27
8-10 (44)	36	7	23	7	16	11	14	7	32	16	18	14
DESIGNATOR												
110X	25	15	25	15	10	10	20	10	40	15	5	10
111X (33)	30	3	6	15	36	9	9	3	30	12	24	21
112X (3)	0	0	0	33	0	67	33	0	0	0	0	67
113X (4)	50	0	0	25	0	25	0	0	25	0	25	50
114X (4)	50	0	25	0	25	0	25	0	0	0	50	25
131X (20)	50	15	25	5	0	5	10	5	35	0	20	30
132X (35)	23	6	14	20	17	20	14	9	17	26	14	20
146X (5)	60	0	20	0	20	0	20	20	0	0	60	0
152X (2)	0	50	0	0	50	0	0	0	50	50	0	0
161X (10)	50	30	10	0	10	0	50	10	10	10	10	10
163X (2)	50	0	0	0	0	50	0	0	0	0	0	100
180X (3)	33	0	33	33	0	0	0	0	67	33	0	0
230X (7)	29	0	14	29	29	0	57	14	14	0	0	14
290X (2)	0	0	50	50	0	0	0	50	0	50	0	0
310X (24)	21	8	29	8	25	8	8	13	33	25	17	4
GENDER												
FEMALE (27)	26	15	22	15	15	7	22	7	37	15	7	11
MALE (147)	32	7	17	14	19	12	16	9	23	14	18	20

	ADD TQL COURSE TO CURRICULA?						JUST ANOTHER MGMT PROGRAM?					
	03						04					
	1	2	3	4	5	6	1	2	3	4	5	6
OVERALL (n=174)	31	8	18	14	18	11	17	9	25	14	17	18
CURRICULUM												
360 (6)	33	0	17	0	50	0	17	17	0	33	17	17
361 (5)	40	0	0	0	20	40	40	0	0	0	20	40
365 (4)	25	25	0	25	25	0	0	0	50	0	50	0
366 (7)	14	43	29	0	14	0	0	0	29	0	29	43
368 (9)	33	11	22	22	0	11	33	11	0	11	22	22
370 (21)	33	14	14	14	19	5	29	5	19	19	10	19
373 (2)	50	0	50	0	0	0	0	0	50	50	0	0
374 (5)	60	0	20	20	0	0	0	0	80	20	0	0
380 (1)	0	0	0	0	0	100	0	0	0	0	0	100
525 (2)	50	0	50	0	0	0	0	0	50	0	0	50
533 (3)	33	0	67	0	0	0	33	0	0	33	33	0
570 (5)	40	0	0	20	20	20	20	0	20	0	40	20
590 (8)	38	13	13	13	25	0	25	25	13	13	13	13
591 (7)	43	14	0	14	14	14	29	0	29	14	14	14
595 (5)	40	20	0	0	0	40	20	20	0	20	0	40
610 (6)	50	0	17	17	0	17	17	0	33	17	17	17
611 (7)	29	14	14	29	14	0	0	14	71	0	14	0
682 (3)	33	33	0	0	33	0	0	33	0	67	0	0
683 (1)	0	0	0	100	0	0	0	0	100	0	0	0
684 (8)	50	0	0	13	0	38	13	0	25	13	25	25
688 (4)	25	0	25	0	25	25	0	0	25	0	25	50
699 (3)	33	0	0	33	0	33	0	0	33	0	33	33
813 (3)	33	0	33	0	33	0	0	0	67	33	0	0
814 (5)	0	0	80	20	0	0	0	20	60	0	20	0
815 (7)	14	0	57	14	0	14	0	14	57	14	14	0
819 (4)	25	0	25	25	25	0	25	25	25	0	25	0
825 (3)	67	0	0	0	0	33	0	0	0	0	33	67
827 (5)	20	0	40	0	40	0	20	20	20	20	20	0
837 (13)	8	8	8	15	54	8	31	15	15	15	8	15
847 (12)	25	0	8	25	33	8	17	8	8	25	17	25

	ADD TQL COURSE TO CURRICULA?						JUST ANOTHER MGMT PROGRAM?					
	03						04					
	1	2	3	4	5	6	1	2	3	4	5	6
OVERALL (n=174)	31	8	18	14	18	11	17	9	25	14	17	18
COMMAND												
SCHOOL (2)	0	0	0	50	0	50	100	0	0	0	0	0
STAFF (30)	30	7	10	10	27	17	17	17	30	10	13	23
OVERSEAS (22)	27	14	27	9	9	14	23	9	14	18	14	23
SEA DUTY (89)	33	5	18	16	20	9	14	5	29	15	24	15
SHORE (22)	41	18	23	0	18	0	18	14	27	18	5	18
OTHER (9)	11	11	11	44	0	22	11	44	0	11	0	33
FUNCTION												
COMBAT OPS (81)	36	4	16	14	21	10	11	3	27	15	25	20
CMD CTRLCOM (8)	38	0	25	13	0	25	13	0	25	25	25	13
INTELIGENCE (6)	33	0	17	17	17	17	33	17	17	17	0	17
MAINTENANCE (3)	67	0	0	0	0	33	33	0	0	0	33	33
PRODUCTION (1)	100	0	0	0	0	0	0	0	100	0	0	0
SUPPLY (14)	7	14	21	21	29	7	7	21	36	21	14	0
TRAINING (21)	33	14	10	14	14	14	24	19	10	14	5	29
OTHER (40)	23	15	25	13	18	18	25	13	28	10	8	18

	CONFIDENT IN ABILITY TO USE TQL?					
	05					
	1	2	3	4	5	6
OVERALL (n=174)	18	18	18	10	13	23
RANK	//////	//////	//////	//////	//////	//////
CDR (2)	0	0	0	0	0	100
LCDR (19)	16	21	32	5	5	21
LT (141)	19	17	17	12	12	23
LTJG (12)	17	25	8	0	33	17
Y06	//////	//////	//////	//////	//////	//////
1-14 (18)	11	17	28	11	17	17
11-14 (24)	13	17	33	8	8	21
2-4 (17)	24	12	6	12	24	24
5-7 (71)	27	21	16	6	11	30
8-10 (44)	25	16	14	18	11	16
DESIGNATOR	//////	//////	//////	//////	//////	//////
110X (20)	20	25	10	5	20	20
111X (33)	15	15	24	6	15	24
112X (3)	0	0	0	0	0	100
113X (4)	0	25	0	0	25	50
114X (4)	25	0	25	0	25	25
131X (20)	30	25	10	20	0	15
132X (35)	17	17	14	14	3	24
146X (5)	40	20	20	0	20	0
152X (2)	0	0	100	0	0	0
161X (10)	20	20	20	0	30	10
163X (2)	0	0	0	0	0	100
180X (3)	0	33	0	0	67	0
230X (7)	0	0	43	14	29	14
290X (2)	50	0	0	50	0	0
310X (24)	21	21	21	17	8	13
GENDER	//////	//////	//////	//////	//////	//////
FEMALE (27)	22	19	15	7	15	22
MALE (147)	18	18	18	11	12	23

	CONFIDENT IN ABILITY TO USE TQL?					
	05					
	1	2	3	4	5	6
OVERALL (n=174)	18	18	18	10	13	23
CURRICULUM	//////	//////	//////	//////	//////	//////
360 (6)	0	0	17	17	50	17
361 (5)	0	20	0	0	20	60
365 (4)	25	25	25	0	0	25
366 (7)	29	14	14	0	29	14
368 (9)	22	11	0	22	11	33
370 (21)	14	19	29	14	10	14
373 (2)	0	50	0	0	50	0
374 (5)	0	20	60	0	20	0
380 (1)	0	0	0	0	0	100
525 (2)	0	0	50	0	0	50
533 (3)	67	33	0	0	0	0
570 (5)	0	20	20	0	20	40
590 (8)	13	38	0	0	50	0
591 (7)	43	29	0	14	0	14
595 (5)	0	20	20	0	20	40
610 (6)	17	17	0	33	0	33
611 (7)	43	29	29	0	0	0
682 (3)	0	33	33	33	0	0
683 (1)	0	0	100	0	0	0
684 (8)	38	25	0	0	0	38
688 (4)	0	25	25	0	0	50
699 (3)	0	33	0	0	33	33
813 (3)	33	33	33	0	0	0
814 (5)	0	0	20	20	20	40
815 (7)	14	14	14	43	0	14
819 (4)	50	0	25	25	0	0
825 (3)	33	0	0	0	0	67
827 (5)	0	0	80	0	20	0
837 (13)	23	15	15	0	8	39
847 (12)	25	8	8	25	8	25

	CONFIDENT IN ABILITY TO USE TQL?					
	05					
	1	2	3	4	5	6
OVERALL (n=174)	18	18	18	10	13	23
COMMAND	//////	//////	//////	//////	//////	//////
SCHOOL (2)	0	50	0	0	0	50
STAFF (30)	17	20	23	10	7	23
OVERSEAS (22)	14	14	14	5	18	36
SEA DUTY (89)	23	17	18	11	12	19
SHORE (22)	14	27	14	14	18	14
OTHER (9)	11	0	22	11	11	44
FUNCTION	//////	//////	//////	//////	//////	//////
COMBAT OPS (81)	22	19	16	9	11	24
CMD CTRLCOM (8)	0	38	25	13	0	25
INTELIGENCE (6)	17	17	17	0	33	17
MAINTENANCE (3)	0	0	33	0	33	33
PRODUCTION (1)	0	0	0	100	0	0
SUPPLY (14)	14	29	0	29	14	14
TRAINING (21)	24	14	19	5	10	29
OTHER (40)	15	13	25	10	15	23

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