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**INFORMAL REPORT**

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# **AN ORGANIZATIONAL SURVEY OF THE STANFORD LINEAR ACCELERATOR CENTER**

by

**Deborah A. Shurberg and Sonja B. Haber**

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## ABSTRACT

At the request of the Department of Energy, an Organizational Survey (OS) was administered at the Stanford Accelerator Center (SLAC). The OS measured employees' opinions on subjects such as organizational culture, communication, commitment, group cohesion, coordination, safety, environmental issues, and job satisfaction. The result of this work was a quantitative measure of the notion of culture at the SLAC site. This report presents these results and discusses their interpretation.

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## EXECUTIVE SUMMARY

An Organizational Survey (OS) was administered at the Stanford Linear Accelerator Center (SLAC) that queried employees on the subjects of organizational culture, various aspects of communications, employee commitment, work group cohesion, coordination of work, environmental concerns, hazardous nature of work, safety and overall job satisfaction. The purpose of the OS is to measure in a quantitative and objective way the notion of "culture;" that is, the values, attitudes, and beliefs of the individuals working within the organization. In addition, through the OS, a broad sample of individuals can be reached that would probably not be interviewed or observed during the course of a typical assessment. The OS also provides a descriptive profile of the organization at one point in time that can then be compared to a profile taken at a different point in time to assess changes in the culture of the organization.

The OS administration at SLAC was the tenth to occur at a Department of Energy (DOE) facility in conjunction with a Tiger Team Assessment. The OS was administered at SLAC in large groups. Times were assigned to groups of employees based on the beginning letter of their last names. Of the 1344 employees at SLAC, which includes employees at the Stanford Synchrotron Radiation Laboratory (SSRL), 716 completed the survey, yielding a response rate of 53.3 percent. This response rate is low compared to response rates obtained at other facilities at which the OS has been administered in group sessions. The distribution of responses varied across divisions with the lowest response rate of 43.1 percent in the Research Division, and the highest response rate of 86.0 percent in the Environment, Safety, and Health Division. All data from the OS is presented in group summaries, by division, supervisory level, and staff classification. Statistically significant differences between groups are identified and discussed.

The overall profile for the SLAC organization obtained on the Organizational Culture Inventory (OCI) (Human Synergetics, 1987), indicates that the culture at SLAC emphasizes creative and constructive thinking and work. This is seen in the high mean scores obtained on the Humanistic-Encouraging (C1), Affiliative (C2), Achievement (C11), and Self-Actualizing (C12) Scales. Emphasis on behaviors which might be described as conventional (C4), dependent (C5), oppositional (C7), and power-oriented (C8) was also evident in the relatively high mean values obtained on these scales. Additionally, low mean values were obtained on the Communication - Trust and Communication - Accuracy Scales. Mean values obtained on the Coordination Scale indicate that employees perceive that work and different organizational units are not well coordinated. The work conducted at SLAC is not perceived by the majority of employees to involve a high amount of hazard or environmental consequences. Despite this, those attributes which are important to safety are perceived as being helpful in doing one's job well.

Numerous differences were obtained between divisions. The Director's Office and Research Division, as well as the SSRL to some extent, indicated that those behaviors which are constructive, as opposed to defensive, are important to success within the SLAC organization. These behaviors include good communication, coordination between work and work units, and affiliative- and achievement-oriented behaviors. Presenting a quite different profile on the OS scales are the Environment, Safety, and Health, Technical, and Business Services Divisions. The group's indicated that defensive type behaviors were the expectations placed upon them as opposed to the more constructive behaviors. Thus, they indicated that the behaviors helpful to them in being successful within the SLAC organization included acting in a conventional and conservative manner and avoiding being blamed for mistakes. Additionally, these divisions had lower obtained mean scores on the Communication and Coordination Scales. The Environment, Safety, and Health, and Technical Divisions both had high mean values on the Hazard Scale and the questions pertaining to offsite and onsite environmental consequences.

Numerous differences were also obtained between staff classifications. The Non-Exempt Technical Staff Classification tended to have a very different profile from the other Staff Classifications. The Non-Exempt Technical Staff Classification is comprised primarily of bargaining unit employees. The differences obtained may reflect issues between labor and management.

Thus, SLAC appears to be a heterogeneous organization, based on the sample of employees who completed the OS. While emphasis is placed on behaviors which are "constructive," a tendency also exists to place emphasis on more defensive types of behaviors. Numerous differences were obtained between divisions and staff classifications, while differences between supervisory levels were relatively few.

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## ACRONYMS

DOE Department of Energy  
SLAC Stanford Linear Accelerator Center

### Divisions

BUS Business Services  
DIR Director's Office  
ES&H Environment, Safety and Health  
RES Research  
SSRL Stanford Synchrotron Radiation Laboratory  
TEK Technical

### Staff Classifications

EXMT Exempt  
NEA Non-Exempt - Administrative Support  
NET Non-Exempt - Technical

### Supervisory Level

NSU Non-Supervisor/Non-Manager  
SUP Supervisor/Manager

### Survey Scales

C1 Humanistic-Encouraging  
C2 Affiliative  
C3 Approval  
C4 Conventional  
C5 Dependent  
C6 Avoidance  
C7 Oppositional  
C8 Power  
C9 Competitive  
C10 Perfectionistic  
C11 Achievement  
C12 Self-Actualizing

ACRONYMS (Continued)

Survey Scales (Continued)

ACCURACY (CMA)	Perceived Accuracy of Communications
AWARENESS (EMA)	Employee Awareness of Workplace Hazards
COHESION (COH)	Cohesion of Work Group
COMMITMT (COT)	Organizational Commitment
COORD (COD)	Coordination
EMPHASIS (MGE)	Management Emphasis of Environmental Issues
HAZARD (HAZ)	Perceived Hazardous Nature of Work
INTERACT (CMI)	Desirability of Interaction with Others
JOBSAT (JOB)	Overall Job Satisfaction
OFFSITE (OFF)	Consequence to Offsite Environment
ONSITE (ONS)	Consequence to Onsite Environment
SAFETY (SAF)	Attention to Safety
SATISFAC (CMS)	Satisfaction with Communications
TRUST (CMT)	Trust in Communications

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## 1. INTRODUCTION

An Organizational Survey (OS) was administered at the Stanford Linear Accelerator Center (SLAC) that queried employees on the subjects of organizational culture, various aspects of communication, employee commitment to SLAC, work group cohesion, coordination of work, environmental concerns, hazardous nature of work, safety, and overall job satisfaction. A description of each of the scales used to assess these subjects is discussed below.

The primary purpose of administering the survey was to attempt to measure, in a quantitative and objective way the notion of "organizational culture," that is, the values, attitudes, and beliefs of the individuals working within the organization. In particular, those aspects of the working environment believed to be important influences on the operations of a facility and on the safety issues relevant to the organization were assessed.

In addition, by conducting a survey, a broad sampling of the individuals in the organization can be obtained. This is especially important when the survey is utilized in conjunction with an assessment or inspection team which typically has only a limited amount of resources to address many issues. The OS provides a broad and comprehensive picture of the organization by querying a much larger number of individuals than could be reached through the assessment team alone.

Finally, the OS provides a descriptive profile of the organization at one point in time. This profile can then be used as a baseline point against which comparisons of other points in time can be made. Such comparisons may prove valuable and would help to assess changes in the organizational culture. Comparisons of profiles can also be made across similar facilities.

## 2. METHODOLOGY

The Organizational Survey (OS) was administered to the employees of SLAC in large groups. The surveys were administered on October 1, 1991. Included with the survey was a cover letter explaining the purpose for the survey administration. Prior to the survey administration, a memorandum from the Director of SLAC was circulated. This memorandum encouraged employees to complete the survey and contained the times at which various groups of employees were to take the survey. A demographics sheet attached to the survey requested information pertaining to the division in which the respondent was located, the number of years they had been working at SLAC, their staff classification, and their supervisory and educational levels.

A person familiar with the OS was at SLAC during the survey administration in order to distribute the surveys and to answer any questions employees had. A total of 716 surveys were completed, for a response rate of 53.3 percent. This response rate is considerably lower than that obtained at other similar facilities at which the survey has been administered. The surveys were taken from SLAC for data entry and analysis.

Overall means, standard errors, and standard deviations were computed for each scale assessed in the OS. A one-way analysis of variance was also performed on each OS scale using the scale score as the dependent variable and separate analyses using division, staff classification, and supervisory level as the independent variables. In order to control the false positive rate (Type I error rate), the Bonferroni correction was applied to all the analyses of variance performed for each independent variable. Since there were 26 one-way analyses of variance for each independent variable, the significance level for each was reduced to  $.05/26 = .0019$ . Where the analysis of variance showed a significant difference among the group means at the .0019 level, a Tukey HSD (Honestly Significant Difference) (Hays, 1988) procedure was applied to identify those means that were statistically significantly different from each other. Consequently, the results that are reported to be significantly different from each other represent a very conservative approach in the interpretation of the data analysis performed.

Included in this report are the overall results for SLAC on each of the scales used in the OS. In addition, any statistically significant differences between divisions, staff classifications, and supervisory levels are also presented.

### 3. ORGANIZATIONAL DESCRIPTION

The Stanford Linear Accelerator Center (SLAC) identifies its organizational units as divisions. The demographics sheet used in the administration of the OS included six of these divisions. The divisions and their abbreviations, as used in this report, are presented in Table 3.1. Also presented in this table are the response rates for each division. The response rate is computed by dividing the number of surveys returned by the number of employees in that division. The highest response rate obtained was in the Environment, Safety, and Health Division, which had a response rate of 86 percent. The lowest response rate was in the Research Division which had a response rate of 43.1 percent. The response rate from the Director's Office was also low, 46.8 percent. The overall response rate obtained at SLAC was 53.3 percent. This rate is low compared to most other DOE facilities at which the OS has been conducted.

Table 3.1. Response Rates by Division for SLAC

Division	No. Responses	No. Employees	Response Rate
Environment, Safety & Health (ES&H)	49	57	86.0
Technical (TEK)	333	672	49.6
Research (RES)	146	339	43.1
Business Services (BUS)	69	134	51.5
Director's Office (DIR)	22	47	46.8
SSRL	56	95	58.9
Unknown	41	---	---
<b>TOTAL:</b>	<b>716</b>	<b>1344</b>	<b>53.3</b>

SLAC employees were also given three staff classifications on the demographics sheet in which to categorize themselves. Table 3.2 presents these staff classifications, and their abbreviations, as used in this report. Also in this table are the percentages each staff classification represents of the total SLAC respondent sample. The Exempt Staff Classification represented the highest percentage of the sample of survey respondents at SLAC, 54.2 percent. The Non-Exempt - Administrative Support Staff Classification represented the lowest percentage of the sample of survey respondents at SLAC, 11.6 percent.

Table 3.2. Distribution of Staff Classifications at SLAC

Staff Classification	No. Responses	% Total Sample
Exempt (EXMT)	388	54.2
Non-Exempt, Administrative Support (NEA)	83	11.6
Non-Exempt, Technical (NET)	166	23.2
Unknown	79	11.0

The Organizational Survey (OS) demographics questions used at SLAC also provided two categories of supervisory levels by which an employee could identify him/herself. Table 3.3 presents the percent of the

total sample each supervisory level represents. The Non-Supervisors/Non-Managers represented the largest percentage of the sample, 59.1 percent. The Supervisors/Managers represented the smaller percentage of the sample, 34.8 percent.

Table 3.3. Distribution of Supervisory Levels at SLAC

Staff Classification	No. Responses	% Total Sample
Supervisor/Manager (SUP)	249	34.8
Non-Supervisor/Non-Manager (NSU)	423	59.1
Unknown	44	6.1

Table 3.4 presents information on the number of years the respondents had been at SLAC. Approximately 32 percent of the respondents had been at SLAC five years or less. Just over 20 percent of the respondents had been employed at SLAC between four and nine years. Thirty-two respondents, or 4.5 percent, chose not to indicate the number of years they had been at SLAC.

Table 3.4. Distribution of Number of Years at SLAC

Number of Years	No. Respondents	Percent of Total Sample
≤ 6 months	30	4.2
1 - 5 years	200	27.9
6 - 10 years	149	20.8
11 - 15 years	115	16.1
16 - 20 years	39	5.4
21 - 25 years	80	11.2
26 - 30 years	71	9.9
Unknown	32	4.5

Table 3.5 depicts the number of respondents for each educational level and the percent of the total sample by educational level that number represents for SLAC. The greatest number of respondents at SLAC had a graduate degree (25.0 percent).

Table 3.6 presents the modal educational level and mean number of years at SLAC for the survey respondents in each division. Three of the six divisions had modal educational levels of a graduate degree. The Director's Office had a modal educational level of a four year college degree. Both the Technical and the Business Services Divisions had modal educational levels of some college. The modal educational level for the entire SLAC population was a graduate degree. These results indicate the SLAC sample to be a highly educated group. The division with the shortest tenure was the Environment, Safety and Health Division, with an average length of time at SLAC of 7.07 years. The Research Division had the longest tenure at SLAC, 14.56 years. The mean length of time of employment at SLAC for the sample which took the survey was 11.67 years.



Table 3.5. Distribution of Educational Levels at SLAC

Educational Level	No. Responses	Percent of Total Sample
Some High School	16	2.2
High School Degree	39	5.4
Some Technical School	25	3.5
2-Year Technical Degree	32	4.5
Some College	128	17.9
2-Year College Degree	76	10.6
4-Year College Degree	117	16.3
Some Graduate Work	60	8.4
Graduate Degree	179	25.0
Unknown	32	4.5

Table 3.6. Modal Educational Level and Mean Number of Years at SLAC by Division

Division	Educational Level	No. Years
Environment, Safety, and Health (ES&H)	9	7.07
Technical (TEK)	5	11.07
Research (RES)	9	14.56
Business Services (BUS)	5	9.43
Director's Office (DIR)	7	13.39
Stanford Synchrotron Radiation Laboratory (SSRL)	9	9.11
Unknown	6	13.55
<b>TOTAL</b>	<b>9</b>	<b>11.67</b>

Educational Level: 5 = Some College; 6 = 2-Year College Degree; 7 = 4-Year College Degree; 8 = Some Graduate Work; 9 = Graduate Degree.

## 4. ORGANIZATIONAL SURVEY SCALES AND RESULTS

The Organizational Survey (OS) administered at the Stanford Linear Accelerator Center (SLAC) was comprised of the Organizational Culture Inventory (OCI) (Human Synergistics, 1987), which consists of 12 scales, and scales which assess communication processes, commitment to the organization, cohesiveness of work group, coordination of work, overall job satisfaction, perceived hazardous nature of work, attention to safety, and questions concerning environmental issues. The results from each of these scales are discussed in the sections that follow. Each section presents the overall results for SLAC on that scale(s), the results by division, by staff classification, and by supervisory level.

### 4.1 Organizational Survey Scale Descriptions

#### 4.1.1 Organizational Culture Inventory

The philosophy of management, the mission of the organization, and the strategic choices management makes determine the culture of the organization (Cooke and Burack, 1987). The aspect of culture most immediately affected by these factors is what is valued by the organization. The extent to which these values are recognized and shared reflects the strength of the organization's culture. Organizational factors, along with these shared values, influence the operating structures of the organization, its human resource management practices, and the styles of its supervisors. To the extent that these shared values and behavioral norms can be measured and evaluated data collection of this type is important in understanding the organizational factors that influence performance.

The Organizational Culture Inventory (OCI) (Human Synergistics, 1987) is a paper-and-pencil diagnostic system for measuring the aspects of organizational culture that have the greatest impact on the activities of members and the functioning of the organization. Respondents are asked to review 120 statements which describe some of the thinking and behavioral styles that members of an organization may be expected to adopt in carrying out their work and in interacting with others. These statements comprise 12 different cultural scales, some of which are indicative of a positive and supportive environment, while others are useful in identifying potentially dysfunctional environments. All of the scales measured by the OCI are related to, and result from, organizational structural variables, reward systems, managerial styles and philosophies, and other factors that can be changed, at least to some extent, by those in leadership positions.

The 12 organizational culture scales, with examples of the items used to assess each one, are described below. For a complete listing of the OCI scale items, see Human Synergistics (1987).

**C1: HUMANISTIC-ENCOURAGING:** Organizations which are managed in a participative and person-centered way. Members are expected to be supportive, constructive, and open to influence in their dealings with one another.

- Involving subordinates in decisions;
- Showing concern for the needs of others.

**C2: AFFILIATIVE:** Organizations which place a high priority on constructive personal relations. The members are expected to be friendly, open, and sensitive to the satisfaction of their work group.

- Thinking in terms of the group's satisfaction;
- Using good human relations skills.

**C3: APPROVAL:** Organizations in which conflicts are avoided and personal relations are pleasant, at least superficially. Members feel they should agree with and gain approval of others.

- Staying on the good side of superiors;
- Making sure people accept you.

**C4: CONVENTIONAL:** Organizations that are conservative, traditional, and bureaucratically controlled. Members are expected to conform, follow rules, and make a good impression.

- Always following policies and practices;
- Avoiding confrontations.

**C5: DEPENDENT:** Organizations that are hierarchically controlled and non-participative. Centralized decision making leads members to do only what they are told and to clear all decisions with superiors.

- Accepting goals without questioning them;
- Never challenging superiors.

**C6: AVOIDANCE:** Organizations that do not reward success but punish failure. Negative rewards lead members to shift responsibility to others and avoid being blamed for mistakes.

- Taking few chances;
- Laying "low" when things get tough.

**C7: OPPOSITIONAL:** Organizations in which confrontation prevails and negativism is rewarded. Members gain status and influence by being critical and are encouraged to oppose the ideas of others.

- Pointing out flaws;
- Remaining aloof from the situation.

**C8: POWER:** Non-participative organizations which are structured on the basis of authority in members' positions. Members expect to take charge, control subordinates, and respond to demands of superiors.

- Demanding loyalty;
- Acting forceful.

**C9: COMPETITION:** Organizations where winning is valued and rewards are given for out-performing others. Members operate in a "win-lose" framework and work against their peers to be noticed.

- Always trying to be right;
- Out-performing one's peers.

**C10: PERFECTIONISTIC:** Organizations in which persistence, hard work, and perfectionism are highly valued. Members feel they must avoid all mistakes, keep track of everything, and work long hours to attain specific objectives.

- Setting unrealistically high goals;
- Viewing work as more important than anything else.

**C11: ACHIEVEMENT:** Organizations that do things well and value members who set and accomplish their own goals. Members set challenging, but realistic goals, and plan and pursue them with enthusiasm.

- Exploring alternatives before acting;
- Pursuing a standard of excellence.

**C12: SELF-ACTUALIZING:** Organizations that value creativity, quality over quantity, tasks, and individual growth. Members are encouraged to gain satisfaction from their work, develop themselves, and take on new activities.

- Thinking in unique and independent ways;
- Communicating ideas.

From these twelve scales, three cultural styles are described. The first style is comprised of the Humanistic-Encouraging (C1), Affiliative (C2), Achievement (C11), and Self-Actualizing (C12) Scales. These scales are considered "Constructive Styles;" in other words, organizations which score high on these four scales tend to promote behaviors which are conducive to the satisfaction of the organizational members.

The second cultural style is the "Passive/Defensive Style." This style is made up of the Approval (C3), Conventional (C4), Dependent (C5), and Avoidance (C6) Scales. In organizations which score high on these scales, a culture exists which leads employees of the organization to act and react in a defensive way and at the same time, act in a way which does not pose a threat to one's own security within that organization.

A third cultural style is made up of the Oppositional (C7), Power (C8), Competitive (C9), and Perfectionistic (C10) Scales. Organizations which score high on these scales often expect members to act in a way that is forceful and that protects one's position and status. In other words, members adopt an "Aggressive/Defensive Style" in order to be successful within the organization.

#### 4.1.2 Communication Scales

Communication is a critical process for effective operations in any organization. However, because it is a process rather than a variable, it is very difficult to measure. The scales used in the questionnaire administered at SLAC were developed by Roberts and O'Reilly (1974). They have been administered to various organizations with good reliability and success in analyzing several facets of the communication process.

Four communication scales were administered and are described below. The range on each scale is from a low score of 1 to a high score of 7.

- TRUST:** Freedom to discuss the problems and difficulties in the job with an immediate supervisor without jeopardy.
- ACCURACY:** Perception of the accuracy of information received from other organizational levels (superior, same, and subordinate levels).
- INTERACT:** Desirability of frequent contact with others in the organization (superiors, same, and subordinates).
- SATISFAC:** Overall satisfaction with the communication process in the organization.

#### 4.1.3 Commitment Scale

The Commitment Scale is defined as the relative strength of an individual's identification with and involvement in a particular organization (Mowday & Steers, 1979). This commitment extends to the goals of the organization and the desire to maintain membership in the organization to facilitate these goals. The range on this scale is from a low score of 1 (low commitment) to a high score of 7 (high commitment).

#### 4.1.4 Cohesion Scale

The Cohesion Scale is very similar to the Commitment Scale except that it is defined as the relative strength of an individual's identification with and involvement in a particular work group (Seashore, 1954; Price & Muller, 1972). The range on this scale is from a low score of 1 (weak cohesiveness) to a high score of 7 (strong cohesiveness).

#### 4.1.5 Coordination Scale

The Coordination Scale assesses the employee's perception of the degree to which the subunits of an organization operate according to the requirements of each other and of the total organization (Georgopoulos & Mann, 1962). The range on this scale is from a low score of 1 (low coordination) to a high score of 7 (high coordination).

#### 4.1.6 Job Satisfaction

The Job Satisfaction Scale (Kunin, 1955) refers to employees' overall satisfaction with their jobs. While it is not able to point to specific aspects of the working environment which people are satisfied or dissatisfied with, it can help to determine if employee satisfaction is something which needs further consideration by management. The scale ranges from a low score of 1 (very dissatisfied) to a high score of 7 (very satisfied).

#### 4.1.7 Hazard Scale

The Hazard Scale is used to identify people's perception of the hazardous nature of their work (K.H. Roberts, 1990, personal communication). The scale ranges from a low score of 1 (not hazardous) to a high score of 7 (very hazardous).

#### 4.1.8 Safety Scale

The Safety Scale, developed by researchers at the University of California at Berkeley (K. H. Roberts, 1989, personal communication), is used to assess an individual's perception of the importance of safety to success in an organization. Safety is defined as operating in a manner to ensure that the probability of making a mistake is low, because the consequence of making a mistake is high. Organizations typically viewed as operating in this manner are nuclear reactors, naval aircraft carriers and air traffic control centers. The safety scale consists of 40 items which range from a low score of 1 (does not help at all) to a high score of 7 (helps a great deal).

#### 4.1.9 Environment, Safety, and Health Questions

For the administration of the Organizational Culture Survey (OCS) at SLAC, four questions pertaining to environment, safety, and health (ES&H) issues were used. Each question ranges from a low score of 1 (not at all or little) to a high score of 7 (very likely or a lot).

The first ES&H question deals with the likelihood of serious offsite environmental damages/consequences due to improper or substandard performance by a work group. The second ES&H question deals with the likelihood of serious onsite environmental damages/consequences due to improper or substandard performance by a work group. The third ES&H question asks employees to assess the amount of emphasis they believe management places on environmental issues. Finally, the fourth ES&H question asks employees for their perception of how well informed they are of potential risks in their work environment.

#### 4.2 Overall Results on the OS Scales for SLAC

##### 4.2.1 Organizational Culture Inventory Results

The overall mean scores on the OCI scales for the entire sample of SLAC employees who responded to the Organizational Culture Survey (OCS) are depicted in Figure 4.1. The scales are identified by number and are described in the preceding section. The scores represent the mean score for the entire sample where the score 1 equals *not at all* and the score 5 equals *to a great extent*.

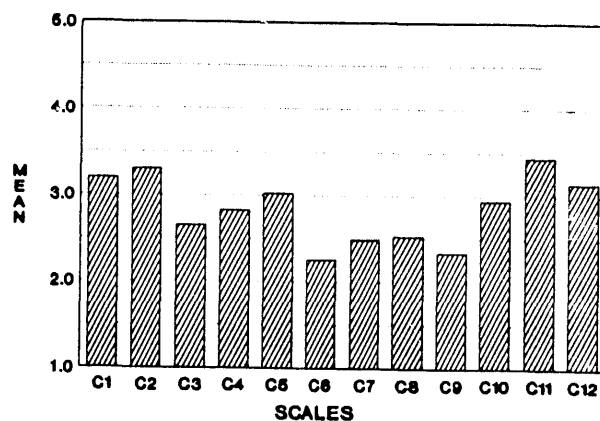


Figure 4.1. Overall means for SLAC on the OCI scales

As seen in Figure 4.1, the SLAC respondents had the highest mean scores on those scales which relate to the Constructive Cultural Style (Humanistic-Encouraging (C1), Affiliative (C2), Achievement (C11), and Self-Actualizing (C12) Scales). Mean values obtained for those scales which comprise the passive-defensive cultural style were also high, particularly the Approval (C3), Conventional (C4), and Dependent (C5). Additionally, the values obtained on the scales which comprise the Aggressive-Defensive Cultural Style (i.e., Oppositional (C7), Power (C8), Competitive (C9), and Perfectionistic (C10) Scales) are higher than obtained at most other reported administrations of the OS. This indicates that while the employees of SLAC are interested in doing their jobs well and in a creative and constructive manner, they may tend, in some instances, to be inhibited due to behavioral expectations of dependence and conservatism, as well as acting in a confrontational manner and holding power over others.

#### 4.2.2 Communication Scales Results

Figure 4.2 depicts the overall mean values on the four communication scales obtained for the SLAC sample. The survey respondents scored higher on the Perceived Accuracy of Communication Scale than on the Trust in Communication Scale. The sample of SLAC employees also had a fairly high desire for interaction and communication with others in their organization, as represented by the mean score on the Desire for Interaction-Communication Scale. The SLAC employees had a moderate amount of satisfaction with the communication processes at the site.

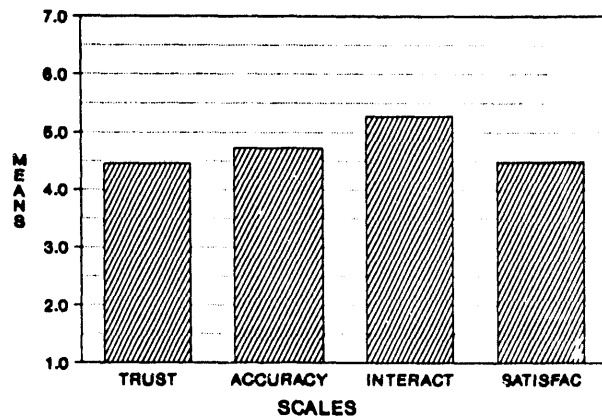


Figure 4.2. Overall means for SLAC on the communication scales

#### 4.2.3 Results for Additional Scales

Figure 4.3 presents the results obtained on the Commitment, Cohesion, Hazard, Coordination, Safety, and Job Satisfaction Scales for the SLAC sample. Respondents indicated a moderate amount of commitment to their organization, and a higher amount of cohesion within their own working groups. On average, SLAC respondents did not perceive there to be a very high hazardous aspect to their work, but they did indicate that safety related attributes are helpful to them in doing their job well. The perception of coordination among working groups was low, evidenced by a mean value below the scale midpoint value of 4. SLAC respondents also indicated a moderately high amount of satisfaction with their jobs.

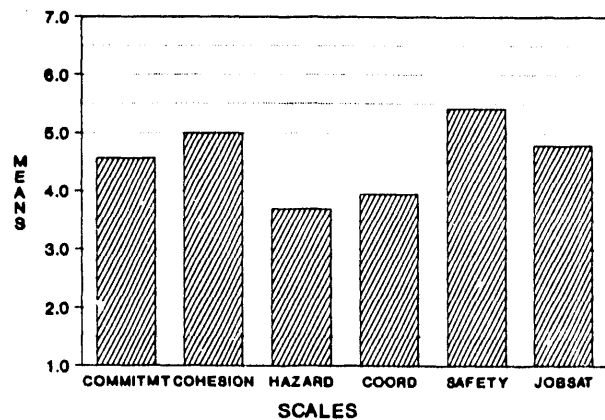


Figure 4.3. Overall means for SLAC on the additional scales

#### 4.2.4 Environment, Safety, and Health Questions Results

Respondents from the SLAC sample perceived the potential for both onsite and offsite consequences to be low (Figure 4.4). The perception for onsite consequences was slightly higher than that for offsite consequences. SLAC respondents indicated that management places a high amount of emphasis on environmental issues and that employees who work at SLAC are fairly well aware of potential risks associated with their jobs. The respondents indicated a slightly lower amount of employee awareness than management emphasis on environment, safety, and health issues relevant to SLAC.

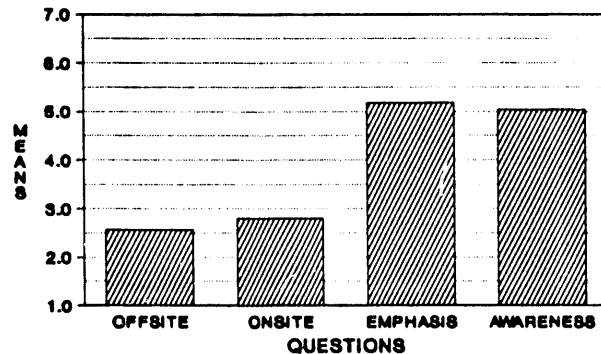


Figure 4.4. Overall means for SLAC on the environment, safety and health questions

#### 4.2.5 Summary

The overall profile of SLAC indicates an organization that, while having a tendency to deal with some issues in a defensive manner, also places emphasis on constructive types of behaviors. Somewhat low values were also obtained on the Communication-Trust and Accuracy Scales. The perception exists that working units are not well coordinated and that there is a low amount of hazard as well as environmental consequences at the facility. However, employees still believe that those attributes important to safety are helpful to them in doing their jobs well. Finally, both respondents' perception of management emphasis on and employee awareness of environmental issues are only moderately high.

#### 4.3 Differences Between Divisions on the OS Scales

##### 4.3.1 Differences Between Divisions on the OCI

Statistically significant differences between SLAC divisions on the Humanistic-Encouraging (C1) Scale are contained in Figure 4.5. The Director's Office had the highest mean value on this scale and was statistically significantly different from every other division on this scale. The Technical Division had the lowest mean value on this scale. Appendix A presents the mean values obtained for each SLAC division on each of the scales on the OS. Appendix B contains figures which compare the mean value obtained for the overall SLAC organization, to the mean values obtained for each SLAC division on the OCI scales.

Figure 4.6 presents the statistically significant differences obtained between SLAC divisions on the Affiliative (C2) Scale. The Director's Office had the highest mean value on this scale and again, was statistically significantly different from every other division. The Technical Division had the lowest mean value on this scale.



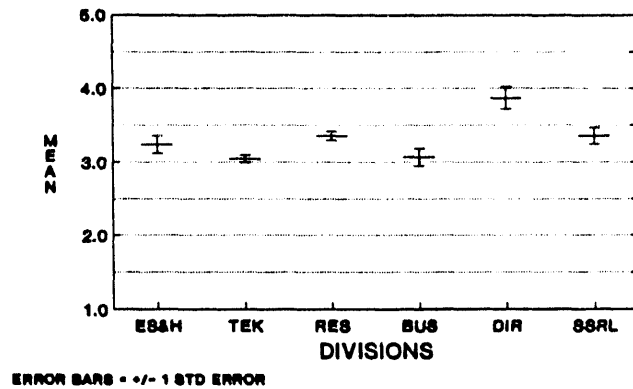


Figure 4.5. Significant differences between SLAC divisions on the humanistic-encouraging scale

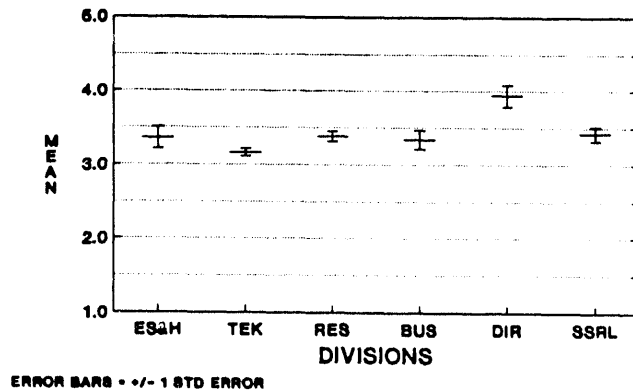


Figure 4.6. Significant differences between SLAC divisions on the affiliative scale

The Technical Division had the highest mean value on the Approval (C3) scale (Figure 4.7). They were statistically significantly different from the Research Division, who had the lowest mean value on this scale. No other statistically significant differences between SLAC divisions were obtained on this scale.

Statistically significant differences obtained between SLAC divisions on the Conventional (C4) Scale are presented in Figure 4.8. The Business Services Division had the highest mean value on this scale and, along with the Environment, Safety and Health and Technical Divisions, were statistically significantly different from the Research Division and the Director's Office. The Director's Office had the lowest mean value on this scale. Other statistically significant differences obtained between divisions on this scale are contained in Appendix A.

Statistically significant differences obtained between divisions on the Dependent (C5) Scale, are presented in Figure 4.9. The Technical Division had the highest mean value on this scale and was statistically significantly different from the Research Division, which had the lowest obtained mean value. No other statistically significant differences between divisions were obtained on this scale.

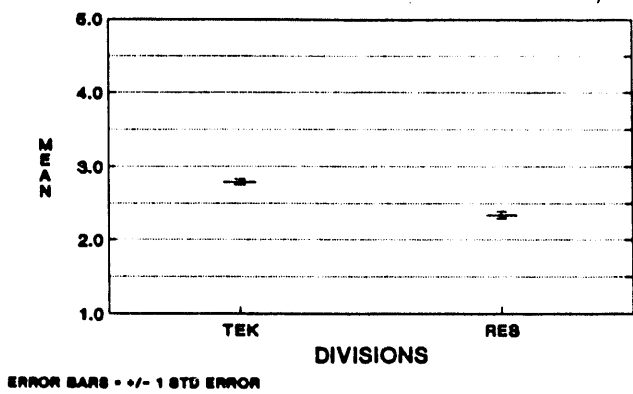


Figure 4.7. Significant differences between SLAC divisions on the approval scale

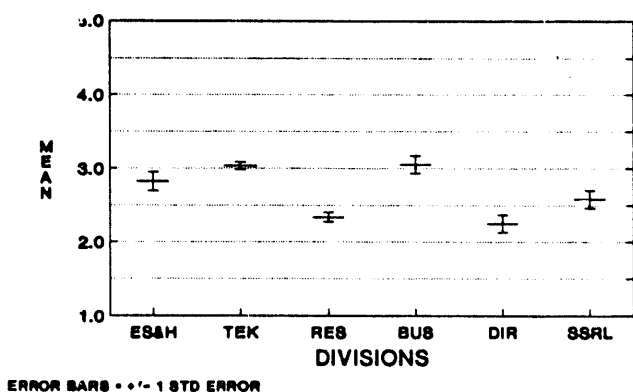


Figure 4.8. Significant differences between SLAC divisions on the conventional scale

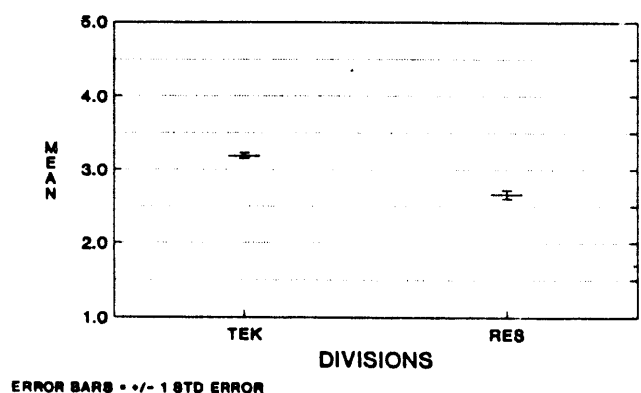


Figure 4.9. Significant differences between SLAC divisions on the dependent scale

Figure 4.10 presents the statistically significant differences obtained between the SLAC divisions on the Avoidance (C6) Scale. The Environment, Safety, and Health Division had the highest mean value on this scale, and along with the Technical and Business Services Divisions, were statistically significantly different from the Research Division and the Director's Office. The Director's Office had the lowest mean value on this scale.

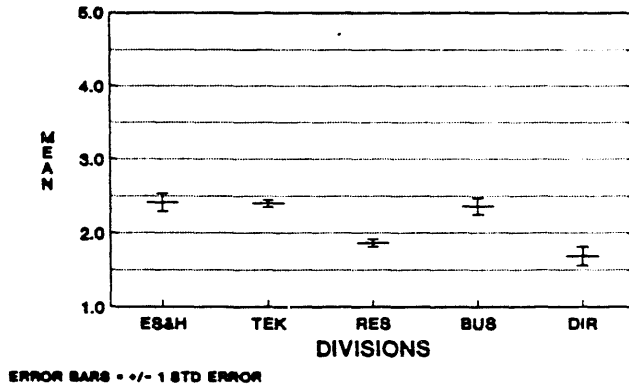


Figure 4.10. Significant differences between SLAC divisions on the avoidance scale

No statistically significant differences were obtained between the SLAC divisions on the Oppositional (C7) Scale. Appendix A contains the mean values obtained by each division on this scale.

Statistically significant differences between divisions on the Power (C8) Scale are presented in Figure 4.11. The Director's Office had the lowest mean value on this scale and was statistically significantly different from the Environment, Safety, and Health, Technical, and Business Services Divisions. The Technical Division had the highest mean value obtained on this scale.

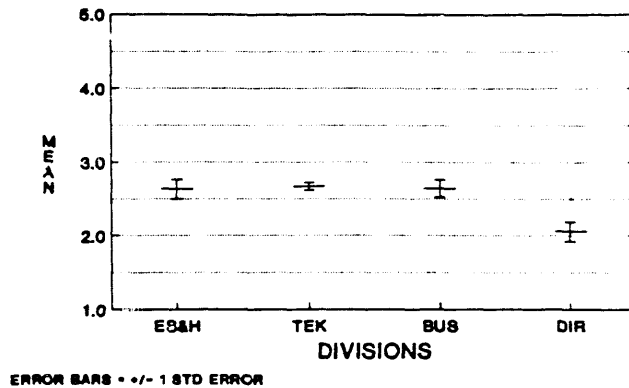


Figure 4.11. Significant differences between SLAC divisions on the power scale

Figure 4.12 presents the statistically significant differences obtained between SLAC divisions on the Competitive (C9) Scale. The Technical Division had the highest mean value on this scale, and along with the Environment, Safety, and Health Division, were statistically significantly different from the Director's Office. The Director's Office had the lowest obtained value on this scale.

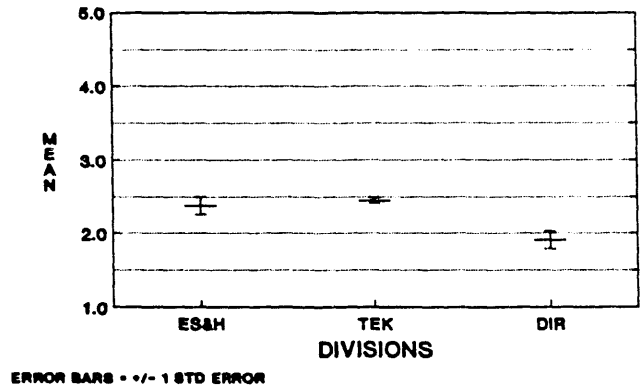


Figure 4.12. Significant differences between SLAC divisions on the competitive scale

No statistically significant differences were obtained between SLAC divisions on the Perfectionistic (C10) Scale. Appendix A contains the mean values obtained for each division on this scale.

Statistically significant differences obtained between SLAC divisions on the Achievement (C11) Scale are presented in Figure 4.13. The Business Services Division had the lowest mean value on this scale and was statistically significantly different from the Director's Office and the Research Division. The Director's Office had the highest mean value on this scale and was statistically significantly different from the Technical as well as the Business Services Divisions.

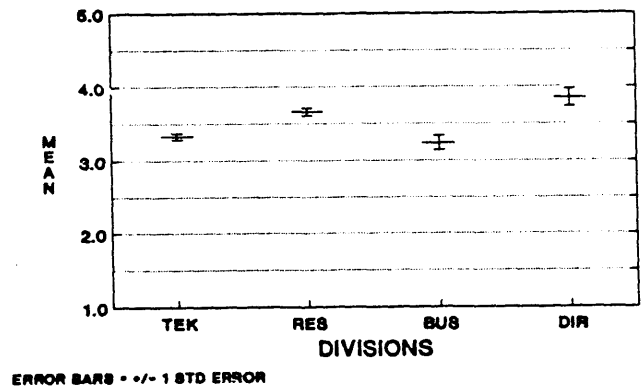


Figure 4.13. Significant differences between SLAC divisions on the achievement scale

The Director's Office had the highest mean value on the Self-Actualizing (C12) Scale (Figure 4.14). They were statistically significantly different from the Technical and the Business Services Divisions. The Business Services Division had the lowest obtained mean value on this scale. No other statistically significant differences between divisions were obtained on this scale.

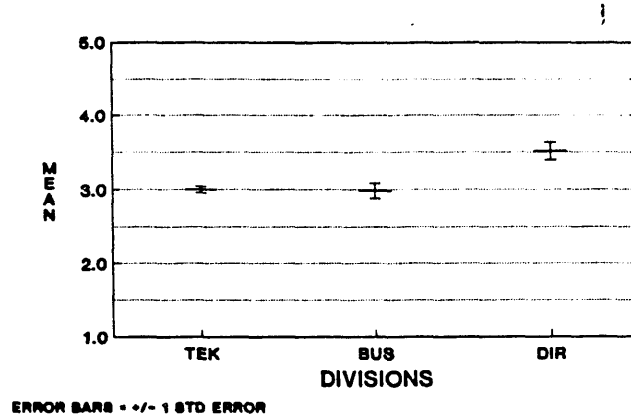


Figure 4.14. Significant differences between SLAC divisions on the self-actualizing scale

#### 4.3.2 Differences Between Divisions on the Communication Scales

Statistically significant differences between divisions at SLAC occurred on three of the four Communication Scales: Communication-Trust; Communication-Accuracy; and Communication-Satisfaction. Figure 4.15 presents the statistically significant differences obtained between divisions on the Communication-Trust Scale. The Technical Division had the lowest mean value on this scale and was statistically significantly different from the Director's Office. No other statistically significant differences between SLAC divisions were present on this scale.

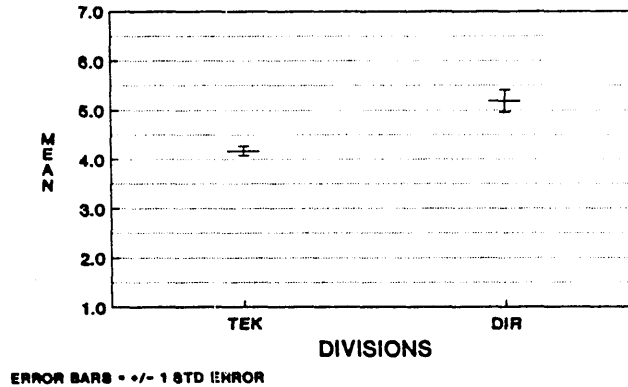


Figure 4.15. Significant differences between SLAC divisions on the communication trust scale

Statistically significant differences obtained between the divisions at SLAC on the Communication-Accuracy Scale are depicted in Figure 4.16. The Environment, Safety, and Health Division had the lowest mean value on this scale and was statistically significantly different from the Research Division. No other statistically significant differences between division were present on this scale.

Appendix A contains the mean values obtained for each division on the Communication-Interaction Scale. No statistically significant differences between divisions were found on this scale.

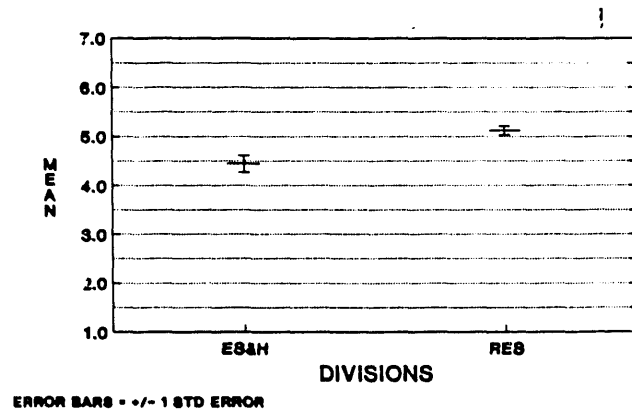


Figure 4.16. Significant differences between SLAC divisions on the communication accuracy scale

Figure 4.17 depicts the statistically significant differences obtained between divisions on the Communication-Satisfaction Scale. The Director's Office had the highest mean value on this scale and was statistically significantly different from both the Technical and Business Services Divisions. The Business Services Division had the lowest mean value on this scale. Appendix B contains figures which compare the mean value obtained for SLAC overall to the mean values obtained for each SLAC division on each of the Communication Scales.

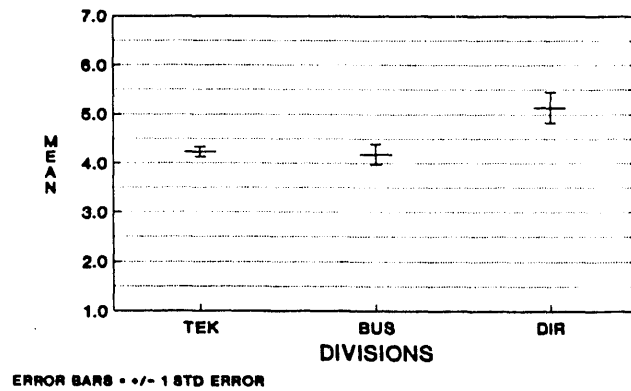


Figure 4.17. Significant differences between SLAC divisions on the communication satisfaction scale

#### 4.3.3 Differences Between Divisions on the Additional Scales

Statistically significant differences between SLAC divisions were obtained on two of the six additional scales: Hazard and Coordination. The mean values obtained for each division on the other additional scales are contained in Appendix A. Appendix D contains figures which compare the mean values obtained for the overall SLAC organization to the mean values obtained by each division on each of the additional scales.

Figure 4.18 presents the statistically significant differences obtained between SLAC divisions on the Hazard Scale. The Stanford Synchrotron Radiation Laboratory had the highest mean value on this scale, and

along with the Technical Division, were statistically significantly different from the Director's Office, Research, and Business Services Directorates. The Director's Office had the lowest mean value on this scale.

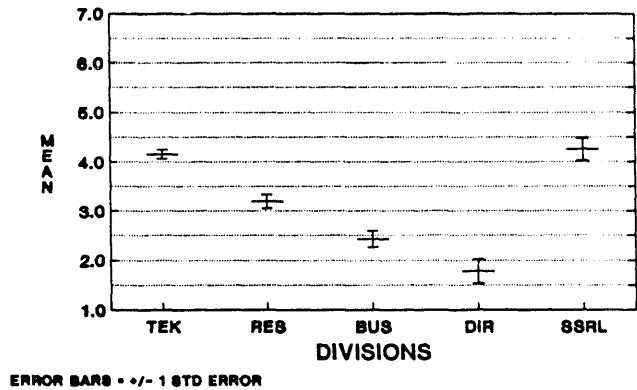


Figure 4.18. Significant differences between SLAC divisions on the hazard scale

The Environment, Safety, and Health Division had the lowest mean value on the Coordination Scale (Figure 4.19). They were statistically significantly different from the Research Division, the Director's Office, and the Stanford Synchrotron Radiation Laboratory. The Research Division had the highest obtained mean value on this scale.

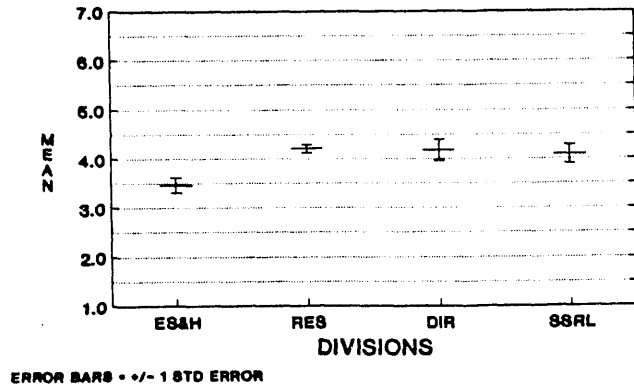


Figure 4.19. Significant differences between SLAC divisions on the coordination scale

#### 4.3.4 Differences Between Divisions on the Environment, Safety, and Health Questions

Statistically significant differences between SLAC divisions were obtained on two of the four Environment, Safety, and Health Questions: Offsite and Onsite Environmental Consequences. The mean values obtained for each division on the Management Emphasis and Employee Awareness Questions are contained in Appendix A. Also, Appendix E presents figures which compare the mean values obtained by the overall SLAC organization to the mean values obtained by each division on the Environment, Safety, and Health Questions.

Depicted in Figure 4.20 are the statistically significant differences obtained between SLAC divisions on the Offsite Environmental Consequences Question. The Environment, Safety, and Health Division had the highest mean value on this question and was statistically significantly different from every other division. The Director's Office had the lowest mean value and was also statistically significantly different from the Technical Division and the Stanford Synchrotron Radiation Laboratory. No other statistically significant differences between divisions were obtained on this question.

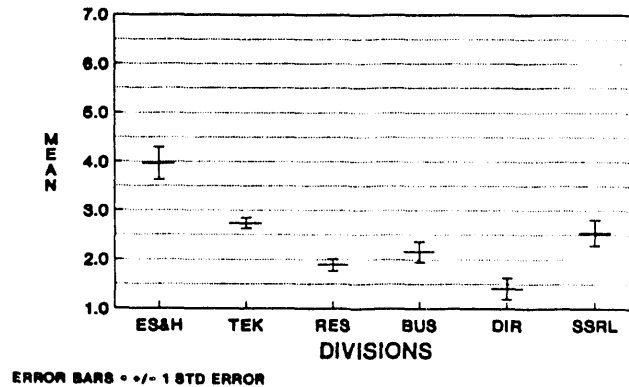


Figure 4.20. Significant differences between SLAC divisions on the offsite environmental consequences question

Figure 4.21 presents the statistically significant differences obtained between divisions on the Onsite Environmental Consequences Question. The same pattern of results were obtained here that were obtained between divisions on the Offsite Environmental Consequences Question. The Environment, Safety, and Health Division had the highest mean value on this question and was statistically significantly different from every other division. The Director's Office had the lowest mean value on this scale and was statistically significantly different from the Technical Division and the Stanford Synchrotron Radiation Laboratory, as well as from the Environment, Safety, and Health Division.

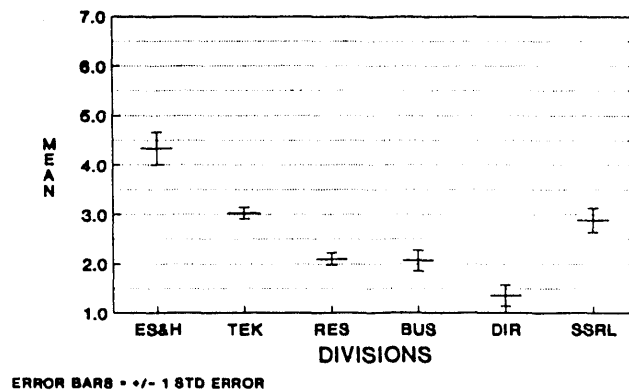


Figure 4.21. Significant differences between SLAC divisions on the onsite environmental consequences question



#### 4.3.5 Summary

A fairly large number of statistically significant differences existed between the divisions at SLAC on the OS scales. These differences tended to divide the divisions into two groups. On the one hand was the group of divisions made up of the Director's Office and Research Division. This group also included the Stanford Synchrotron Radiation Laboratory, although to a lesser extent. The divisions in this group tended to be more constructive and less passive defensive as well as less aggressive defensive. They scored higher on the Communication scales as well as on the Coordination Scale. They generally, with the exception of the Stanford Synchrotron Radiation Laboratory, did not perceive their work to involve a high amount of hazard or potential for environmental consequences. On the other hand was the group of divisions comprised of the Environment, Safety, and Health, Technical, and Business Services Divisions. They tended to be less constructive and more passive defensive as well as aggressive defensive. They scored lower on the Communication Scales and the Coordination Scale. Finally, with the exception of the Business Services Division, they tended to score higher on those scales which related to the hazardous and environmentally consequential nature of their work.

#### 4.4 Differences Between Staff Classifications on the OS Scales

##### 4.4.1 Differences Between Staff Classifications on the OCI Scales

Statistically significant differences between staff classifications on the Humanistic-Encouraging (C1) Scale are presented in Figure 4.22. The Non-Exempt-Technical Staff Classification had the lowest mean value on this scale and was statistically significantly different from both of the other two staff classifications. The Non-Exempt-Administrative Support Staff Classification had the highest mean value on this scale.

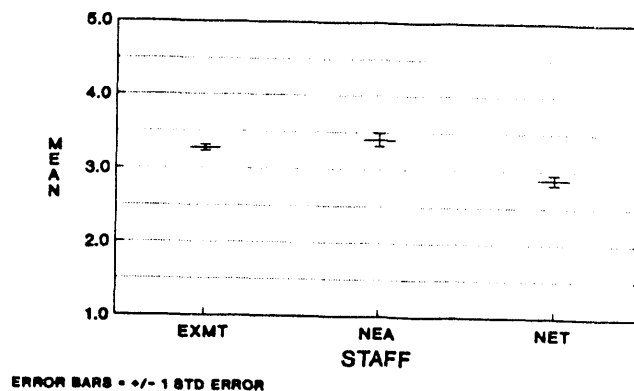


Figure 4.22. Significant differences between staff classifications on the humanistic-encouraging scale

Figure 4.23 presents the statistically significant differences obtained between staff classifications on the Affiliative (C2) Scale. The Non-Exempt-Administrative Support Staff Classification had the highest mean value on this scale and was statistically significantly different from both of the other SLAC staff classifications. The Non-Exempt-Technical Staff Classification had the lowest mean value on this scale.

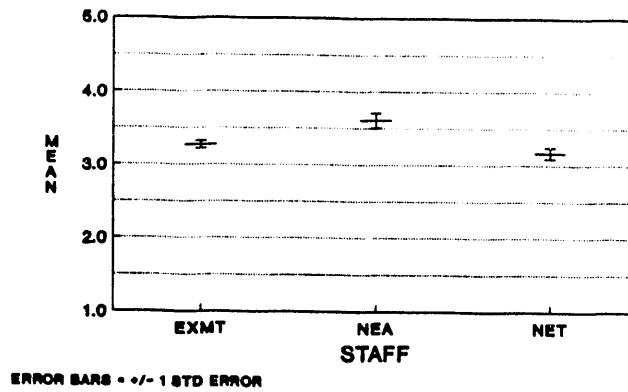


Figure 4.23. Significant differences between staff classifications on the affiliative scale

Statistically significant differences between staff classifications on the Approval (C3) Scale are presented in Figure 4.24. The Exempt Staff Classification had the lowest mean value on this scale and was statistically significantly different from both the Non-Exempt Technical and Non-Exempt Administrative Support Staff Classifications. The Non-Exempt Technical Staff Classification had the highest mean value on this scale.

A similar pattern to the one obtained on the Approval (C3) Scale is seen in both the Conventional (C4) (Figure 4.25) and Dependent (C5) (Figure 4.26) Scales. On both of these scales, the Exempt Staff Classification had the lowest mean value and was statistically significantly different from both the Non-Exempt Administrative Support and Non-Exempt Technical Staff Classifications. The Non-Exempt Technical Staff Classification had the highest mean value on both of these scales as well.

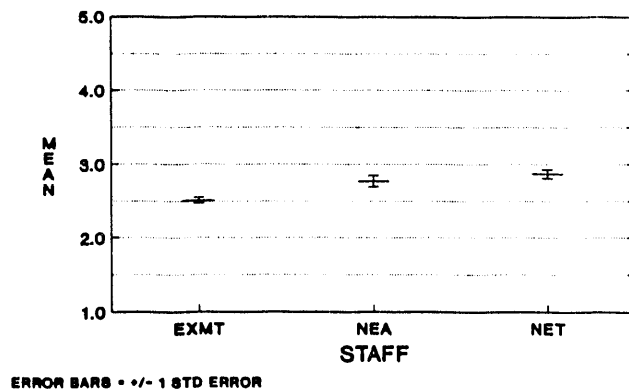


Figure 4.24. Significant differences between staff classifications on the approval scale

Figure 4.27 presents the statistically significant differences obtained between staff classifications on the Avoidance (C6) Scale. The Non-Exempt Technical Staff Classification had the highest mean value on this scale and was statistically significantly different from the Exempt Staff Classification, which had the lowest mean value on this scale.

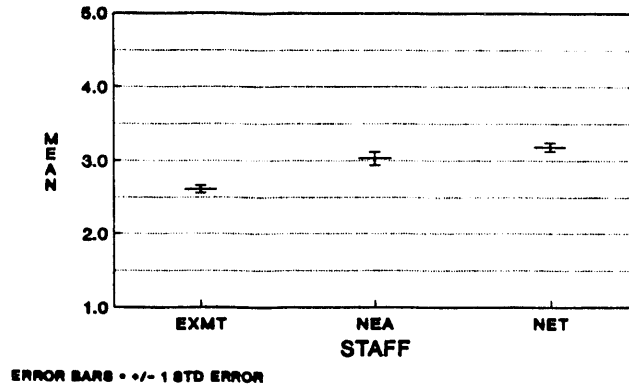


Figure 4.25. Significant differences between staff classifications on the conventional scale

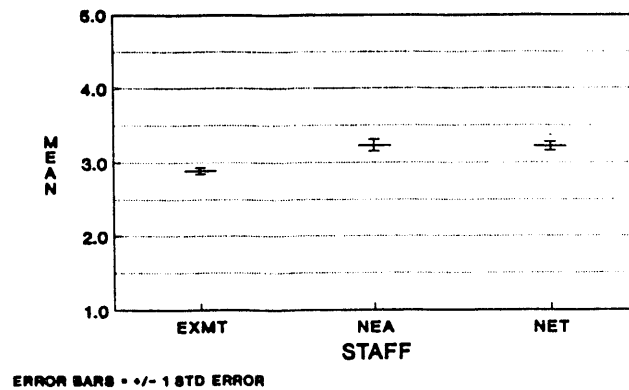


Figure 4.26. Significant differences between staff classifications on the dependent scale

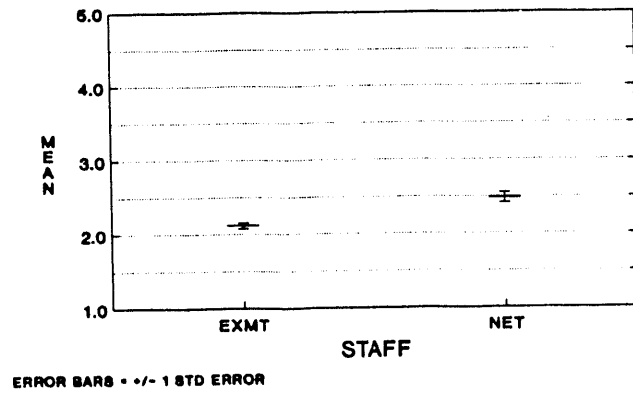


Figure 4.27. Significant differences between staff classifications on the avoidance scale

No statistically significant differences between the SLAC staff classifications were obtained on the Oppositional (C7), Power (C8), Competitive (C9), or Perfectionistic (C10) Scales. These are the four scales which make up the Aggressive/Defensive Cultural Style. Thus, it appears that staff classifications did not differ in the amount of Aggressive/Defensive behaviors they believed were expected of them in order to be successful within the SLAC organization.

Figures 4.28 and 4.29 present the statistically significant differences obtained between staff classifications on the Achievement (C11) and Self-Actualizing (C12) Scales respectively. On both of these scales, the Non-Exempt Technical Staff Classification had the lowest mean value and was statistically significantly different from both the Exempt and Non-Exempt Administrative Services Staff Classifications. The Exempt Staff Classification had the highest obtained mean value on both.

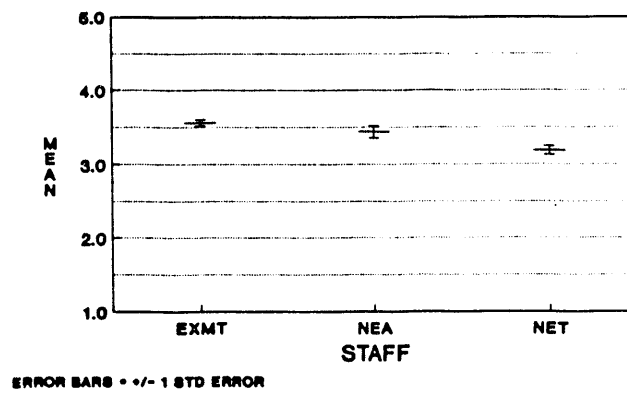


Figure 4.28. Significant differences between staff classifications on the achievement scale

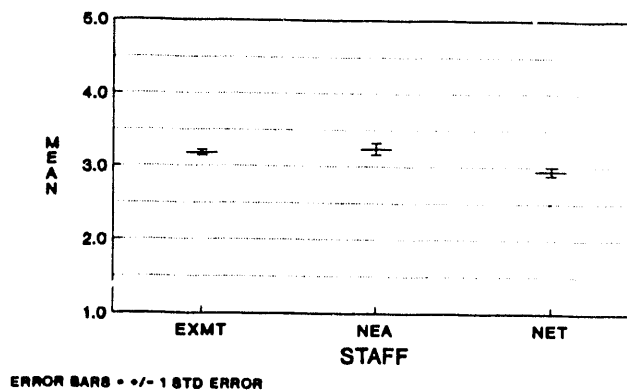


Figure 4.29. Significant differences between staff classifications on the self-actualizing scale

#### 4.4.2 Differences Between Staff Classifications on the Communication Scales

Statistically significant differences between staff classifications were obtained on each of the Communication Scales. Figure 4.30 shows the statistically significant differences between staff classifications

obtained on the Communication-Trust Scale. The Non-Exempt Technical Staff Classification had the lowest obtained mean value on this scale and was statistically significantly different from both the Exempt and Non-Exempt Administrative Support Staff Classifications. The Exempt Staff Classification had the highest obtained mean value on this scale.

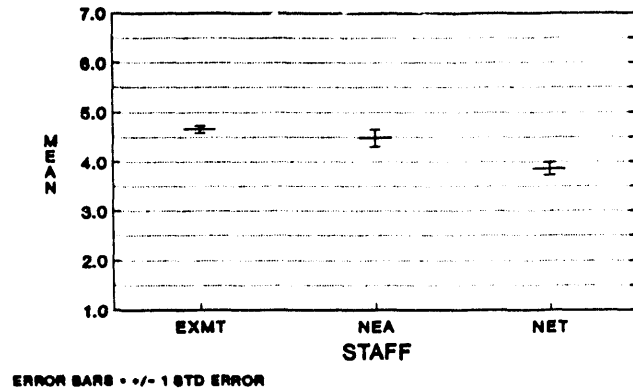


Figure 4.30. Significant differences between staff classifications on the communication-trust scale

Statistically significant differences between staff classifications on the Communication-Accuracy Scale are depicted in Figure 4.31. The Non-Exempt Technical Staff Classification had the lowest obtained mean value on this scale and was statistically significantly different from both the Exempt and the Non-Exempt Administrative Support Staff Classifications. The Exempt Staff Classification had the highest mean value on this scale.

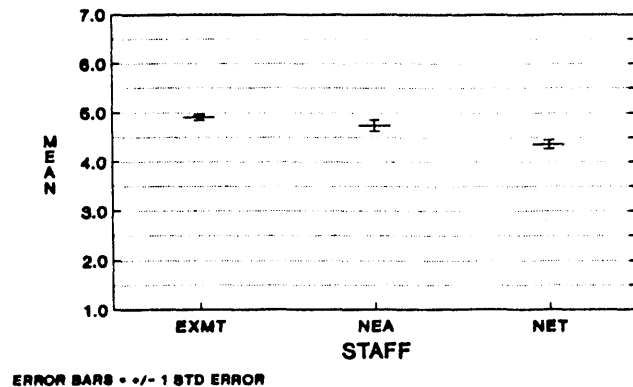


Figure 4.31. Significant differences between staff classifications on the communication-accuracy scale

The Non-Exempt Technical Staff Classification also had the lowest obtained mean value on the Communication-Interaction Scale. (Figure 4.32). They were statistically significantly different from both the Exempt and the Non-Exempt Administrative Support Staff Classifications. The Exempt Staff Classification had the highest obtained mean value on this scale.

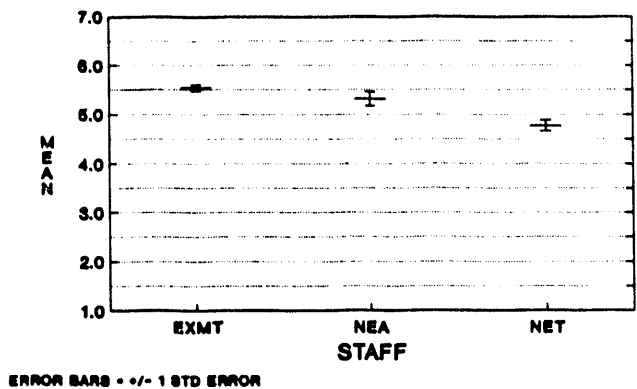


Figure 4.32. Significant differences between staff classifications on the communication-interaction scale

Statistically significant differences between the SLAC staff classifications on the Communication-Satisfaction Scale are presented in Figure 4.33. The Exempt Staff Classification had the highest obtained mean value on this scale and was statistically significantly different from the Non-Exempt Technical Staff Classification, which had the lowest obtained mean value on this scale. No other statistically significant differences between staff classifications were obtained on this scale.

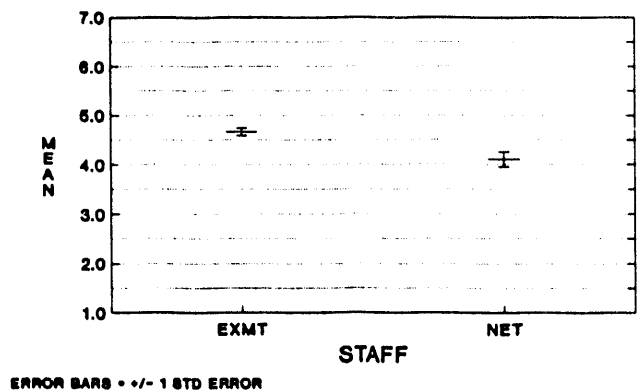


Figure 4.33. Significant differences between staff classifications on the communication-satisfaction scale

#### 4.4.3 Differences Between Staff Classifications on the Additional Scales

Statistically significant differences between staff classifications were obtained on two of the additional scales: Cohesion and Hazard. The mean values obtained by each staff classification on the other additional scales are presented in Appendix F.

Figure 4.34 depicts the statistically significant differences obtained between staff classifications on the Cohesion Scale. The Non-Exempt Technical Staff Classification had the lowest mean value on this scale and was statistically significantly different from both the Exempt and Non-Exempt Administrative Support Staff Classifications. The Exempt Staff Classification had the highest mean value on this scale.

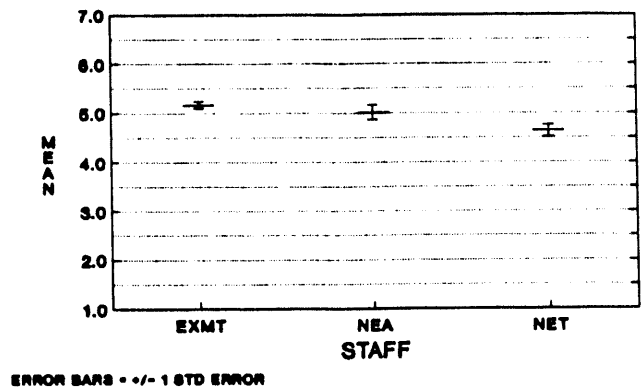


Figure 4.34. Significant differences between staff classifications on the cohesion scale

Statistically significant differences obtained between staff classifications on the Hazard Scale are presented in Figure 4.35. Every staff classification was statistically significantly different from every other staff classification on this scale. The Non-Exempt Technical Staff Classification had the highest mean value on this scale. The Non-Exempt Administrative Support Staff Classification had the lowest mean value on this scale.

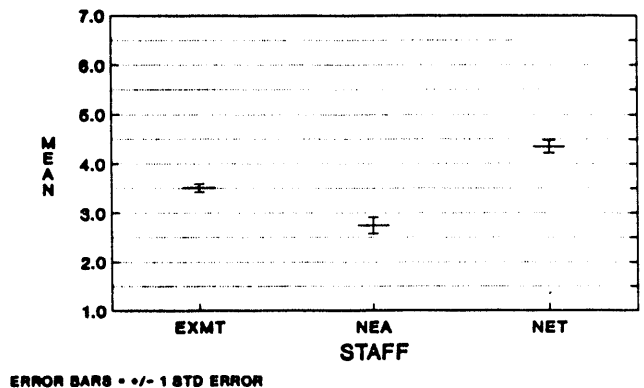


Figure 4.35. Significant differences between staff classifications on the hazard scale

#### 4.4.4 Differences Between Staff Classifications on the Environment, Safety, and Health Questions

Statistically significant differences were obtained between SLAC staff classifications on two of the four Environment, Safety, and Health Questions: Offsite and Onsite Environmental Consequences. The mean values obtained by each staff classification on the other Environment, Safety, and Health Questions are contained in Appendix F.

Figure 4.36 presents the statistically significant differences obtained between staff classifications on the Offsite Environmental Consequences Question. The Non-Exempt Technical Staff Classification had the lowest mean value on this question and was statistically significantly different from both the Exempt and Non-

Exempt Administrative Support Staff Classifications. The Exempt Staff Classification had the lowest mean value on this question.

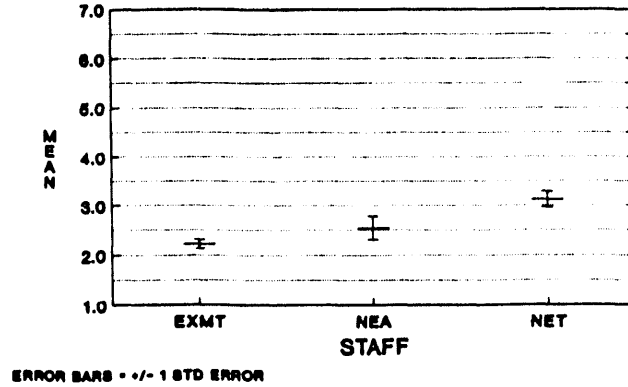


Figure 4.36. Significant differences between staff classifications on the offsite environmental consequences question

A similar pattern of results was obtained on the Onsite Environmental Consequences Question (Figure 4.37). The Non-Exempt Technical Staff Classification had the highest mean value on this question and was statistically significantly different from both the Exempt and Non-Exempt Administrative Support Staff Classifications. The Exempt Staff Classification had the lowest mean value on this question.

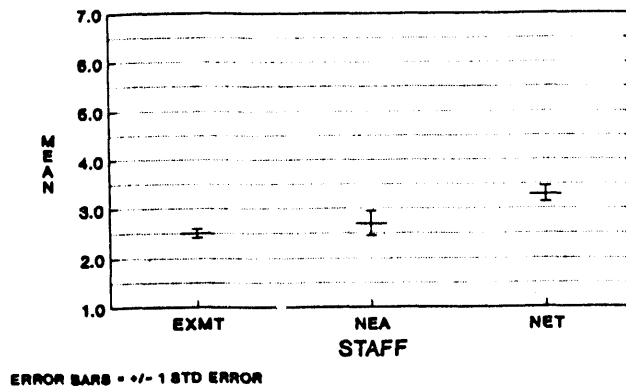


Figure 4.37. Significant differences between staff classifications on the onsite environmental consequences question

#### 4.4.5 Summary

The statistically significant differences obtained between staff classifications at SLAC on the OCI scales indicated that the Non-Exempt Technical Staff Classification tended to be statistically significantly lower than both the Exempt and Administrative Support Staff Classifications on three of the four Constructive Scales



(i.e., Humanistic-Encouraging (C1), Achievement (C11), and Self-Actualizing (C12) Scales). The Exempt Staff Classification tended to be statistically significantly lower than the two Non-Exempt Staff Classifications on those scales which comprise the Passive-Defensive Cultural Style (i.e., Approval (C3), Conventional (C4), Dependent (C5), and Avoidance (C6) Scales). On the remaining scales of the OS, the Non-Exempt Technical Staff Classification was the consistent outlier, scoring lowest on all Communication Scales, lowest on the Cohesion Scale, and highest on those scales/questions which relate to the hazard and environmental consequences of one's work.

#### 4.5 Differences Between Supervisory Levels on the OS Scales

##### 4.5.1 Differences Between Supervisory Levels on the OCI Scales

Statistically significant differences between SLAC supervisory levels on the Humanistic-Encouraging (C1) Scale are presented in Figure 4.38. The Non-Supervisors had a statistically significantly lower mean score on this scale than the Supervisors.

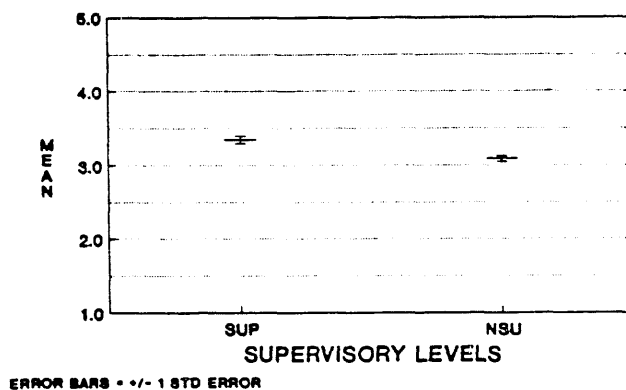


Figure 4.38. Significant differences between SLAC supervisory levels on the humanistic-encouraging scale

No statistically significant differences were obtained between supervisory levels at SLAC on the Affiliative (C2) Scale. Appendix G contains the mean values for each level on this scale.

Figure 4.39 depicts the statistically significant differences obtained between supervisory levels on the Approval (C3) Scale. Non-Supervisors were statistically significantly lower on this scale than Supervisors.

Statistically significant differences obtained between SLAC supervisory levels on the Conventional (C4) Scale are presented in Figure 4.40. Non-Supervisors had the highest mean value on this scale and were statistically significantly different from Supervisors.

No statistically significant differences were obtained between Supervisory Levels on the Dependent (C5), Avoidance (C6), Oppositional (C7), Power (C8), Competitive (C9), or Perfectionistic (C10) Scales. The mean values obtained for each supervisory level on each of these scales are contained in Appendix G.

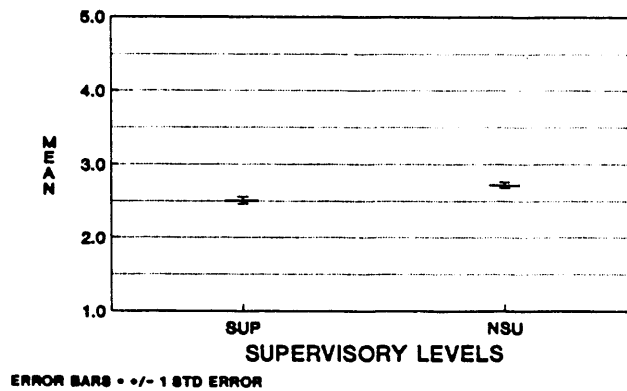


Figure 4.39. Significant differences between SLAC supervisory levels on the approval scale

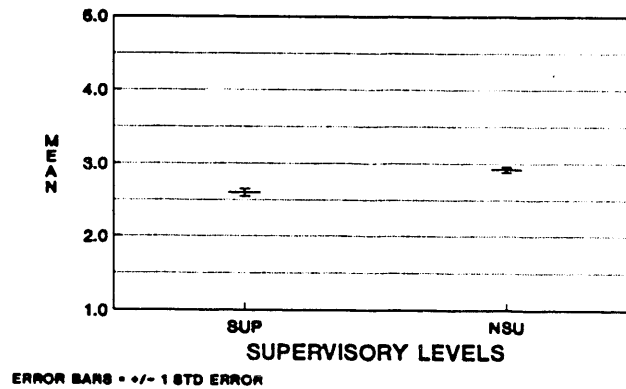


Figure 4.40. Significant differences between SLAC supervisory levels on the conventional scale

Figure 4.41 presents the statistically significant differences obtained between the SLAC supervisory levels on the Achievement (C11) Scale. Supervisors had a statistically significantly higher mean value on this scale than Non-Supervisors.

No statistically significant differences were obtained between the SLAC supervisory levels on the Self-Actualizing (C12) Scale. Appendix F contains the mean values obtained for each level on this scale.

#### 4.5.2 Differences Between Supervisory Levels on the Communication Scales

No statistically significant differences were obtained between supervisory levels on any of the Communication Scales. Appendix F contains the mean values obtained for both Supervisors and Non-Supervisors on each of these scales.

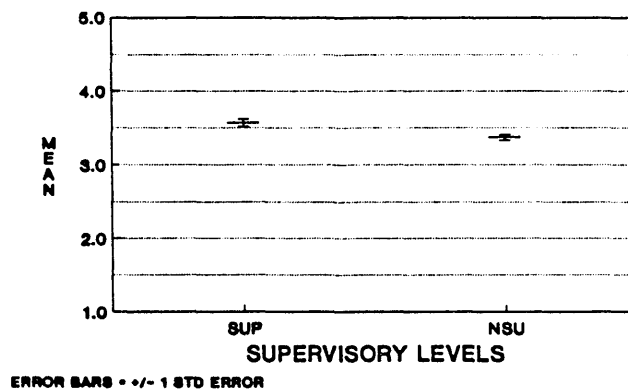


Figure 4.41. Significant differences between SLAC supervisory levels on the achievement scale

#### 4.5.3 Differences Between Supervisory Levels on the Additional Scales

No statistically significant differences were obtained between supervisory levels on any of the additional scales. Appendix F contains the mean values obtained for both Supervisors and Non-Supervisors on each of these scales.

#### 4.5.4 Differences Between Supervisory Levels on the Environment, Safety, and Health Questions

No statistically significant differences were obtained between supervisory levels on any of the Environment, Safety, and Health Questions. Appendix F contains the mean values obtained for both Supervisors and Non-Supervisors on each of these questions.

#### 4.5.5 Summary

Few statistically significant differences were obtained between supervisory levels at SLAC on the OS Scales. All differences obtained were on the OCI scales, and in particular, those relating to the Constructive and Passive-Defensive Cultural Styles. All differences were consistent with the literature on supervisory/non-supervisory differences, as well as with results obtained at other DOE facilities. In particular, the Supervisors had higher mean values on two of the Constructive Scales (i.e., Humanistic-Encouraging (C1) and Achievement (C11) Scales) and lower mean values on two of the Passive-Defensive Scales (i.e., Approval (C3), and Conventional (C4) Scales) than Non-Supervisors.

## 5. CONCLUSIONS

The Organizational Survey (OS) which took place at the Stanford Linear Accelerator Center (SLAC) on October 1, 1991 was the tenth to occur at a U.S. Department of Energy (DOE) facility. All 1344 employees received notice of the OS administration. A total of 716 employees actually completed the survey, yielding a low response rate of 53.3 percent. Response rates by division varied from a high response rate of 86 percent for the Environment, Safety, and Health Division, to a low of 43.1 percent for the Research Division. Three of the six divisions at SLAC had response rates below 50 percent.

The profile obtained on the scales from the Organizational Culture Inventory (OCI) (Human Synergistics, 1987), indicates that the SLAC organization emphasizes participative, creative and quality work (based on mean values obtained on the Humanistic-Encouraging (C1), Affiliative (C2), Achievement (C11), and Self-Actualizing (C12) Scales). The achievement of such work may sometimes be inhibited due to behavioral expectations which include dependence (C5), conventionalism (C4), oppositional (C7), and power-oriented (C8) behaviors. Low mean values obtained on the Communication - Trust and Communication - Accuracy Scales are further indications of a potentially defensive culture which may exist at SLAC. Working units were not perceived to be well coordinated nor were jobs perceived as being highly hazardous or environmentally consequential. Despite this, those attributes important to safety were perceived to be helpful in doing one's job well.

Differences obtained between divisions were numerous and tended to divide the divisions into two large groups. In one group was the Director's Office and Research Division, and to a lesser extent, the Stanford Synchrotron Radiation Laboratory (SSRL). These divisions tended to view those behaviors which are constructive rather than defensive, as being important to success within their groups. They scored higher on the Communication and Coordination Scales and did not generally perceive their work to involve a high amount of hazard or environmental consequences. The second group of divisions included the Environment, Safety, and Health, Technical, and Business Services Divisions. They tended to score higher on the passive-defensive and aggressive-defensive scales and lower on the constructive scales. They also scored higher on the Communication and Coordination Scales.

Differences between staff classifications at SLAC were also fairly numerous. In particular, the Non-Exempt Technical Staff Classification tended to have a profile that was different from the other two SLAC staff classifications: Exempt and Non-Exempt Administrative Support. Subsequent conversations with the facility indicated that the Non-Exempt Technical Staff Classification is largely comprised of bargaining unit employees. These differences may reflect issues between labor and management.

In summary, SLAC, as represented by the sample of employees who completed the Organizational Survey, is a fairly heterogeneous organization which, while placing emphasis on behaviors which might be considered "constructive," also tends to place emphasis on behaviors which are considered as "passive-defensive" and "aggressive-defensive." The differences obtained between both divisions and staff classifications were numerous, although few differences were obtained between supervisory levels. In general, a low response rate was obtained, relative to other DOE facilities which have completed the survey under similar circumstances.

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APPENDIX A: Significant Differences Between SLAC Divisions on the OS Scales

Code	Level	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	COT	COH	HAZ	SAF	COD	JOB
1	ES&H	3.24	3.36	2.58	2.82	2.97	2.41	2.51	2.63	2.38	3.00	3.49	3.14	4.49	5.07	3.74	5.59	3.46	4.71
		5	5		3,5		3,5		5	5								3,5,6	
2	TEK	3.04	3.16	2.79	3.03	3.19	2.40	2.47	2.67	2.45	3.02	3.33	3.00	4.39	4.90	4.15	5.38	3.92	4.68
		5	5	3	3,5	3	3,5		5	5		5	5			3,4,5			
3	RES	3.36	3.38	2.34	2.34	2.66	1.87	2.41	2.21	2.23	2.83	3.66	3.40	4.87	5.29	3.20	5.32	4.21	5.22
		5	5	2	4,2,1	2	1,2,4					4				6,2		1	
4	BUS	3.07	3.34	2.65	3.05	3.02	2.36	2.51	2.64	2.23	2.90	3.24	2.98	4.58	4.74	2.43	5.40	3.68	4.41
		5	5		6,3,5		3,5		5			5,3	5			6,2			
5	DIR	3.87	3.94	2.53	2.25	2.88	1.69	2.21	2.06	1.91	2.60	3.85	3.52	4.94	5.58	1.78	5.67	4.18	5.41
		1,2,3,4,6	1,2,3,4,6		4,2,1		1,2,4		2,4,1	2,1		2,4	2,4			6,2		1	
6	SSRL	3.36	3.42	2.62	2.58	2.91	2.13	2.58	2.37	2.18	2.92	3.63	3.23	4.49	4.91	4.25	5.64	4.09	4.70
		5	5		4											3,4,5		1	

Code	Level	CMT	CMA	CMI	CMS	OFF	ONS	MGT	EMA
1	ES&H	4.63	4.44	5.07	4.31	3.96	4.33	4.84	4.39
			3			2,3,4,5,6	2,3,4,5,6		
2	TEK	4.17	4.61	5.16	4.23	2.74	3.03	5.22	5.07
		5			5	1,5	1,5		
3	RES	4.86	5.12	5.62	5.08	1.89	2.10	5.09	5.04
			1			1	1		
4	BUS	4.38	4.56	5.27	4.18	2.16	2.07	5.17	4.97
					5	1	1		

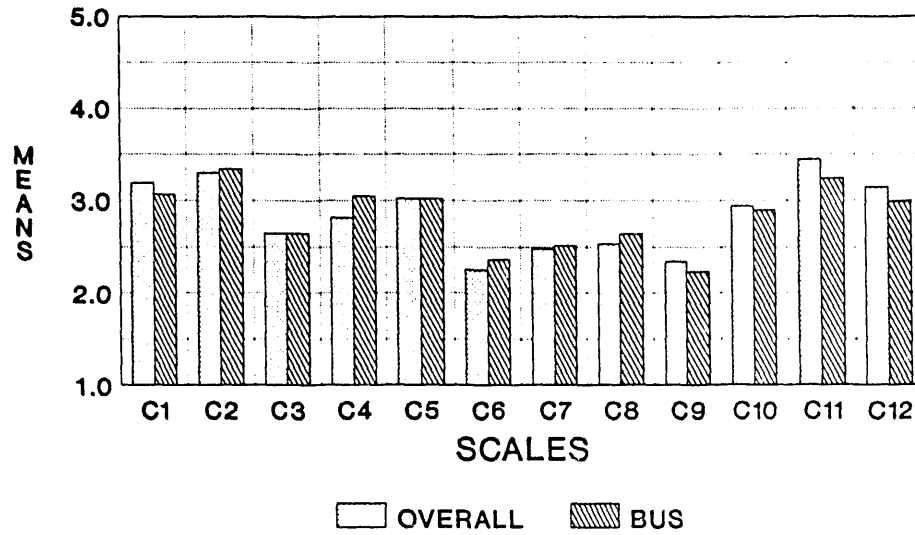
First line of each box = mean for division on that scale.  
 Second line of each box = those divisions (coded by numbers) that the division is statistically significantly different from.

Code	Level	CMT	CMA	CM!	CMS	OFF	ONS	MGT	EMA
5	DIR	5.19	4.70	5.76	5.14	1.41	1.36	5.41	5.09
		2			2,4	1,2,6	1,2,6		
6	SSRL	4.70	4.96	5.35	4.71	2.55	2.89	5.27	5.36
						1,5	1,5		

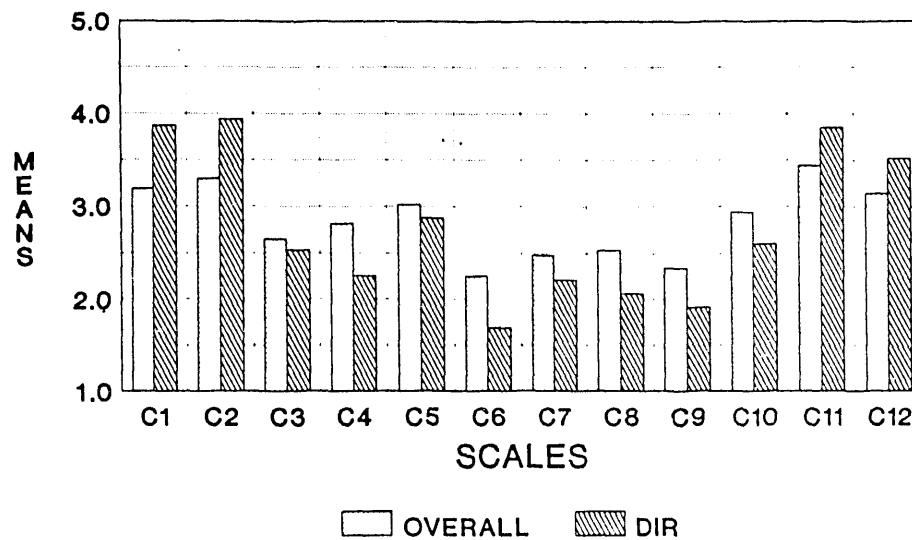
First line of each box = mean for division on that scale.  
Second line of each box = those divisions (coded by numbers) that the division is statistically significantly different from.

Appendix B: Comparison of Mean Values Obtained for SLAC Overall to the Mean Values Obtained for Each Division on the OCI Scales

**BUSINESS SERVICES DIVISION  
COMPARED TO SLAC OVERALL MEANS  
ON THE OCI SCALES**

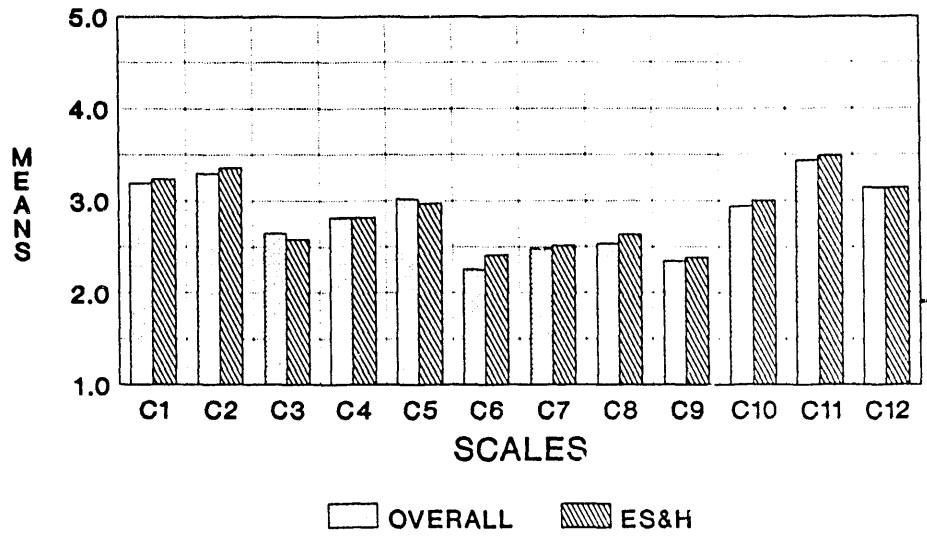


**DIRECTOR'S OFFICE COMPARED TO  
SLAC OVERALL MEANS ON  
THE OCI SCALES**

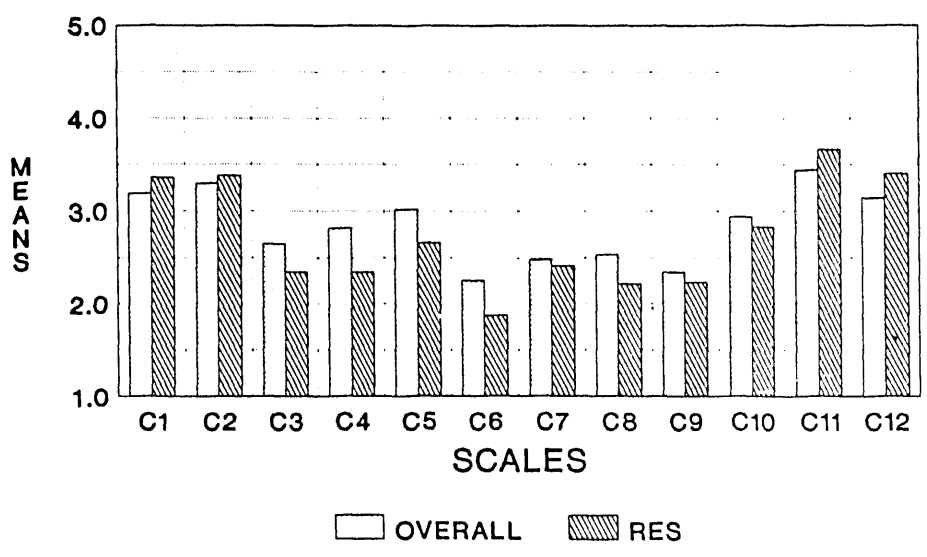




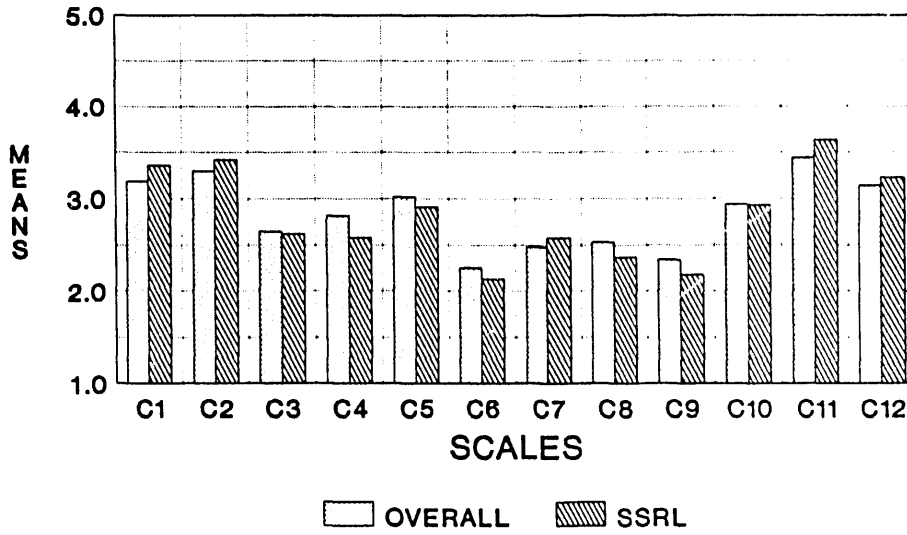
**ENVIRONMENT, SAFETY & HEALTH  
DIVISION COMPARED TO SLAC OVERALL  
MEANS ON THE OCI SCALES**



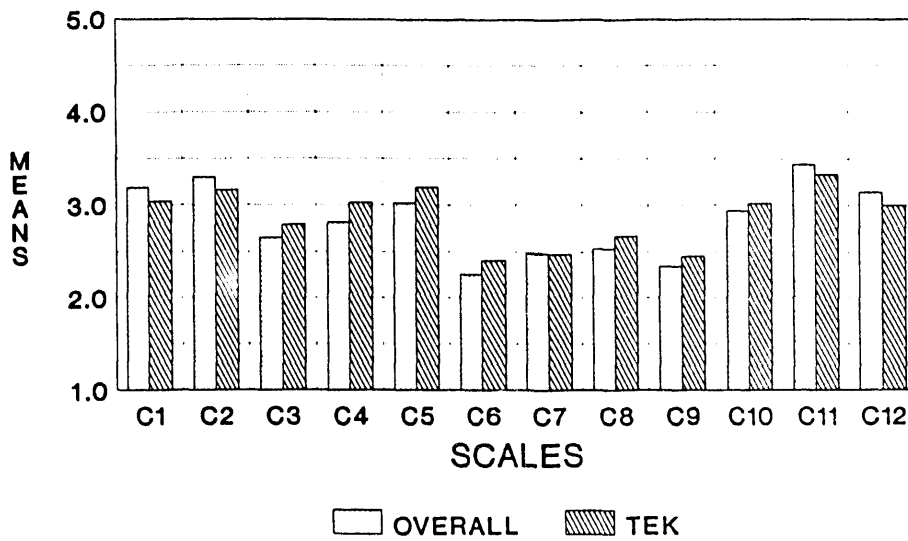
**RESEARCH DEPARTMENT COMPARED  
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SSRL DIVISION COMPARED TO  
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THE OCI SCALES

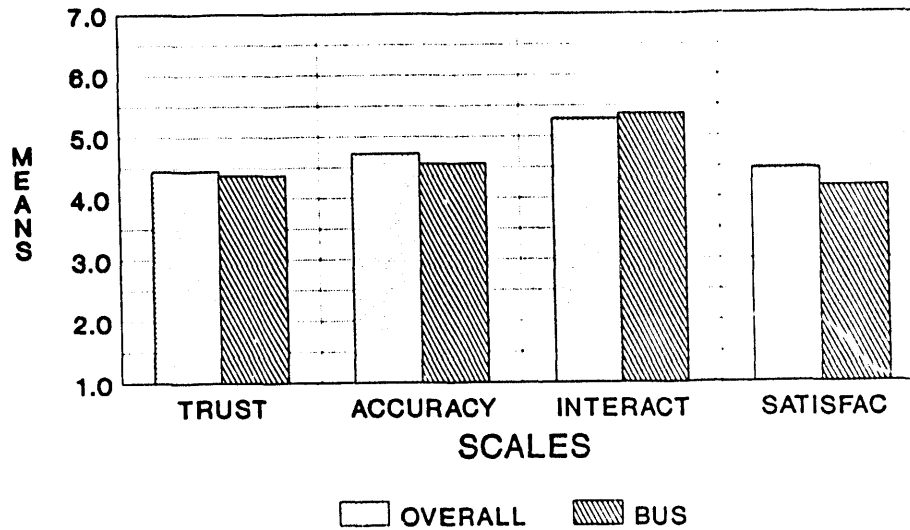


TECHNICAL DIVISION COMPARED TO  
SLAC OVERALL MEANS ON  
THE OCI SCALES

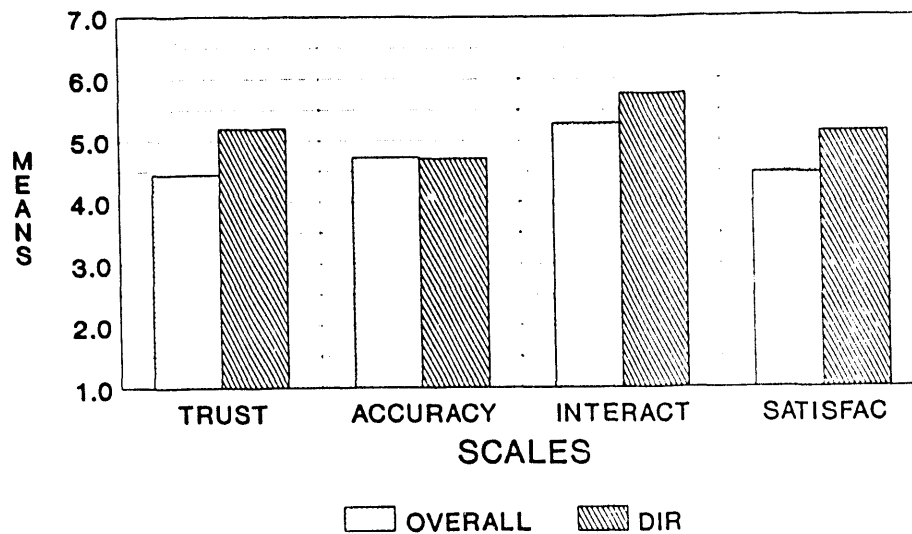


Appendix C: Comparison of Mean Values Obtained for SLAC Overall to the Mean Values Obtained for Each Division on the Communication Scales

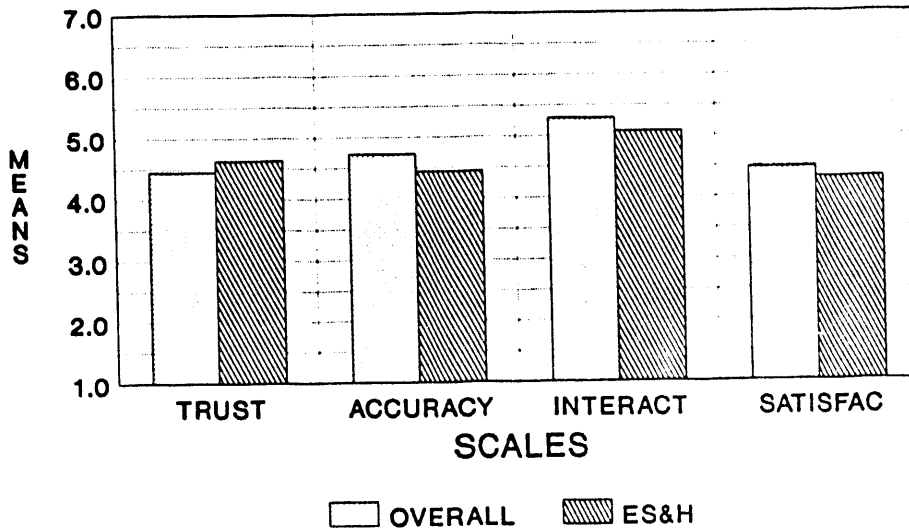
**BUSINESS SERVICES DIVISION  
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THE COMMUNICATION SCALES**



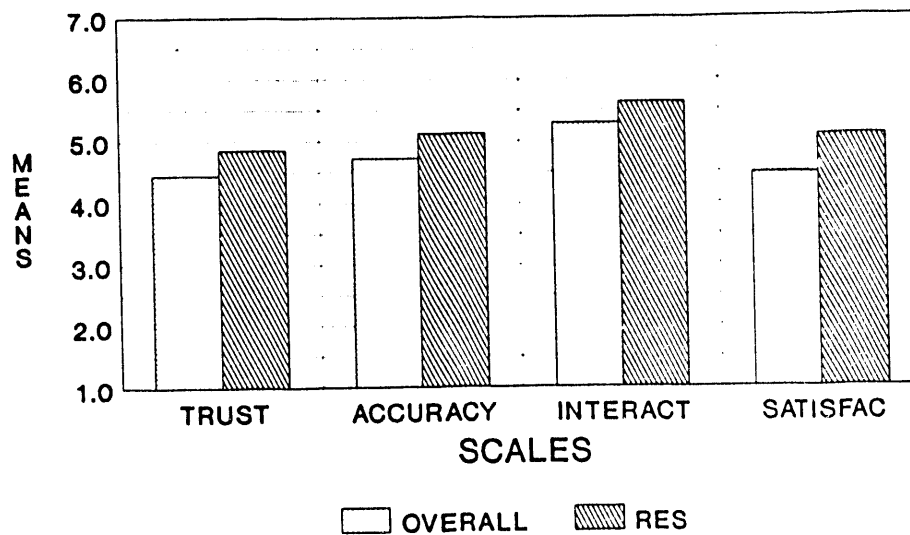
**DIRECTOR'S OFFICE COMPARED TO  
SLAC OVERALL MEANS ON THE  
COMMUNICATION SCALES**



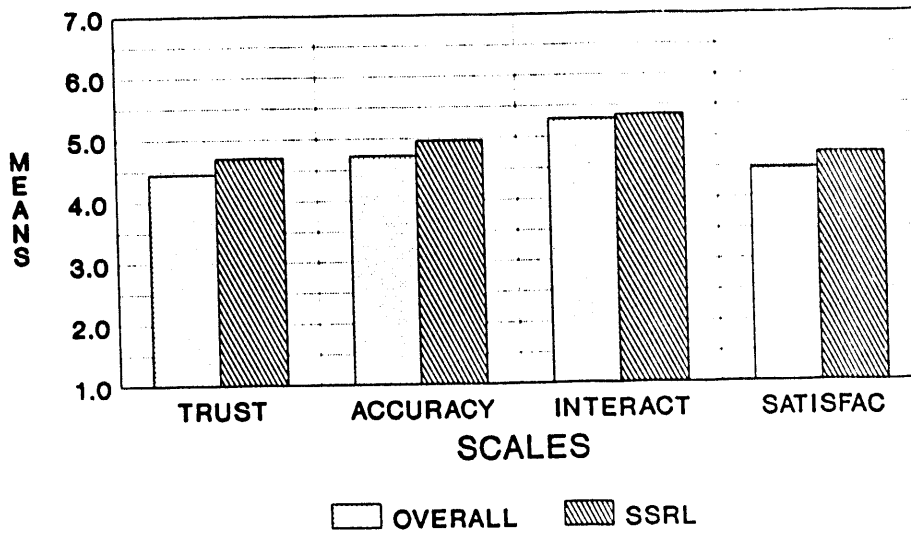
**ENVIRONMENT, SAFETY & HEALTH  
DIVISION COMPARED TO SLAC OVERALL  
MEANS ON THE COMMUNICATION SCALES**



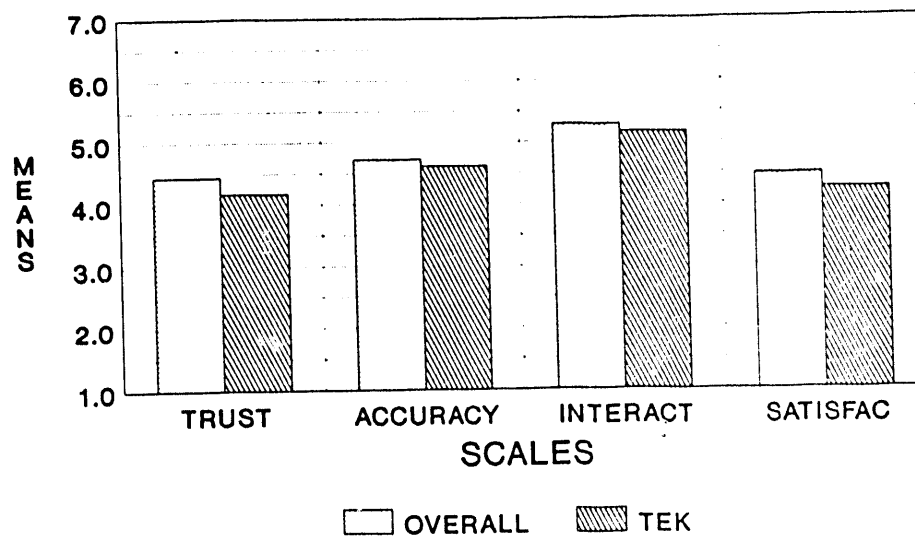
**RESEARCH DIVISION COMPARED TO  
SLAC OVERALL MEANS ON THE  
COMMUNICATION SCALES**



### SSRL DIVISION COMPARED TO SLAC OVERALL MEANS ON THE COMMUNICATION SCALES

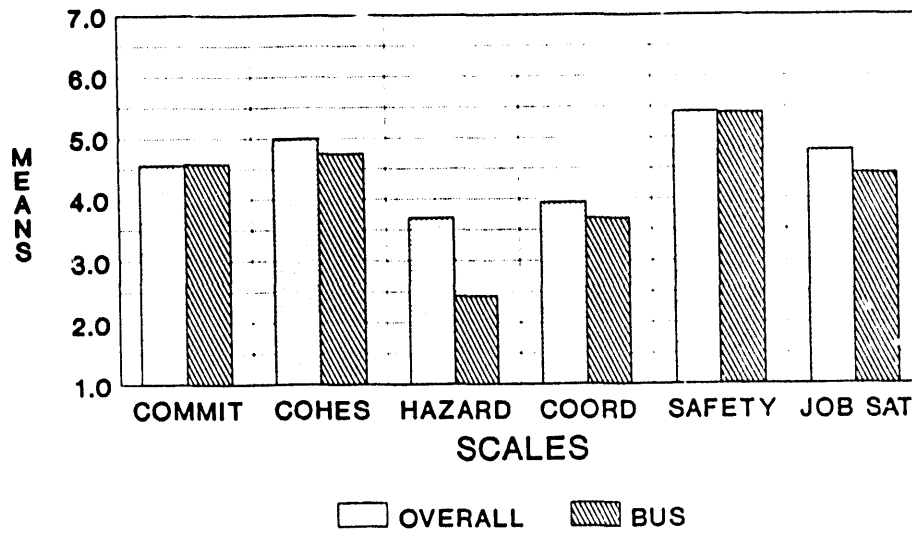


### TECHNICAL DIVISION COMPARED TO SLAC OVERALL MEANS ON THE COMMUNICATION SCALES

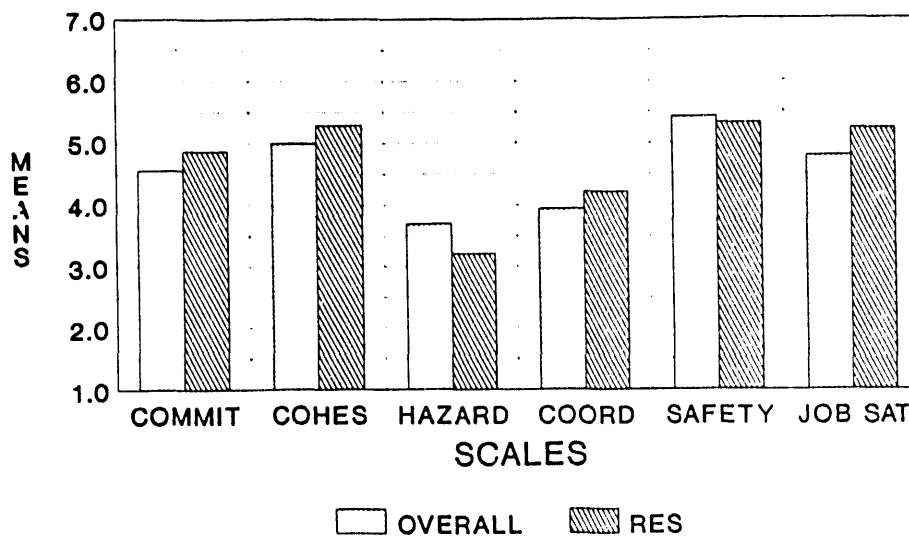


Appendix D: Comparison of Mean Values Obtained for SLAC Overall to the Mean Values Obtained for Each Division on the Additional Scales

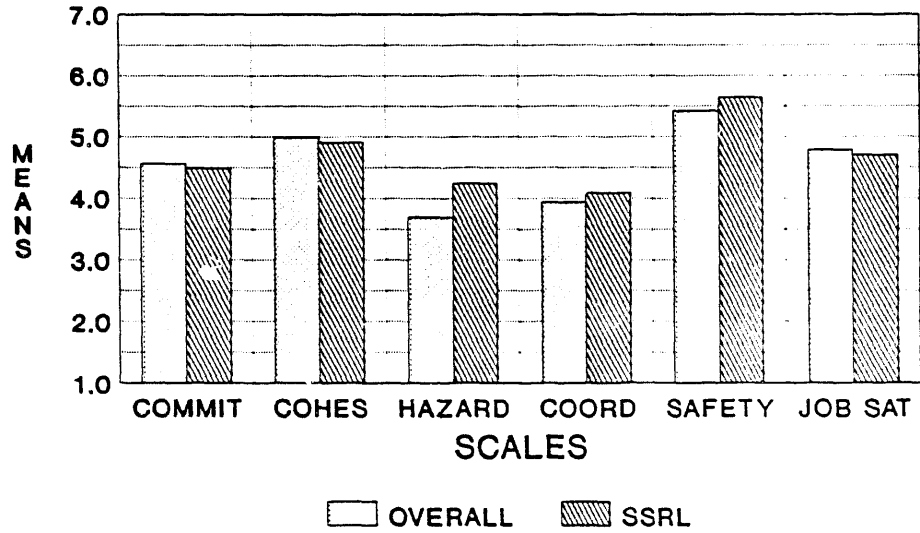
**BUSINESS SERVICES DIVISION COMPARED TO SLAC OVERALL MEANS ON THE ADDITIONAL SCALES**



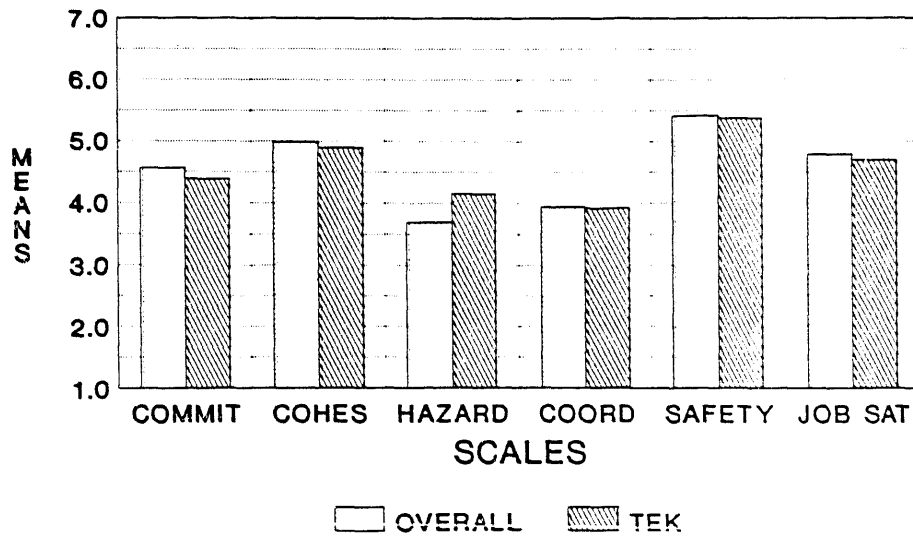
**RESEARCH DIVISION COMPARED TO SLAC OVERALL MEANS ON THE ADDITIONAL SCALES**



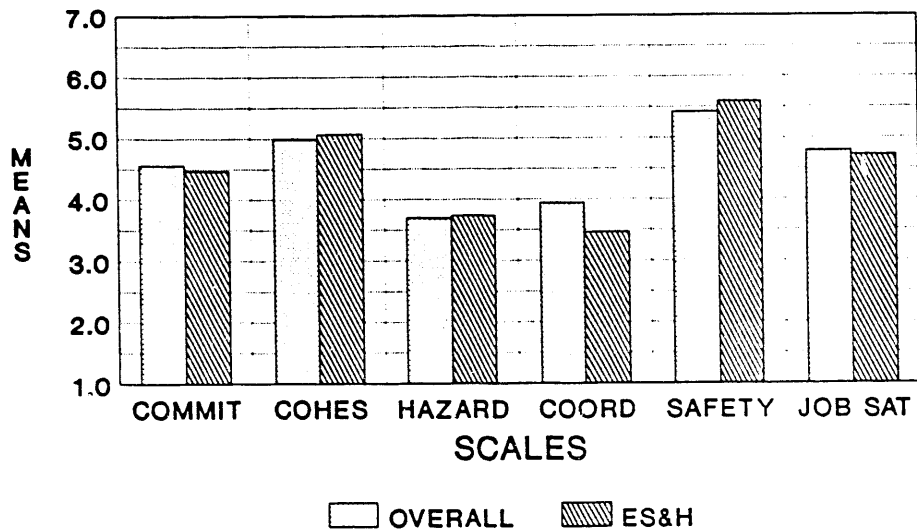
SSRL DIVISION COMPARED TO  
SLAC OVERALL MEANS ON THE  
ADDITIONAL SCALES



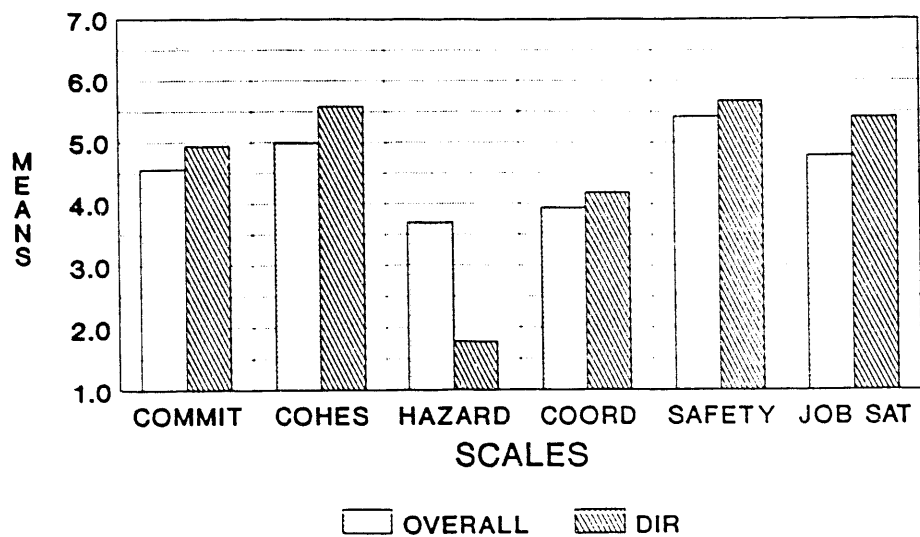
TECHNICAL DIVISION COMPARED TO  
SLAC OVERALL MEANS ON THE  
ADDITIONAL SCALES



**ENVIRONMENT, SAFETY, & HEALTH  
DIVISION COMPARED TO SLAC OVERALL  
MEANS ON THE ADDITIONAL SCALES**



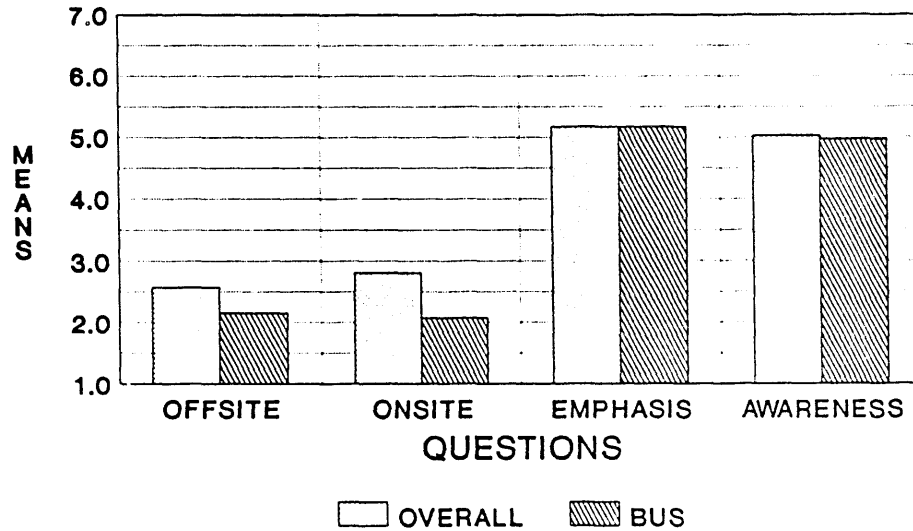
**DIRECTOR'S OFFICE COMPARED TO  
SLAC OVERALL MEANS ON THE  
ADDITIONAL SCALES**



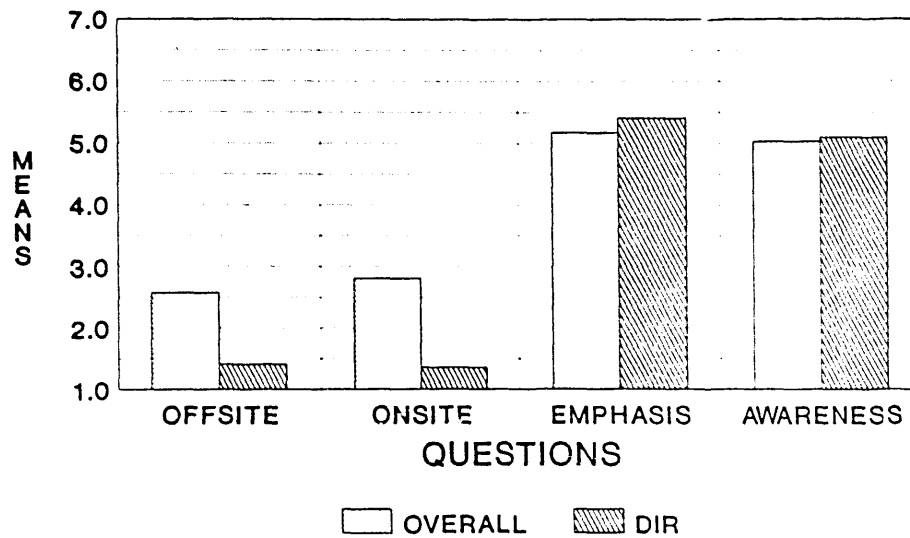


Appendix E: Comparison of Mean Values Obtained for SLAC Overall to the Mean Values Obtained for Each Division on the Environment, Safety and Health Questions

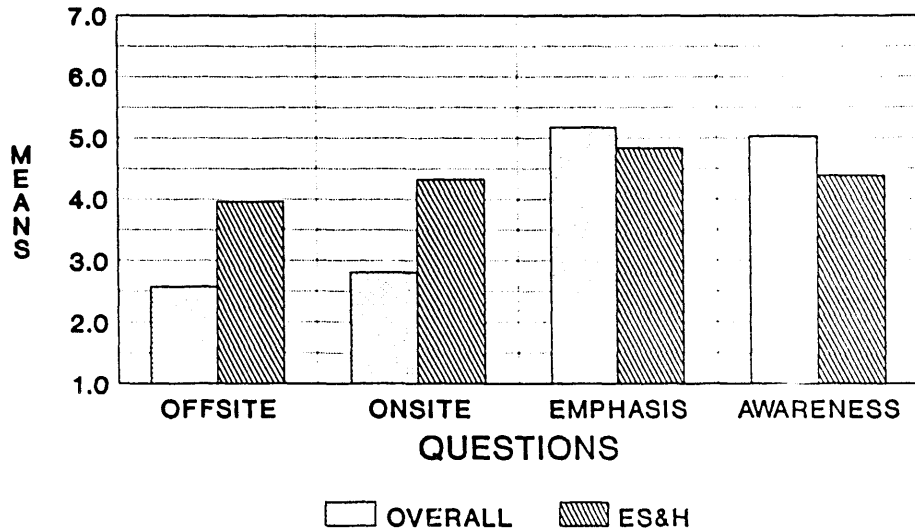
BUSINESS SERVICES DIVISION COMPARED TO SLAC OVERALL MEANS ON THE ENVIRONMENT, SAFETY, AND HEALTH QUESTIONS



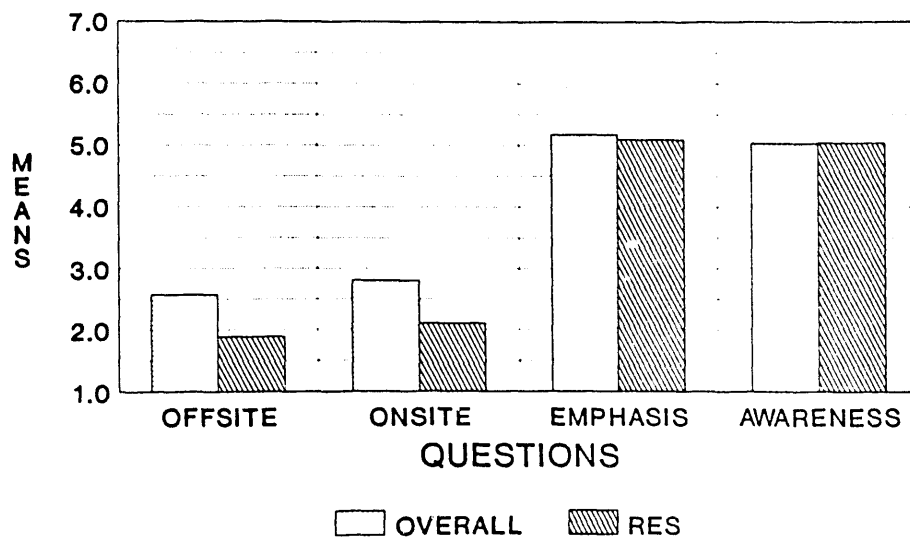
DIRECTOR'S OFFICE COMPARED TO SLAC OVERALL MEANS ON THE ENVIRONMENT, SAFETY, AND HEALTH QUESTIONS



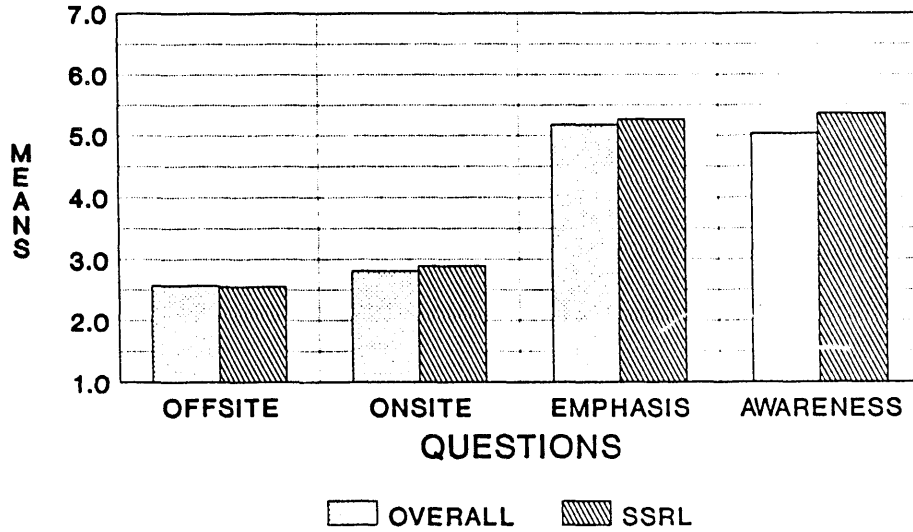
ENVIRONMENT, SAFETY, AND HEALTH DIVISION COMPARED TO SLAC OVERALL MEANS ON ENVIRONMENT, SAFETY, & HEALTH QUESTIONS



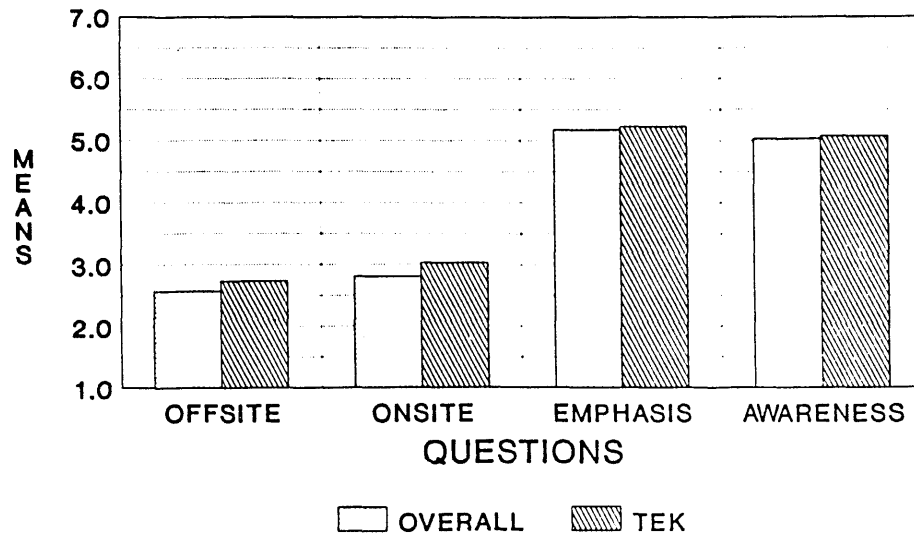
RESEARCH DIVISION COMPARED TO SLAC OVERALL MEANS ON THE ENVIRONMENT, SAFETY, AND HEALTH QUESTIONS



**SSRL DIVISION COMPARED TO SLAC  
OVERALL MEANS ON THE ENVIRONMENT,  
SAFETY, AND HEALTH QUESTIONS**



**TECHNICAL DIVISION COMPARED TO SLAC  
OVERALL MEANS ON THE ENVIRONMENT,  
SAFETY, AND HEALTH QUESTIONS**



APPENDIX F: Significant Differences Between SLAC Staff Classifications on the OS Scales

Code	Level	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	COT	COH	HAZ	SAF	COD	JOB
1	EXMT	3.27	3.27	2.51	2.61	2.89	2.12	2.43	2.49	2.32	2.93	3.56	3.18	4.68	5.16	3.51	5.43	4.03	4.87
		3	2	2,3	2,3	2,3	3					3	3	3	3	3	2,3		
2	NEA	3.40	3.61	2.77	3.03	3.23	2.27	2.44	2.50	2.18	3.04	3.44	3.24	4.43	5.01	2.75	5.50	3.86	4.83
		3	1,3	1	1	1						3	3	3	3	1,3			
3	NET	2.88	3.17	2.87	3.19	3.22	2.48	2.53	2.65	2.46	2.90	3.19	2.94	4.29	4.63	4.34	5.40	3.71	4.55
		1,2	2	1	1	1	1					1,2	1,2	1,2	1,2	1,2			

Code	Level	CMT	CMA	CMI	CMS	OFF	ONS	MGT	EMA
1	EXMT	4.66	4.90	5.54	4.66	2.22	2.51	5.20	5.09
		3	3	3	3	3	3		
2	NEA	4.48	4.74	5.31	4.29	2.55	2.70	5.53	5.17
		3	3	3		3	3		
3	NET	3.86	4.36	4.77	4.10	3.12	3.29	4.95	4.87
		1,2	1,2	1,2	1	1,2	1,2	1,2	

APPENDIX G: Significant Differences Between SLAC Supervisory Levels on the OS Scales

Code	Level	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	COT	COH	HAZ	SAF	COD	JOB
1	SUP	3.35	3.28	2.51	2.60	2.93	2.13	2.49	2.57	2.35	2.94	3.57	3.17	4.51	5.21	3.68	5.46	3.93	4.80
		2		2	2							2							
2	NSU	3.09	3.30	2.72	2.92	3.07	2.29	2.45	2.48	2.31	2.94	3.37	3.10	4.57	4.89	3.66	5.39	3.95	4.79
		1		1	1							1							

Code	Level	CMT	CMA	CMI	CMS	OFF	ONS	MGT	EMA
1	SUP	4.63	4.85	5.44	4.67	2.34	2.64	5.25	5.10
2	NSU	4.36	4.70	5.22	4.38	2.62	2.83	5.11	4.99

**END**

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**DATE  
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**2/11/92**

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