NIOSH

TECHNICAL REPORT

STRESS AMONG POLICE OFFICERS

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
National Institute for Occupational Safety and Health

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The views expressed in this paper are those of the authors and do not necessarily convey the endorsement of their affiliated agencies or organizations.

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PREFACE

As this report presents findings from a survey actually conducted in 1976, the time lag between the data collection and reporting requires some explanation. This project, representing a merger of research aims and efforts by three separate interest groups, was encumbered by a number of administrative problems which took added time to resolve even after the survey work was started. The solutions themselves proved troublesome in that they meant foregoing certain aspects of the study design that weakened the representativeness of the data set. This limitation combined with turnover or reduced availability of key personnel involved in this project further complicated the completion of this work. Not withstanding the above difficulties, the array of variables included in the study and the breadth of the survey sample argued for its being reported. It bears mention too that some findings from unpublished preliminary reports of this project have already found their way into the literature. It would seem incumbent then to supply a more complete and accurate portrayal of this work, even with its shortcomings, if only to place such results in proper perspective.

ABSTRACT

An attempt was made to furnish a broad-based empirical evaluation of job elements in police work which were perceived as stress producing to patrol officers, and to examine the relationships between these alleged stressors and various strains reflecting attitudinal, emotional, behavioral and health problems. For this purpose, patrol officers in 19 police departments, representing samples of unionized and non-unionized groups, and varying in size, geographic location, and crimes per officer, received self-report type questionnaires for rating job stressors and consequent strains plus personal and family factors of relevance. In all, more than 2,200 officers returned completed forms, with response rates for individual departments ranging from 19% to 90% to a one-time solicitation. The overall rate of response was 37%.

The data analysis took two forms. Determining those job elements and strain measures revealing the most negative or problematic ratings among the patrol officers surveyed, and through regression analyses, identifying those factors which were best predictors of the different strain outcomes. Few of the more than 25 job environment factors displayed overall group ratings suggestive of a significant stress level among the population surveyed. Those features receiving the higher stress ratings related primarily to organizational and management practices, notably lack of participation and expression in job decisions, frustration with court leniency, and too much repetitiousness in work routines. Correlations between the different job elements and strain measures, however, revealed other factors to be more influential as potential stress producers in police work. In this regard, job future insecurity and role conflict showed the most significant associations with negative health

and emotional states. Given the above results, it was felt that stress among police officers involved needs for greater clarification of job roles and expectations, and the development of strategies for better coping with conflicts that relate to professional and familial responsibilities. Freer discussions and interactions with police management and peers on matters of mutual concern were viewed as beneficial in this regard as were more prosocial contacts with the public. Preparing officers for dealing with their individual or familial problems through counseling or other training was also considered a positive step in limiting potential stress and strain problems. Most of the more than 30 strain measures were also non-remarkable in terms of overall mean ratings. Work related self-esteem and divorce, especially for officers married prior to joining the force, were among the few showing high level problematic response. Complaints of musculoskeletal and gastrointestinal troubles and number of driving accidents also appeared excessive, and had probable connection with the officers' constant vehicular use and their variable duty hours. Many more strains were linked significantly with the different job factors, especially those in the emotional and somatic complaint categories.

Relations with one's children and family concern for officer's safety received strong positive ratings from the police officers surveyed. Rather than acting as a support factor in buffering the effects of job stress, family concern for safety showed correlations with strain measures suggesting a heightening of such effects. It was explained that police officers may, in fact, feel added anxiety and guilt about their jobs in terms of threatening family security. This finding coupled with the high divorce rate among police officers suggested the need to examine the nature and effectiveness of family coping styles in response to police stress.

Patrol officers from unionized departments included in the survey tended to give higher levels of stress and strain than their non-union cohorts. A number of methodological and other reasons were offered for such differences including the fact that unionized departments were from much larger cities, presumably subjecting the patrol officers to more bureaucratic pressures and problems.

The report acknowledges several methodological shortcomings in the data collection, e.g., one time solicitation, self-report measures, union vs. non-union influences, tempering the above, described findings and interpretations.

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INTRODUCTION

Over the years, many researchers, administrators, and clinicians have issued ominous statements concerning stress in policing. For example, one psychologist has asserted, "it is an accepted fact that a police officer is under stress and pressure unequaled by any other profession." (Somodevilla, 1978, p. 21). He claims that as a result of this stress, police officers have a 75 percent divorce rate, a 20 percent rate of "problem drinking" and have a suicide rate six and one half times that of the average population. A dissertation (Hageman, 1977) echoes this theme by citing that the divorce rate of police officers ranges from 60 to 80 percent. Likewise, a psychiatrist states that "....alcoholism among police is one of the most common and most devastating problems facing communities today." (Shev and Hewes, 1977, p. 133).

While the aforementioned statements carry shock value, documentation for each claim remains obscure. Somodevilla (1978) and Shev and Hewes (1977), for example, offer no data base for their contention (though it is possible that they have been taken from their own case files, admittedly, a limited sample). The citation in Hageman's dissertation is similarly unsupported.

Some evidence does exist for high rates of police divorce (e.g., Durner, 1975; Hageman, 1977; Reiser, 1972; Whitehouse, 1965), police alcoholism (e.g., Dishlacoff. 1976; Dunne, 1973; Unkovic and Brown, 1978); and police suicide rate (e.g., Danto, 1976; Dash & Reiser, 1978; Heinman, 1975; Lester, 1978) but the findings represent small sample observations, and thus must be regarded as only suggestive in nature.

Information on how policing compares with other occupations in terms of prevalence of disease commonly accepted as stress related is also sparse. For

example, the only U.S. figures on mortality by occupations and cause of death are based on the 1950 census (Guralnick, 1963). The data show that for police officers between the ages of 25 and 59, the risk of death (as measured by the "proportionate mortality ratio") due to cardiovascular disease is significantly higher than the average for U.S. males of similar age in all occupations. However, it is questionable whether these figures are still representative. For example, the 1950 census data show a risk profile for cardiovascular disease among fire fighters similar to that of police officers. More recent morbidity data collected in one large city (Los Angeles), discloses that fire fighters now receive disability pensions for heart disease at more than twice the rate among police officers (Bernard, Gardner, Deaco & Kattus, 1975).

Even with the still limited evidence that police officers display a disproportionate number of stress related problems, numerous programs and approaches to manage and reduce police stress have been suggested (see Kroes & Hurrell, 1975). Though well intentioned, justification for and the efficacy of such remedial efforts necessitate a more definitive study of the problem. In the present investigation an attempt is made to determine factors in police work that are perceived as most stress producing and to relate them to health/safety consequences.

Conceptualizing Stress

In engineering terms, stress refers to an external force directed at some physical object. The result of this force is strain, the temporary or permanent alteration in the structure of the object. Many stress researchers have adopted this engineering convention (stress being the external agent or stimulus and strain being the resultant effect) because of the ease with which it seems to fit into the concept of homeostasis (Lazarus, 1966).

Since the work of Walter Cannon (Cannon, 1932) in the 1930's, homeostatic models have played a large role in both physiology and psychology. From a homeostatic point of view, a stress is some stimulus condition that causes disequilibrium in the system and thereby produces a dynamic kind of strain. The strain, in turn, triggers changes in the system aimed at restoring the original state of equilibrium.

A homeostatic conceptualization is embodied in the work of Hans Selye, a physiologist and acknowledged "father" of stress research. More than twenty-five years ago, Selye defined stress as a nonspecific response of the body to any demands made upon it (Selye, 1956). According to Selye, when an individual is confronted by "any demand" (called a "stressor"), there occurs stages of biological change reflecting different levels of the body's defense mechanisms for coping with the insult. Recurrent, prolonged experiences with intense types of stressors, by requiring sustained activation of these defense mechanisms, can lead to a variety of ailments referred to by Selye as "diseases of adaptation." In other words, diseases caused by the body's own attempts to adapt to stress rather than to the stressor agents directly. Although Selye's research in large measure has been concerned with the physiological effects of physical and humoral stimuli, his mention of "nervous stimuli" as "stressor" agents has had an enormously stimulating effect on research in the physiological and social sciences. Indeed, the bulk of research currently being conducted in the stress field is concerned with "psychological stress", i.e., with the impact of psychosocial factors on the individual (Mason, 1975). Within this growing body of literature, a host of physical and mental disorders have been identified as being triggered by or associated with psychological stressors. Among the more commonly researched physical problems are heart disease (see House, 1974),

hypertension (see Rose & Levine, 1979), ulcers (see Rose & Levine, 1979) diabetes (see Hinkle & Wolf, 1952), backaches or the lower back syndrome (see Brown, 1975), and problems of the immune system (see McQuade & Aikman, 1974). Major mental ailments associated with psychological stress include neurosis and psychosis, personality regressions, sexual dysfunction, so-called traumatic neurosis also known as combat neurosis, and transient situational organic disease of varying severity (see Abram, 1970 & Levi, 1972).

Even with the above apparent associations, causal linkages between psychological stressors and disease processes remain to be clearly delineated. One factor that clouds the issue is that responses to any psychological stimulus may vary widely from one person to another. This consistent observation has lead to "individual fit" formulations of stress that has gained wide acceptance in the psychological stress field (Kasl, 1978; McGrath, 1976; Caplan, Cobb, French, Harrison and Pinneau, 1975). In these formulations, the potential for stress exists when one perceives their response capabilities as inadequate to meet the demands of a given situation. Discrepancies between response capabilities and demands are thought to cause disequilibrium or strain referring to any deviation from normal functioning. Strain may be displayed in a variety of ways. It may be expressed through anxiety and depression-like changes in emotional state (affective strains), through elevations of blood pressure and muscle tension (physiologic strains), through increased smoking, alcohol consumption and other maladaptive actions (behavioral strains). Prolonged recurrent responses of this type are thought to eventually lead to the clinical disorders alluded to above (or health strains).

Job Stress

That job demands or other aspects of the work environment can serve as major sources of stress and strain has been well documented (see Cooper & Payne, 1978 for a comprehensive review). In this regard, role ambiguity (e.g., Kahn, 1964) role conflict (e.g., French & Caplan, 1972), job complexity (e.g., Caplan, Cobb, French, Harrison & Pinneau, 1975), work overload or underload (e.g., Caplan et al., 1975; Rose, Jenkins, and Hurst, 1978), boring, repetitive job routines (e.g., Margolis, Kroes and Quinn, 1974), lack of participation in determining one's work (e.g., Caplan et al., 1975) and responsibility for people (e.g., Cobb, 1974) all loom as important stressors with significant strain consequences ranging from emotional problems through health complaints and disease processes. A separate body of research has elaborated on health and safety effects owing to shift work routines (see Tasto & Colligan, 1978).

Caplan et al. (1975) and Cooper and Marshall (1976) have offered frameworks for organizing the numerous variables in dealing with issues of job stress and strain. While there are some differences, common to both are certain classes of stressor variables representing factors intrinsic to the job (e.g., workload, time pressure, physical danger), organizational factors (e.g., restrictive job policies, responsibility for people, participation in job decisions), career factors (e.g., job insecurity, thwarted aspirations), and work relationships (e.g., problems with supervisors or co-workers). Other similarities are in the treatment of individual/personal or situational factors as moderator influences in the process by which the job stressors result in various strain outcomes. Included here are such factors as social support from one's co-workers, supervisor and family which have been shown (see Cobb, 1976) to affect the amount of strain experienced by workers including the incidence of health problems.

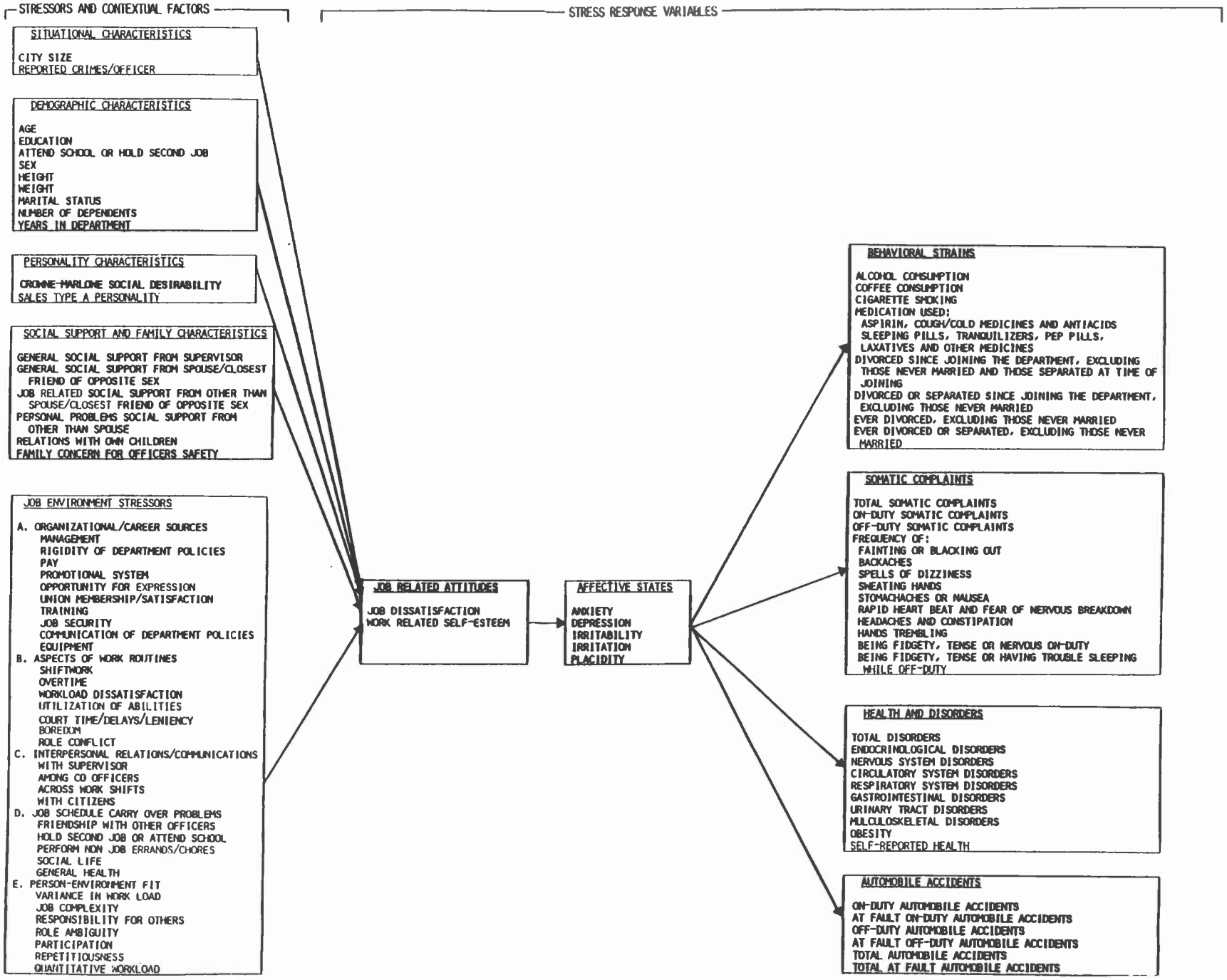
Police Stress and the Current Study

Some of the aforementioned job stressors go to the very heart of police work. Indeed, shift work schedules, monotonous patrol routines with peak skill utilization and effort used only in response to emergencies, responsibility for people sometimes involving life endangering circumstances are regular aspects of a patrol officer's job. Perceived stress and resultant strain owing to these factors have been reported in small sample studies of police officer stress as have a number of other factors (see Kroes & Hurrell, 1975). Among the latter have been administrative/organizational problems such as rigid department policies, inequities in pay, undue time demands for court appearance, poor supervisory relations. Also acknowledged as sources of stress have been the apparent negative public image of the police officer, the public's general apathy toward crime and court leniency in dealing with offenders.

The intent of the current study is to provide a broad-based empirical investigation of job elements perceived stressful by police officers and their related strain consequences. For this purpose, a wide variety of job factors believed to be stress producing in police work are sampled together with an equally large number of adverse outcomes reflecting attitudinal, emotional, behavioral and health difficulties. These are shown in Figure 1 which presents a conceptual framework for the planned data collection and analyses. The framework is akin to those offered by Caplan et al. (1975) and Cooper and Marshall (1976) but modified to include a number of added stressors and strains thought to be present in police work.

Listed in Figure 1 as Job Environment Stressors are those factors referenced from the general job stress literature as well as those in the more limited

FIGURE 1
CONCEPTUAL FRAMEWORK OF STUDY AND ANALYSIS



reports focusing on police work. These factors are classified under the headings of Organizational/Career Sources, Aspects of Work Routines, Interpersonal Relationships/Communications, Job Schedule Carry Over Problems, and Person-Environment Fit. The latter category is reserved for those stressors measured in terms of differences between preferred and existing work conditions as presently perceived.

Situational, Demographic, Personality and Social Support & Family Characteristics are listed in the same column as the Job Environment Stressors and represent contextual types of factors. Either directly or through interaction with the aforementioned job stressors, they may affect the amount of strain an individual experiences.

Various responses to stress or strains are listed and include negative attitude and emotional problems, behavioral problems (e.g. excessive drinking, smoking, poor sleep and familial problems). Accidents could also be viewed as a behavioral consequence though placed in a separate category. Problems secondary to these behavioral measures include an assortment of somatic complaints and illnesses of presumed stress origin.

In the scheme described in Figure 1, Job Related Attitudes and Affective States are treated as intermediate responses to the consequences of job stressors. Such reactions signify initial stressful experience and become the basis for the more specific strains which follow.

Overall, the framework suggests a causal sequence of stress-strain events. However, this study, while defining and evaluating relationships between stressors and strains offers no basis for inferring causality. In its overall intent, it seeks to characterize: (1) stressful elements in police work as

perceived in a large sample of police personnel, and (2) the relationships between these stress factors and strains reflecting attitudinal/emotional difficulties, behavioral/accident problems, and health outcomes.

METHODS

The present project represents a merger between what were initially two independent efforts. One of these efforts came about as a result of what was then the International Conference of Police Association's (ICPA)[1] interest in studying police officer stress in a sample of their constituent members, and the willingness of the Police Foundation[2] to fund and plan an active role in the conduct of such a study. The other involved the National Institute for Occupational Safety and Health (NIOSH), which was planning an investigation of job stress factors in policing in a number of cities based upon an exploratory study of the problem among police officers in one municipality. Contacts and discussions among key staff in these different organizations indicated the commonality of their research goals, and it was decided to collaborate in the investigation. This was to include joint efforts in instrument development, analysis of acquired data, and the preparation of a final report. Although the usual problems were expected to arise (and did) when different groups, each with their own priorities, attempt to work jointly, it was believed that the end-product of this project could be strengthened by this collaboration. Aside from the opportunity to gather data from two separate samples for reliability and other purposes, there were the benefits of capitalizing on the NIOSH expertise in dealing with occupational health problems, the understanding and cooperation of the police officers not only as worker subjects but as research partners in this study, and the Police Foundation's experience in researching police issues.

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[1] ICPA has since been terminated with many member groups forming the International Union of Police Associations (IUPA) which is affiliated with the AFL-CIO. Hereinafter, the IUPA will be used rather than the older ICPA designation.

[2] The Police Foundation is a privately funded, independent, non-profit organization established by the Ford Foundation in 1970 and dedicated to supporting innovation and improvement in police work.

Instrument Development

Independently, NIOSH and IUPA each envisioned a questionnaire survey approach to gathering information on stress factors in police work and their associated behavioral, social and health consequences. In a plan for collaboration, it was agreed that the questionnaire would:

-build upon those used in recent surveys of job stress. and strain as exemplified in the Caplan *et al*. (1975), and Quinn and Shepard (1974).

-incorporate wherever possible, existant standardized scales or develop new ones offering a more meaningful measure of job stress or resultant strain.

-take account of job stress and strain factors specific to policing as defined by the available literature.

-undergo pre-testing.

A first questionnaire encompassing this subject matter was administered to 100 police officers in Kansas City, Missouri as part of a formal pre-test of the instrument. In this effort, comments concerning questionnaire length, item readability and format were solicited and low yield items were identified and eliminated via factor analysis. The final version of the questionnaire was subsequently prepared for distribution to the NIOSH and IUPA survey samples as described below. A copy of the questionnaire appears in Appendix A.

In an attempt to create indicators of maximum reliability, several multiple-item scales were constructed, based upon factor analyses of the responses of the combined sample. Based upon these results, scales were created combining the

responses to those items which demonstrated conceptual coherence and formed clear factors.[3]

Table 1 lists all the measures analyzed in this study, the number of items which constitute them, their internal consistency and the sources from which the measures derive.

Sample Selection

The IUPA and NIOSH samples differed in their manner of selection and mode of questionnaire distribution. The IUPA sample was drawn in two steps. First, staff of the IUPA and Police Foundation selected 18 cities[3] whose local police officer associations were affiliated with the international body and which afforded broad regional representation. Once selected, the roster of IUPA member officers in each city department was arranged alphabetically. Individual names were then drawn in accordance with a selection rule designed to meet a sample size large enough to afford a 95% confidence interval for any given result, assuming even a 40% response rate and the expectation that 50% of the officers sampled possess the characteristic being sampled for. (See Cochran (1963) for details concerning this sampling procedure; the actual sampling plan is presented in Appendix B). Table 2 presents the total number of IUPA members in the 13 city police departments whose data were actually processed in this study.[4]

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[3]The resulting scales, distributions of responses to items composing the scales and inter-item correlations are available from the authors upon request.

[4]Questionnaire data received from patrol officer respondents in 13 of these 18 cities were actually processed in this study. Chiefs in five cities objected to the IUPA surveying member police officers in their departments. Although it was a subject of some dispute amongst the groups, it was finally decided to exclude these cities from the survey. This decision was predicated upon the fact that NIOSH was to undertake the overall analysis of both the IUPA and NIOSH data samples, and the NIOSH study plan called for processing of questionnaire data obtained with the mutual consent of both the police administration as well as rank-and-file officers in any sampled police department.

Table 1

Questionnaire Scales/Measures Used: Reliabilities and Sources

Description	Number of Items	Estimates of Internal Consistency	Source
SITUATIONAL CHARACTERISTICS			
City Size	1	--	--
Reported Crimes/Officer	1	--	--
DEMOGRAPHIC CHARACTERISTICS			
Age	1	--	--
Education	1	--	--
Height	1	--	--
Weight	1	--	--
Sex	1	--	--
Marital Status	1	--	--
Number of Dependents	1	--	--
Years in Department	1	--	--
PERSONALITY CHARACTERISTICS			
Social Desirability	6	.65	Crowne & Marlow (1964)
Type A Personality	3	.74	Sales (1969)
SOCIAL SUPPORT & FAMILY CHARACTERISTICS			
General Social Support from Supervisor	2	.65	Refinement of scales used by Caplan et al. (1975), based the research of Pinneau (1972 Taylor & Bowers (1972), Liker (1961) and Gore (1974)
Job-Related Social Support from Other than Spouse	3	.72	
General Social Support from Spouse/ Closest Friend of Opposite Sex	2	.73	
Personal Problems Social Support from Other than Spouse	3	.70	
Good Relations with Own Children	2	.40	Original
Family Concern for Safety	2	.48	Original
JOB ENVIRONMENT STRESSORS			
A. Organizational/Career Sources			
Satisfaction with Management	2	.68	Original
Rigidity of Department Policies	2	.78	Original

Table 1

Questionnaire Scales/Measures Used: Reliabilities and Sources
(continued)

Description	Number of Items	Estimates of Internal Consistency	Source
Satisfaction with Pay	2	.59	Original
Satisfaction with Promotion System	3	.81	Original
Union Membership/Satisfaction	1	--	--
Satisfaction with Training	2	.52	Original
Job Future Ambiguity	4	.73	From Caplan et al. (1975)
Communication of Department Policies	2	.78	Original
Satisfaction with Equipment	3	.67	Original
B. Aspects of Work Routines			
Shiftwork	1	--	--
Hours Overtime	1	--	--
Workload Dissatisfaction	3	.81	Revised Caplan et al. (1975) Scale
Underutilization of Abilities	2	.62	Original
Court Appearance Time	1	--	Original
Court Leniency	3	.47	Original
Court Delays	3	.54	Original
Boredom	3	.78	Caplan et al. (1975)
Role Conflict	3	.81	Partially derived from Caplan et al. (1975) based on Kahn et al. (1964), and Kahn & Quinn (1970).
C. Interperonal Relations/ Communications			
Relations with Supervisor	3	.84	Original
Inter Officer Communication	4	.64	Original
Sharing of Information Across Shifts	2	.68	Original
Police Citizen Relations	3	.78	Original
D. Job Carry-Over Problems			
Harmful Effect of Job Hours and Days on:			
Friendship with Police Officers	2	.87	Original
Holding Second Job or Attending School	4	.88	Original
Ability to Perform Personal Errands and Chores	4	.92	Original
Social Life	10	.93	Original
General Health	10	.92	Original

Table 1

Questionnaire Scales/Measures Used: Reliabilities and Sources
(continued)

Description	Number of Items	Estimates of Internal Consistency	Source
E. Person-Environment Fit			
Variance in Work Load:			
(Environment-Preferred)	3	.69	
Environment-Preferred	3		Caplan et al. (1975)
Job Complexity:			
(Environment-Preferred)	4	.62	
Environment-Preferred	4		
Responsibility for Others:			
(Environment-Preferred)	2	.64	Subset of items in
Environment-Preferred	2		Caplan et al. (1975)
Role Ambiguity:			
(Environment-Preferred)	3	.74	Caplan et al. (1975)
Environment-Preferred	3		
Participation:			
(Environment-Preferred)	3	.72	Derived from Caplan et al. (1975), Likert (1961 and Caplan (1971)
Environment-Preferred	3		
Quantitative Work Load:			
(Environment-Preferred)	3	.68	Derived from Caplan et al. (1975), based upon Caplan (1971)
Environment-Preferred	3		
Repetitiousness:			
(Environment-Preferred)	2	.47	Althouse & Hurrell (1978
Environment-Preferred	2		
JOB RELATED ATTITUDES			
Job Dissatisfaction	2	.70	Based upon Caplan et al. (1975) derived from Quin and Shepard (1974)
Work Related Self-Esteem	4	.64	Quinn & Shepard (1974)
AFFECTIVE STATES			
Anxiety	3	.83	Derived from Caplan et a
Depression	4	.88	(1975), Cobb (1970)
Irritability	2	.25	Zung (1965), Gurin et
Irritation	3	.83	al. (1960), and
Placidity	3	.77	Spielberger et al. (1970 Caplan et al. (1975)

Table 1

Questionnaire Scales/Measures Used: Reliabilities and Sources
(continued)

Description	Number of Items	Estimates of Internal Consistency	Source
BEHAVIORAL STRAINS			
Alcohol Consumption	3	.61	Original
Coffee Consumption	1	--	--
Usage of Cigarettes	1	--	--
Medication Used:			
Aspirin, Cough/Cold Medicines and Antacids	3	.56	Original
Sleeping Pills, Tranquilizers, Pep Pills, Laxatives and Other Medications	5	--	Original
Divorce Since Joining Department	1	--	
Divorce or Separation Since Joining Department	1	--	Original
Ever Divorced	1	--	
Ever Divorced or Separated	1	--	
SOMATIC COMPLAINTS			
Total Somatic Complaints	30	.88	Original
On-Duty Somatic Complaints	15	.86	Original
Off-Duty Somatic Complaints	15	.87	Original
Frequency of:			
Fainting or Blacking Out	2	.97	
Backaches	2	.93	
Spells of Dizziness	2	.88	
Hands Sweating	2	.92	
Stomachaches or Nausea	4	.84	
Rapid Heart Beat and Fear of Nervous Breakdown	4	.84	Caplan et al. (1975)
Headaches and Constipation	4	.84	
Hands Trembling	2	.91	
Being Fidgety, Tense of Nervous While On-Duty	2	.76	
Being Fidgety, Tense of Having Trouble Sleeping While Off-Duty	2	.57	

Table 1

Questionnaire Scales/Measures Used: Reliabilities and Sources (continued)

Description	Number of Items	Estimates of Internal Consistency	Source
HEALTH AND ILLNESSES			
Physical and Mental Ilness	(Thirty-two illnesses treated separately and combined)		Adapted from Quinn and Shepard (1974)
Obesity	1		Caplan et al. (1975)
Self-Reported General Health	1	--	--
AUTOMOBILE ACCIDENTS			
On Duty Automobile Accidents	1	--	Original
At Fault On Duty Automobile Accidents	1	--	Original
Off Duty Automobile Accidents	1	--	Original
At Fault Off Duty Automobile Accidents	1	--	Original
Total Automobile Accidents	1	--	Original
Total At Fault Automobile Accidents	1	--	Original

Also shown are the numbers of questionnaires directed to selected members of these departments in fulfilling the sample size requirements, the number of questionnaires returned and the response rate. All questionnaires were distributed by mailing to the police officer's home address. This was accomplished during January 1976, when a total of 7,306 questionnaires were mailed, accompanied by cover letters from union leaders requesting cooperation. The questionnaire returns in some instances included responses from police officers in supervisory or administrative positions. Because this study sought to focus specifically on job stress among patrol officer personnel, only the responses of such personnel were analyzed here. The numbers of completed questionnaires received from patrol officers for the different cities in the IUPA sample are listed in the last column of Table 2.

The NIOSH sample was much smaller than the one of the IUPA and was selected in less systematic fashion. More specifically, the police departments included in the NIOSH sample were chosen because of (a) the presence of NIOSH consultants or other contacts in the locality who would assist in gaining the participation of the police administrators and/or police officers in the survey and actually handle the questionnaire distribution, or (b) receipt of direct requests from the police department administrator of a given city to have their force included in the survey. There were 15 such police departments in the NIOSH sample, owing to the aforementioned factors, representing a mix of medium size city and smaller municipalities, largely located in the southern and western areas of the U.S. Table 3 lists these cities. Depending upon the cooperation of the department administrators, questionnaires were distributed on-site to as many officers as possible during the January-February period in 1976. Table 3 also summarizes for the different departments in the NIOSH

Table 2

IUPA Sample Response by Department

Department	Total Force	Questionnaires Distributed	Questionnaires Returned	Response Rate (%)	Returns from Patrol Officers Only
Albuquerque, NM	509	305	110	36.1	65
Bellevue, WA	88	65	28	43.1	16
Buffalo, NY	1288	765	213	27.8	137
Cleveland, OH	2211	740	127	17.2	98
Detroit, MI	5404	876	266	30.4	245
Joplin, MO	74	78	15	19.2	11
Toledo, OH	704	501	130	25.9	109
Trenton, NJ	313	350	123	35.1	73
Memphis, TN	1316	628	233	37.1	154
Minneapolis, MN	840	665	225	33.8	107
St. Louis, MO	2173	820	273	33.3	189
San Francisco, CA	1745	783	227	29.0	161
Seattle, WA	1035	730	268	36.7	169
Unidentified*	-	-	85	-	57
Total	17,750	7306	2312	31.6	1591

* Returned questionnaires from police officers whose departments could not be ascertained.

Table 3

NIOSH Sample Response by Department

Department	Total Force	Questionnaires Distributed	Questionnaires Returned	Response Rate (%)	Returns from Patrol Officers Only
Bensenville, IL	32	32	13	40.6	11
Berkeley, CA	185	185	101	54.6	78
Birmingham, AL	644	325	295	90.8	258
Charleston County, SC	130	127	69	54.3	50
Fremont, CA	117	62	39	62.9	26
Gilroy, CA	38	38	20	52.6	14
Lakewood, CO	190	151	127	84.1	78
Los Gatos, CA	28	28	17	60.7	9
Mountain View, CA	67	34	23	67.6	16
Reno, NE	233	103	70	68.0	48
San Francisco Airport, CA	25	25	18	72.0	18
San Jose, CA	723	97	23	23.7	19
Tuscaloosa, AL	138	76	26	34.2	25
Washoe County, NE	160	53	26	49.1	12
Wood Dale, IL	22	22	4	18.2	2
Unidentified*	--	--	16	--	3
TOTAL	2732	1358	887	64.9	667

* Returned questionnaires from police officers whose departments could not be ascertained.

sample, their roster size, the number of questionnaires distributed and returned, the response rate and the number of patrol officer respondents. As in the IUPA sample, only completed returns from patrol officers were evaluated in this study.

Treatment of Sample Data

Although neither sample can be taken as scientifically representative of all police officers in the United States, they do provide information from a large number of officers in departments of different sizes and locations with diverse problems and administrative styles. Because the sampling techniques were different and the sizes of departments sampled quite disparate, it was deemed "reasonable" to present data from the IUPA and NIOSH samples separately in the sections of this report that discuss the levels of stressors and strains. However, in order to provide maximum variance, the two samples were combined in the analyses of the relationships between stressors and strains. Other differences between the IUPA and NIOSH samples that could have produced some differential response or bias are discussed later. Cross-comparing the responses of the two groups of officers served to check to some extent on any such indications.

RESULTS

Response Rate

As described in Tables 2 and 3, the rate of questionnaire returns from the NIOSH sample was much greater (sample average = 64.9%) than that observed in the IUPA group (sample average = 31.6%). This result could reflect differences in the mode of questionnaire distribution among other factors. Unfortunately,

provisions for follow-up mailings to promote greater response among officers in the IUPA sample could not be effected. Admittedly, a low response to a one-time solicitation can place severe limitations on a meaningful analysis of survey data. On the other hand, it can be argued that the response rates for strictly patrol officers in this survey are, in actuality, higher than those listed in Tables 2 and 3. Indeed, the indicated figures are based on the total police roster for a given department which included other classifications of police personnel whose returns comprised less than one-third of the total number received. Cross-comparing the data from the IUPA and NIOSH samples was also seen as providing an added means for checking on the reliability of the survey results.

The goal of the data analysis undertaken here was two-fold. First, it was to measure the levels of stressors and strains among patrol officers as extracted from their questionnaire responses. The second intent was to define relationships between the apparent stressors and strain measures.

Levels of Stressors and Contextual Factors

1. Situational/Demographic/Personality Factors: Tables 4 and 5 and Figure 2 describe data obtained on certain situational and individual factors that may influence one's perception and response to stress. For example, Table 4 shows that the IUPA sample was drawn from cities/localities, of much larger population than the NIOSH sample. On the other hand, the number of reported crimes per officer per year was greater for the NIOSH sample than for the IUPA sample. The latter suggests that patrol officers in the NIOSH sample could have a heavier workload. Taken together, the cities/localities in the two samples range from small (e.g., WoodDale, Ill.) to those of moderate size (e.g., Detroit, MI.) and reflect diverse regions of the continental United States. The combined sample median would approximate a medium size city.

Table 4

Summary Description of Sample Cities/Localities Served

Population Size of Cities Localities Served	# of Departments	Mean Crime Rate/Officer**	Geographic Regions Represented
IUPA			
<200,000	3	36.53	NW, C, NE
200,000-399,999	1	49.73	SW
400,000-599,999	4	28.90	NE, NC, NW
600,000-799,999	4*	33.82	NC, SC, WC
800,000-999,999	-	-	-
>999,999	1	28.81	NC
TOTAL	13	33.81	NE,NC,NW,C,WC,SC
NIOSH			
<50,000	4	37.99	C, WC
50,000-99,999	4	46.47	WC, SC
100,000-199,999	4	47.89	WC, SE
200,000-299,999	-	-	-
300,000-399,999	1	29.53	SC
400,000-499,999	1	60.97	WC
TOTAL	14	44.28	WC, C, SC, SE

*San Francisco Airport Police were included in the San Francisco city category in this summary.

Code for Geographic Region:
NE = North East
E = East
SE = South East
NC = North Central
C = Central
SC = South Central
NW = North West
WC = West Central
SW = South West

** Defined as number of reported crimes for the 1976 year divided by the total number of police personnel found in a given city or locale.

Table 5

Demographic Characteristic Means

VARIABLE NAME	NIOSH SAMPLE	IUPA SAMPLE	TOTAL SAMPLE
Age (in years)	30.4	33.2	32.4
Weight (in pounds) (males only)	186.1	190.3	189.1
Height (in inches) (males only)	71.2	71.3	71.3
Percent Male	96.9	98.7	98.1
Percent Married	82.3	84.1	83.2
Percent White	90.7	93.4	92.5
Number of Dependents	1.1	1.3	1.3
Years in Department	5.8	8.9	8.0

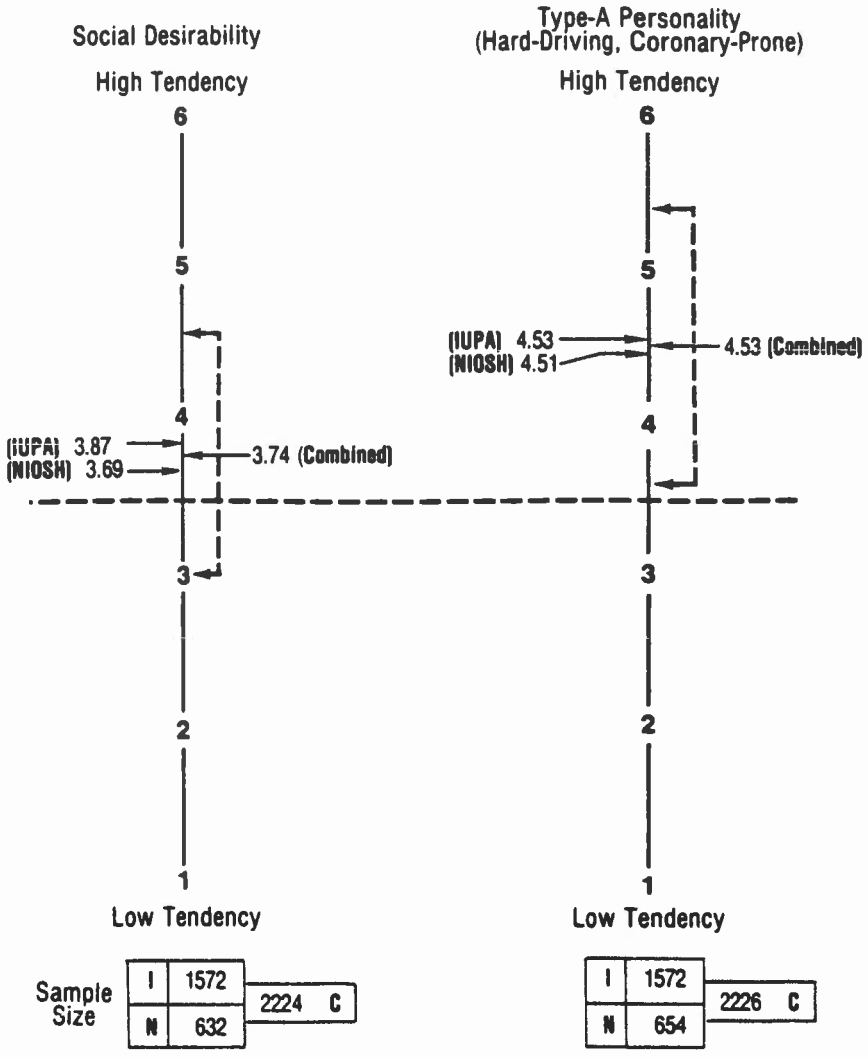

Figure 2. Mean IUPA, NIOSH and Combined Sample Ratings of Personality Traits (brackets depict combined sample mean ±1 standard deviation)

Patrol officers in the NIOSH and IUPA samples show little differences in their individual characteristics as depicted in Table 5. The typical officer is a white married male, 32 years of age, weighing 189 pounds, 5 feet 11 inches in height, having one dependent, and almost 8 years of service in his current department. Figure 2 plots the mean ratings for patrol officers in the NIOSH and IUPA samples on two personality scales which were components of the questionnaire. Also shown is the mean and standard deviation for the combined IUPA-NIOSH samples on these scales. The NIOSH and IUPA respondents show similar scores in terms of socially desired behavior, and are near the middle of the scale. Near identical ratings are also seen for both samples of respondents to the Type A personality scale. In this instance, however, the ratings show some deviation from the mid-range and in a direction which suggests the average officer to have a hard-driving temperament, a suspected risk factor in coronary heart disease.

2. Job Environment Stressors. Figures 3-9 and Tables 6 summarize responses to questionnaire items depicting assorted job elements which may act as real or potential sources of stress in police work. These factors are treated in groups or subcategories as noted below.

a. Organization/Career Elements - Separate and combined sample ratings expressing degree of satisfaction of IUPA and NIOSH respondents to questionnaire items dealing with management, rigidity of department policies, pay, promotion plan, opportunity for expression, union activity, training, job future security, departmental communication policy and equipment are shown in Figures 3a and 3b. In all cases, the average IUPA ratings show more dissatisfaction with these different elements than those from the NIOSH group. Such differences are most marked for response to the management, promotion plan and departmental

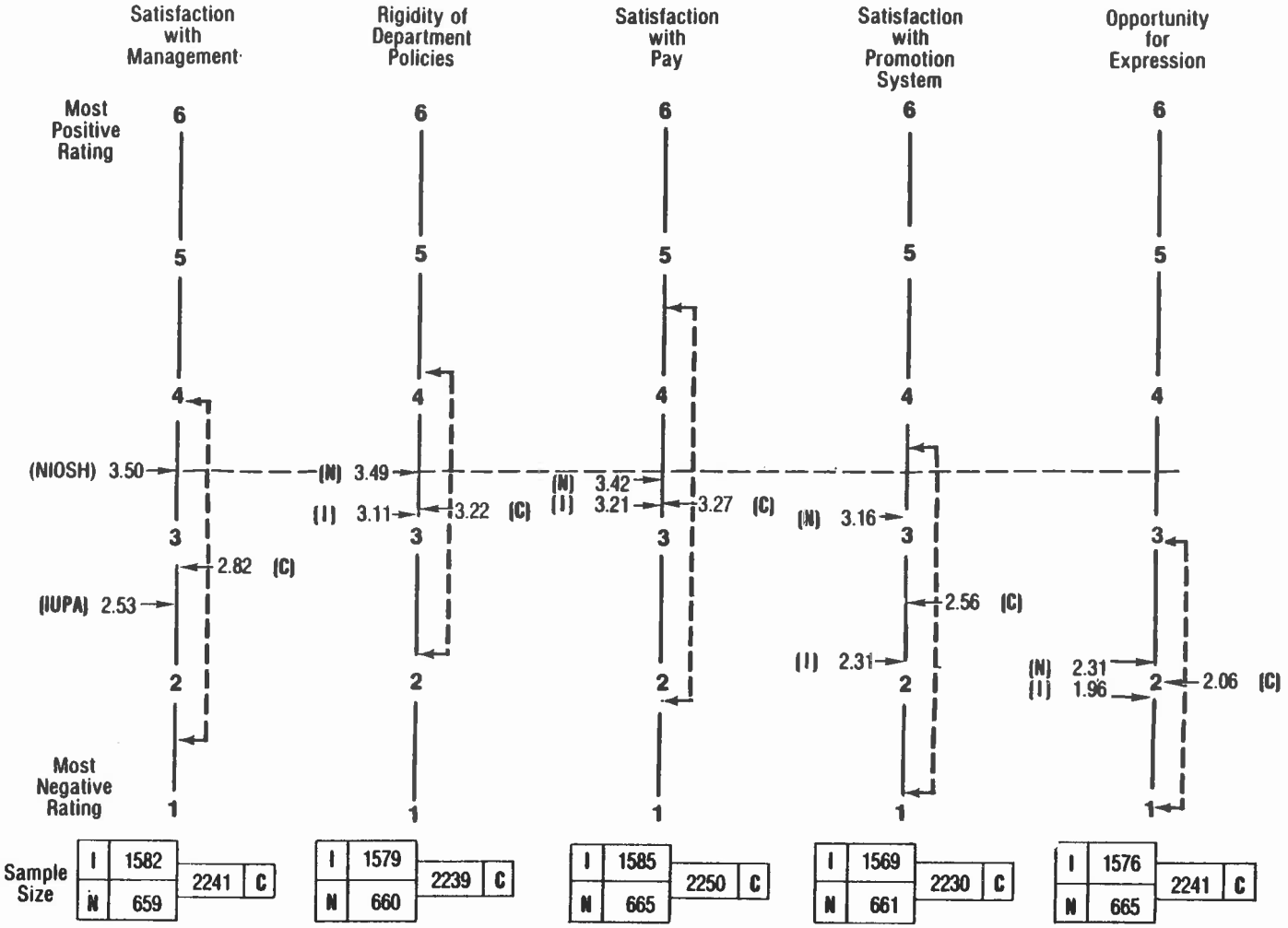

Figure 3a. Mean IUPA, NIOSH and Combined Sample Ratings of Organizational Career Sources of Stress (brackets depict combined sample mean ±1 standard deviation)

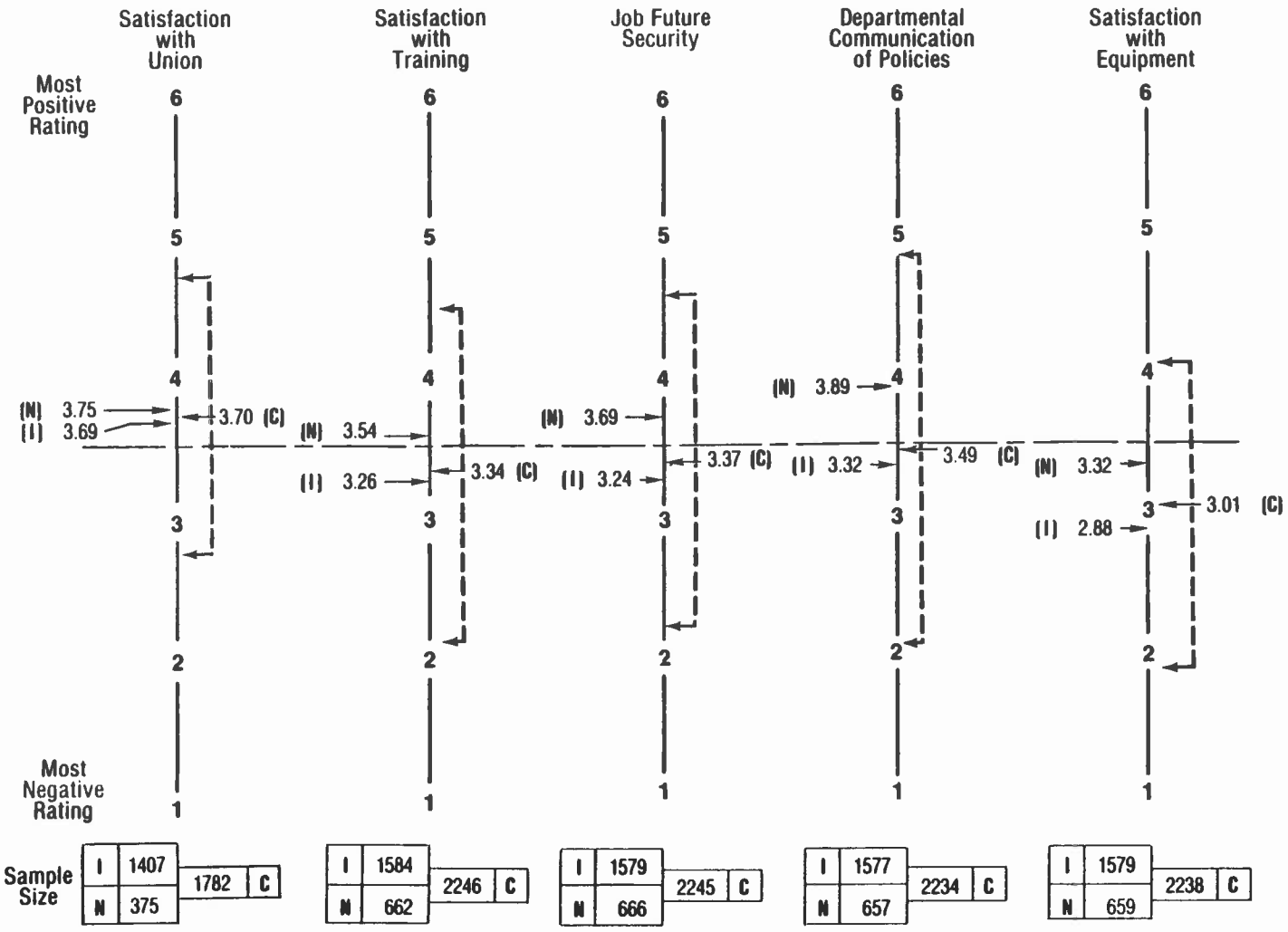

Figure 3b. Mean IUPA, NIOSH and Combined Sample Ratings of Organizational/Career Sources of Stress — Continued (brackets depict combined sample mean ±1 standard deviation)

communication scaled items. Ratings reflecting most dissatisfaction for either the IUPA or NIOSH respondents involve management, promotion, opportunity for expression and equipment issues. For the other job elements, the mean ratings for either sample or the combined one fall in the mid-range of the scale, suggesting no extreme reactions either favorable or unfavorable.

b. Work Routines - This subcategory included elements encompassing overtime and rotating shifts, and time spent in court plus certain perceptions of job routines (Table 6 and Figure 4). The latter included ratings of satisfaction with workload, use of skills, court work, and other job attributes. Most dissatisfaction among respondents in both samples was directed to court leniency to offenders and to a lesser extent court delays. Otherwise, the IUPA and NIOSH officers held positive views about their work. Both groups indicated that their work was neither boring nor subject to conflicting responsibilities, underutilization of their abilities or problematic workloads. The only major differences between the two samples of respondents appeared to be in Table 6 where it was shown that nearly twice as many IUPA officers worked rotating shifts. Whereas the NIOSH officers were subject to more overtime, both groups of respondents registered about the same amount of unwanted overtime hours.

c. Inter-Personal Relations/Communication - This subcategory covered items pertaining to the nature and quality of patrol officer interactions or contacts between themselves, their supervisors and the public. Communications across shifts was also examined in this context. Figure 5 describes mean ratings on scales of these elements as obtained for the IUPA and NIOSH respondents, both separate and combined. The most negative ratings are indicated for police-citizen relations, and the most positive ratings for supervisory relations and communication across shifts. The NIOSH sample of officers give more favorable

Table 6

Aspects of Work Routines

VARIABLE NAME	NIOSH SAMPLE	IUPA SAMPLE	TOTAL SAMPLE
Percent Who Work Rotating Shifts	20.2	48.1	40.2
Hours Overtime Worked Per Week	4.5	3.8	4.0
Hours Unwanted Overtime Worked Per Week	1.5	1.6	1.5
Hours Spent in Court Per Week	2.1	2.6	2.4

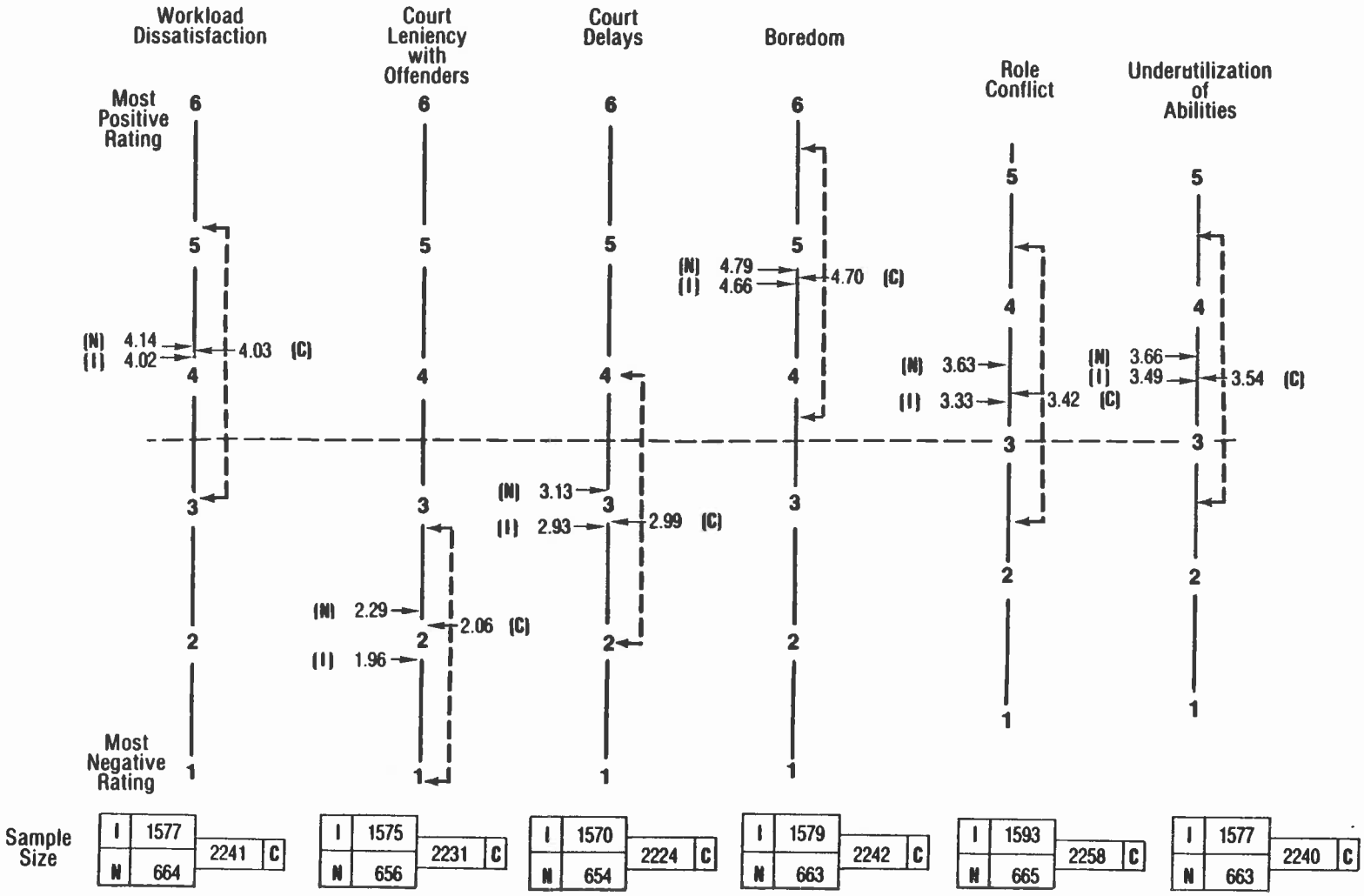

Figure 1. Mean IUPA, NIOSH, and Combined Sample Ratings of Aspects of Work Routines (brackets depict combined sample means ±1 standard deviation)

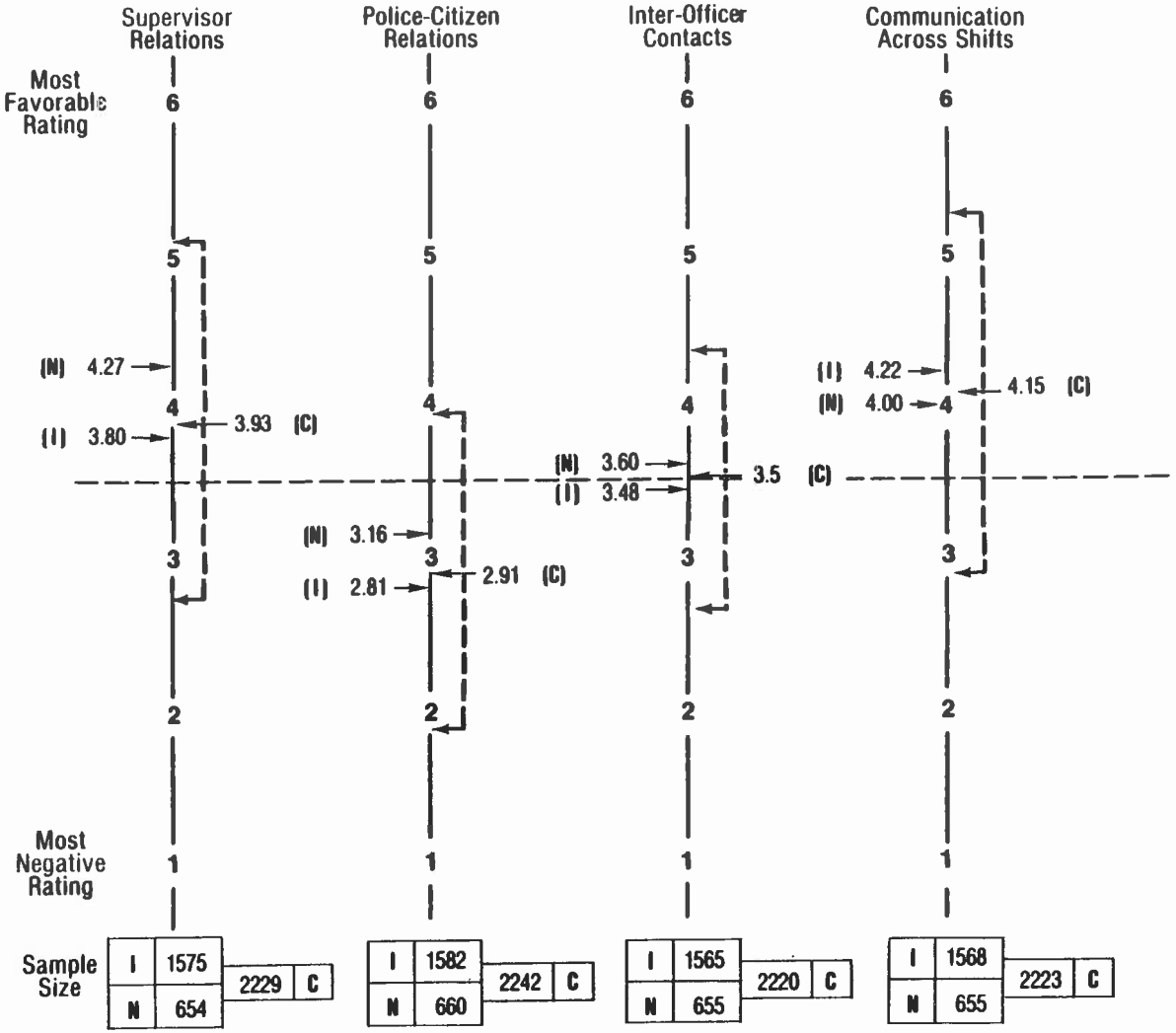

Figure 5. Mean IUPA, NIOSH and Combined Sample Ratings of Interpersonal Relations/ Communications Stressors (brackets depict combined sample mean ±1 standard deviation)

responses than the IUPA respondents on three of the four scales but these mean differences are not substantial. Overall, the mean ratings seem to fall in the mid-range of each scale.

d. Personal Factors - Figure 6 plots the mean officer ratings on questionnaire items and scales designed to measure the effect of job schedules on various psycho-social and related aspects of their lives. The IUPA and NIOSH means are almost identical but show results that are somewhat mixed if not inconsistent. While officers in both samples see the least harmful effect of job hours or days worked on friendships with other police officers, they view these work schedules as most detrimental to their social life. The mean ratings here, however, all hover around the middle of the scale suggesting no extreme reaction.

e. Person-Environment Fit - Shown in Figures 7a and 7b are the scaled ratings of the person-environment fit measures for a number of job features as extracted from the questionnaire responses of the IUPA and NIOSH respondents. On each scale, a positive value indicates that the job situation provides more of the specified feature than the person desires; a negative score means that the officer wishes to have more of that job feature than actually provided or perceived. Only minor differences appear between the mean ratings of P-E fit measures for the NIOSH and IUPA samples on the designated job characteristics. Job participation shows the most discrepant P-E measure, the police officers indicating too little opportunity to determine the way they should carry out their job. Responsibility for others also shows notably less of this characteristic than desired by the police officers. Repetitiousness is considered to be greater than desired with there being similar feelings about role ambiguity but to a lesser extent. Other job features such as variance in workload, job complexity, and amount of workload reveal smaller divergencies in terms of the mean P-E fit measures for the respondent police officers.

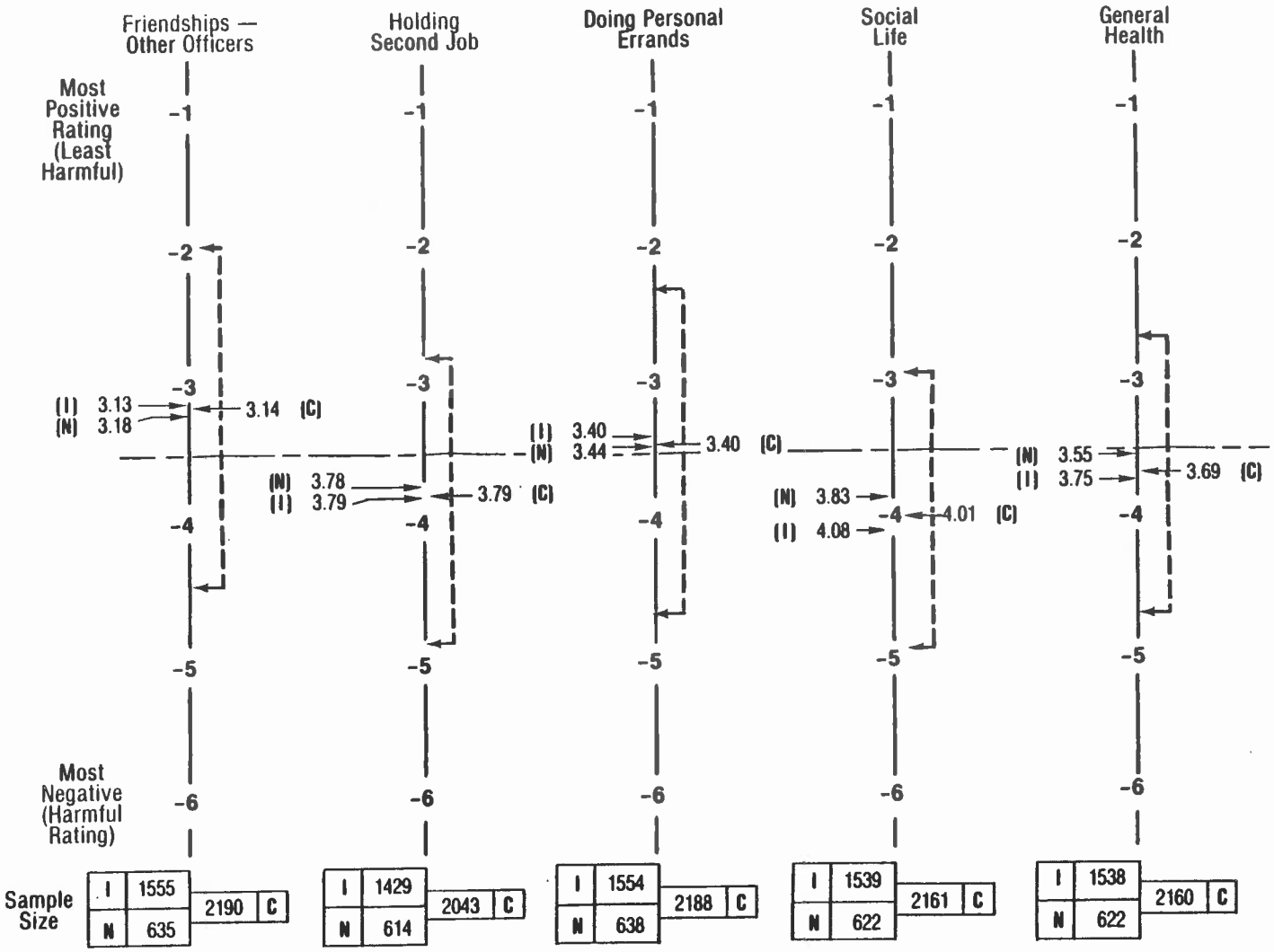

Figure 6. Mean IUPA, NIOSH and Combined Sample Ratings of Job Carry-Over Problems (brackets depict combined sample mean ± standard deviation)

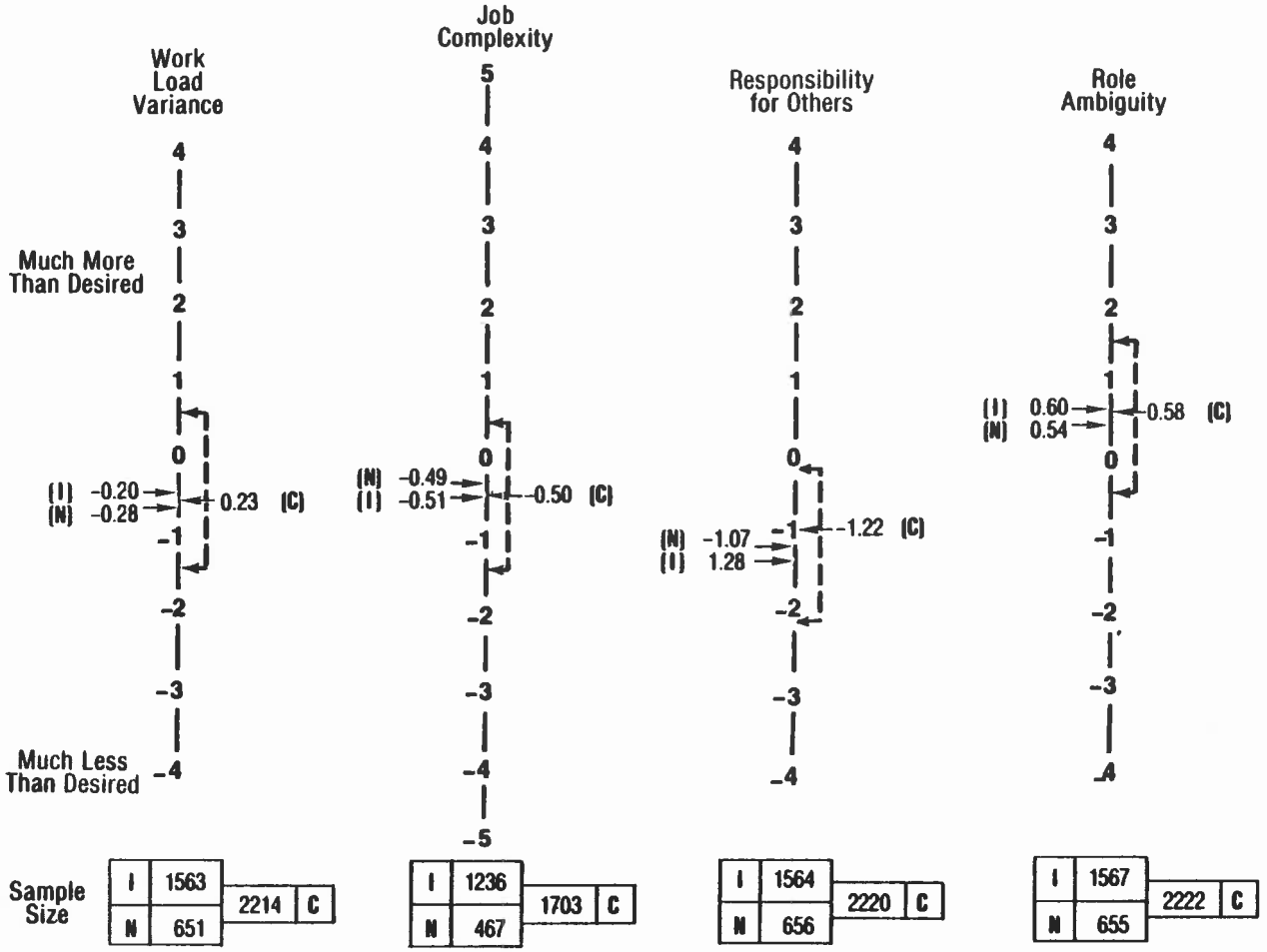

Figure 7a. Mean IUPA, NIOSH and Combined Sample Ratings of Person-Environment Fit Stressors — Signed Values (brackets depict combined sample mean ± 1 standard deviation)

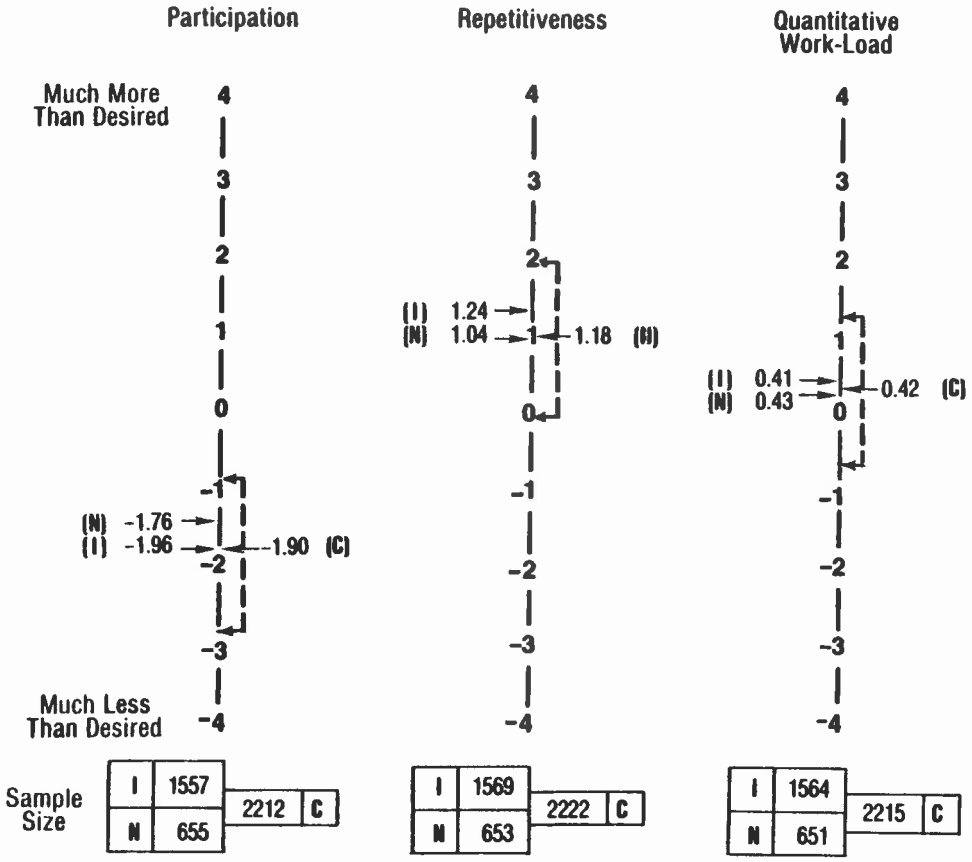

Figure 7b. Mean IUPA, NIOSH and Combined Sample Ratings of Person-Environment Fit Stressors — Signed Values (brackets depict combined sample mean ±1 standard deviation). Continued from Figure 7a

Figures 8a and 8b show the scales of P-E fit measures for the same aforementioned job features when scored using absolute values of the differences between the amount offered by a job situation and the amount preferred. In this scoring procedure, a value of '0' indicated no differences in P-E fit and a value of '4' (or '5' in the case of job complexity) represented the maximum deviation between the desired and actual level of a given job feature (in either direction, i.e., too much or too little). The results for this type of analysis were quite comparable to those found when directional differences were taken into account. That is, extent of participation was the job feature displaying the most P-E fit discrepancy for the police officer respondents. P-E ratings for responsibility for others, job repetitiousness and role ambiguity showed some divergence but to a lesser extent. Overall, the mean P-E scores do not suggest extreme mismatches in terms of preferred versus perceived amounts of a given job characteristic.

3. Social Support/Family Environment - Figure 9 indicates the mean ratings offered by the officers in the IUPA and NIOSH samples to scales of questionnaire items concerned with social support including aspects of their familial environment. Only small differences exist between the two samples and such data shows that both sets of officers receive the highest level of social support from their spouses or closest friends of the opposite sex. Ratings of job support and help with personal problems from other sources, excluding one's spouse or closest friend from the opposite sex, are notably lower. Of particular interest here is the low level of job support perceived from one's supervisor especially in the IUPA sample. The mean officers' ratings convey positive concerns on the part of their families for their safety and suggest good relationships with their children.

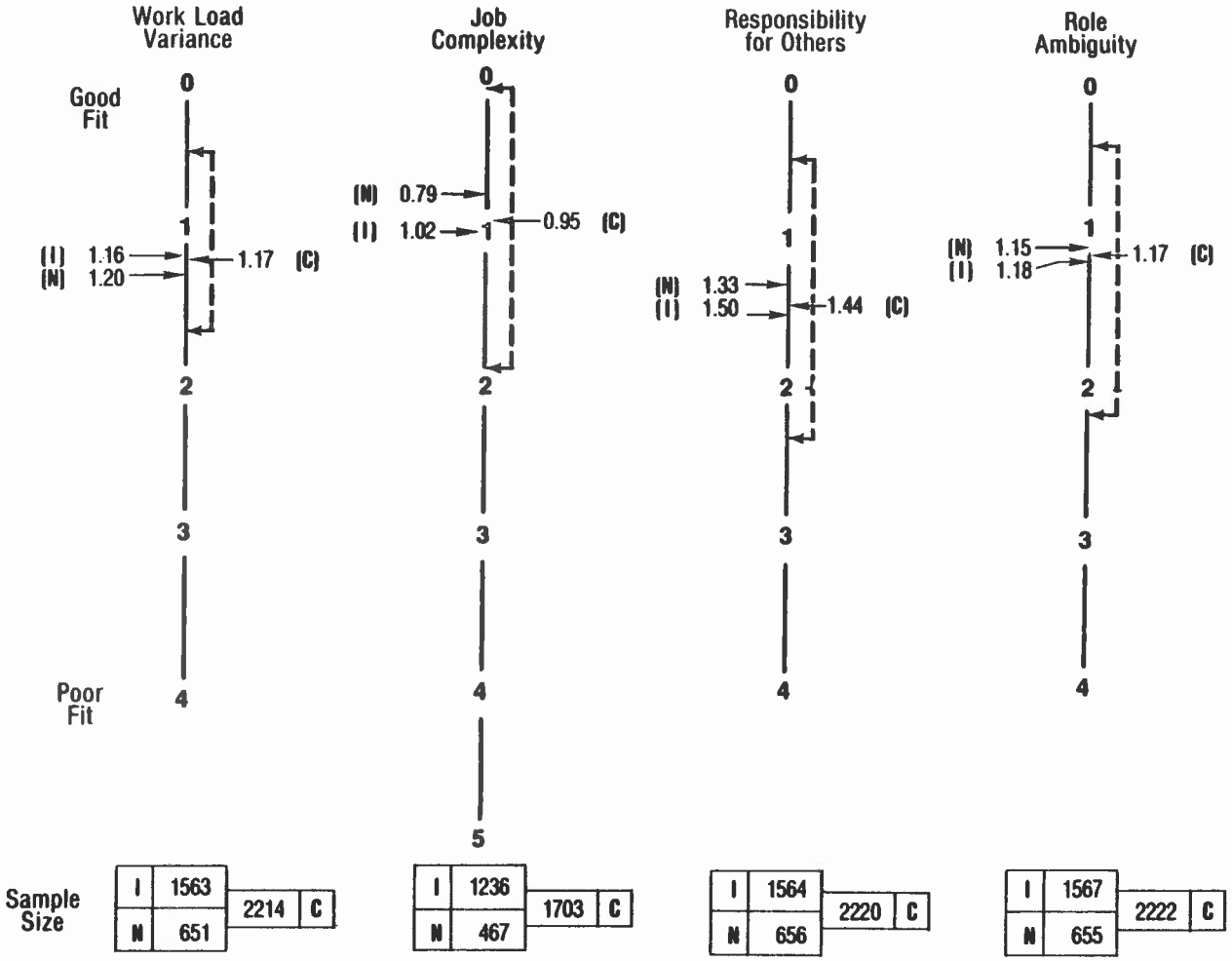

Figure 8a. Mean IUPA, NIOSH and Combined Sample Ratings of Person-Environment Fit Stressors — Absolute Values (brackets depict combined sample mean ± 1 standard deviation)

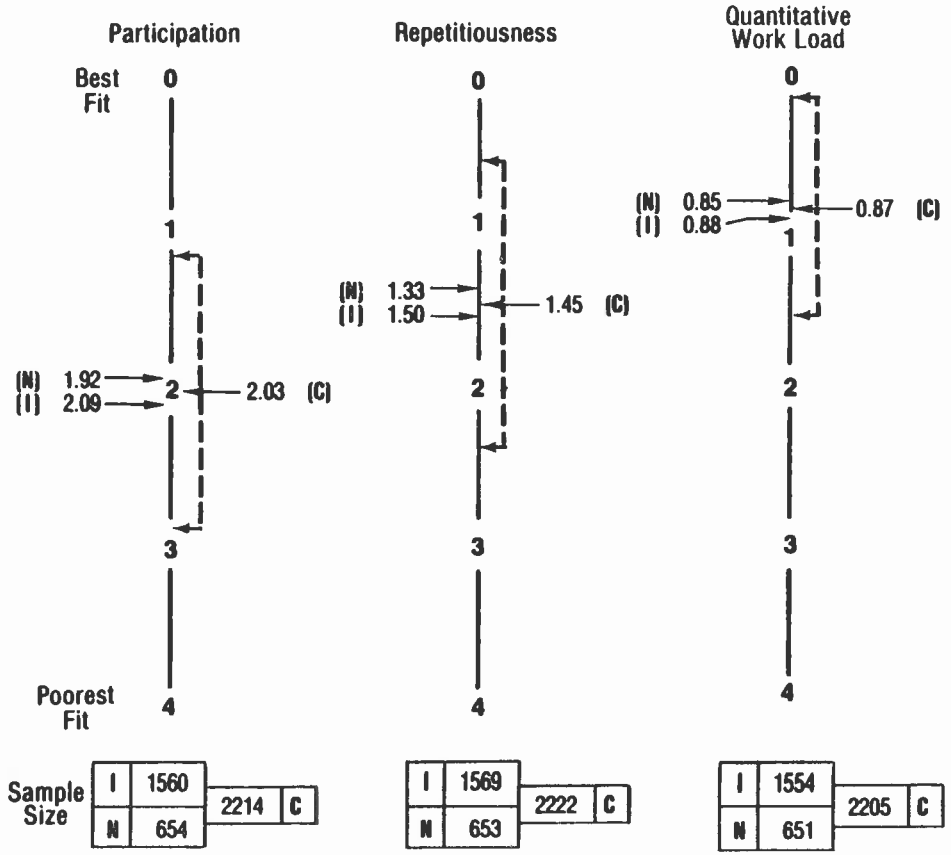

Figure 8b. Mean IUPA, NIOSH and Combined Sample Ratings of Person-Environment Fit Stressors — Absolute Values (brackets depict combined sample mean ±1 standard deviation). Continued from Figure 8a

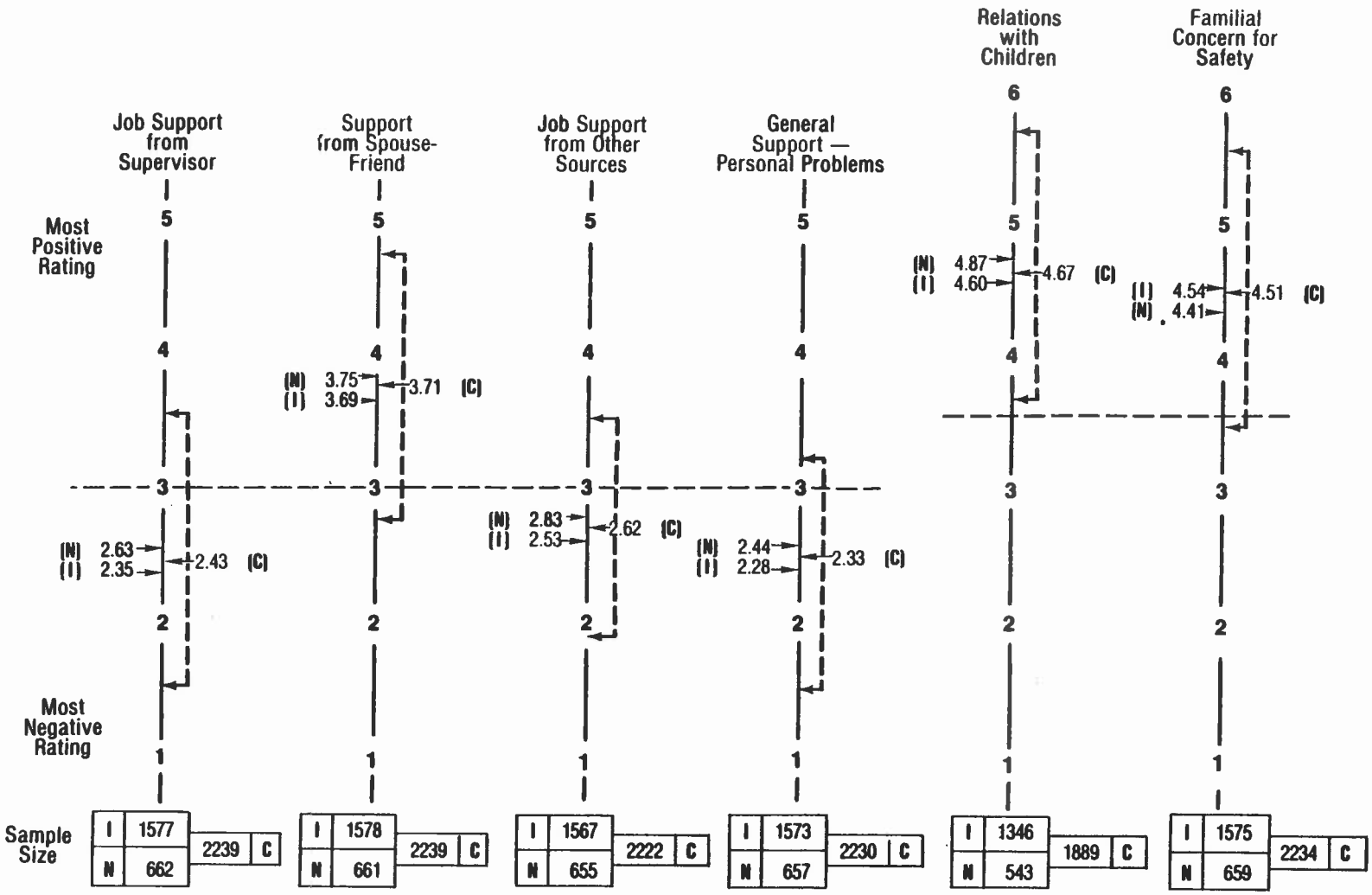

Figure 9. Mean IUPA, NIOSH and Combined Sample Ratings of Social Support and Family Environment Variables (brackets depict combined sample mean ±1 standard deviation)

Indicators of Stress Response and Strain

1. Disposition Toward Job: Mean ratings to scales reflecting job dissatisfaction and work-related self-esteem for both the IUPA and NIOSH respondents indicate no problems (Figure 10). The ratings with regard to self-esteem show a distinct favorable trend. On the other hand, responses to individual items comprising these two scales offer a different picture when compared with data obtained from other occupational groups. For example. one item in the job dissatisfaction scale asked respondents whether they would take the same job if given the opportunity to make such a decision again. Among patrol officers in both samples, 43.1% indicated it "very likely" that they would take the same job and 15.7% indicated "very unlikely." In a previous NIOSH sponsored survey of a representative sample of U.S. workers (Quinn and Shepard, 1974), the composite responses to this question from nearly 1500 respondents indicated 69.7% deciding without hesitation to take the same job with 5.8% indicating no desire to do so. Another item in the job dissatisfaction scale posed the question of what one would say to a friend considering working in a similar job. Only 24.9% of the patrol officers, combining both samples of respondents, would voice support for this action while 17.5% would likely advise against it.

With regard to items making up the scale of work-related self-esteem, patrol officers again indicated less favorable responses than comparable data obtained in the Quinn and Shepard (1974) survey. The items here dealt with the respondent's view of the quality of effort expended in his/her job, perceived success, and the importance of the work. The largest difference was with regard to the latter item. Whereas 69.4% of the workers in the Quinn and Shepard (1974) sample rated their job as being relatively important, only 38.4% of the patrol officers felt similarly.

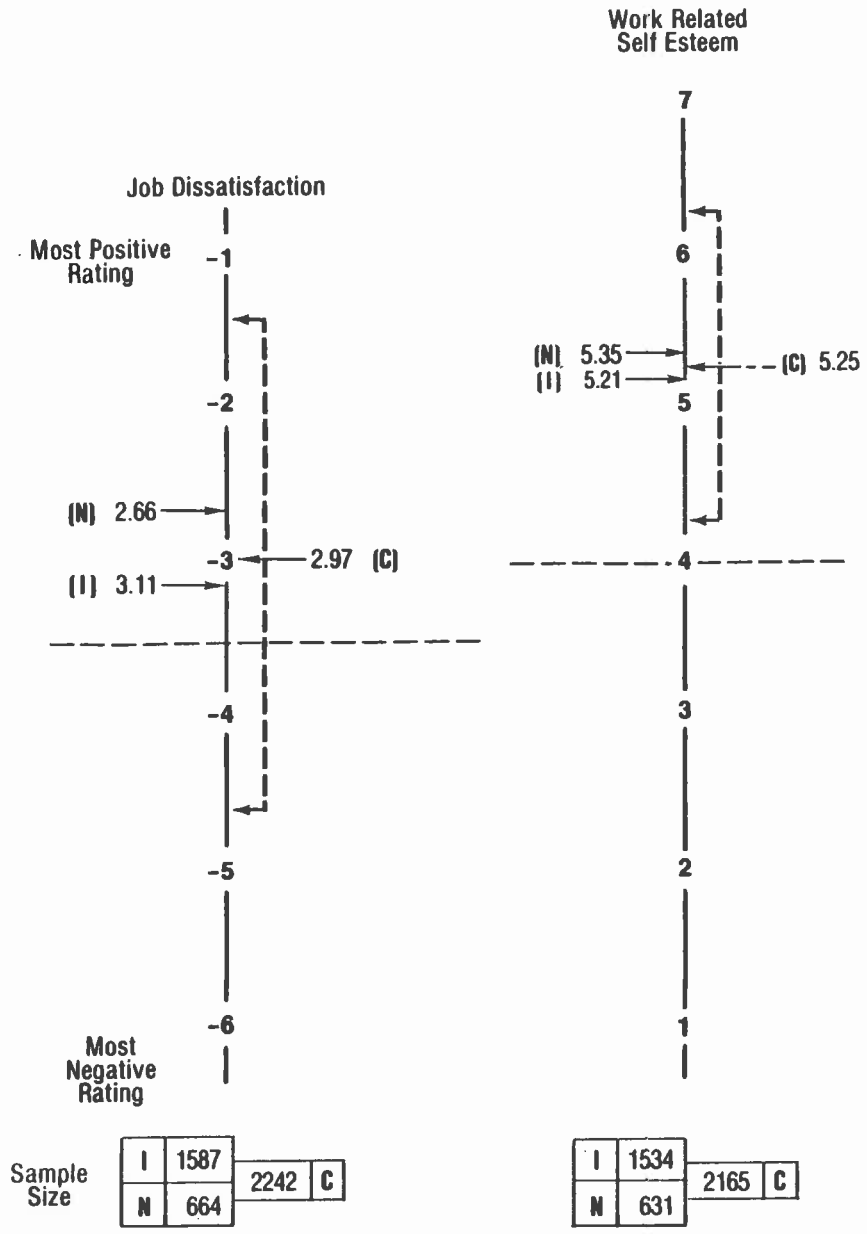

Figure 10. Mean IUPA, NIOSH and Combined Sample Ratings for Job Related Attitudes (brackets depict combined sample mean ± standard deviation)

2. Affective States: Different affective or emotional states of police officers in the IUPA and NIOSH samples are characterized by the mean scale scores shown in Figure 10. Overall, the results indicate quite low levels of troubled conditions reflecting anxiety, depression or irritability. To the contrary, most officers ratings were highest on the measure of placidity, indicating calmness and composure.

Table 7

Behavioral Strain Indicators

SCALE NAME	NIOSH SAMPLE	IUPA SAMPLE	TOTAL SAMPLE
Mean Alcohol Consumption (units per day)	.59	.62	.61
Mean Coffee Consumption (cups per day)	3.79	4.70	4.42
Mean Cigarettes smoked (per day)	11.32	13.88	13.83
Percent Divorced Since Joining Department, Excluding those Never Married, and those Separated at Time of Joining	17.1	16.1	16.2
Percent Divorced Since Joining Department, Excluding those Never Married	23.9	20.1	21.13
Percent Ever Divorced Excluding those Never Married	28.4	22.4	22.6
Percent Ever Divorced or Separated, Excluding those Never Married	34.8	24.9	28.1

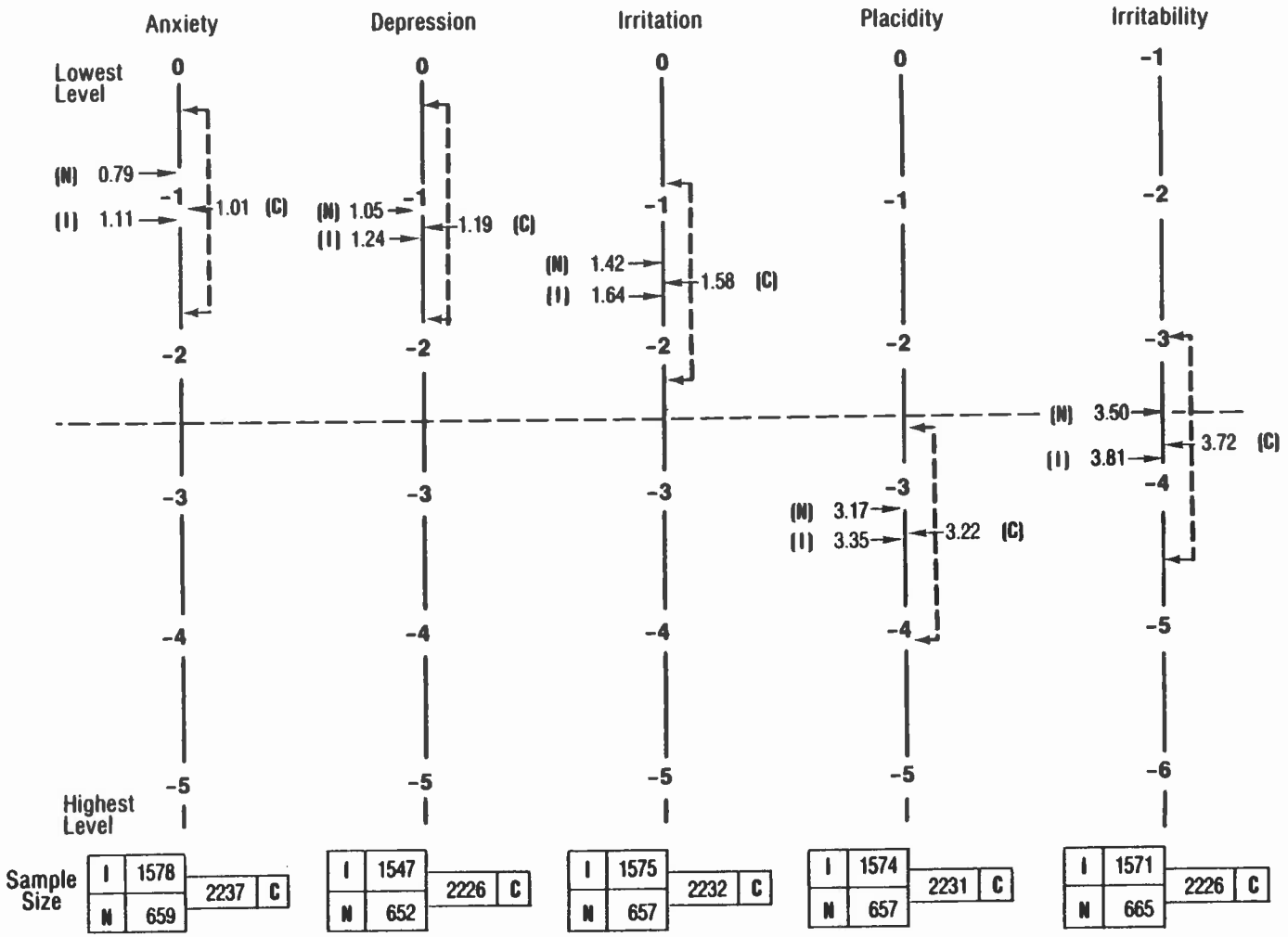

Figure 11. Mean IUPA, NIOSH and Combined Sample Ratings for Affective States (brackets depict combined sample mean ± 1 standard deviation)

3. Behavioral Strains: Table 7 summarizes response data on several measures depicting behavioral indications of stress. Few comparative data exist by which to gauge the significance of the mean consumption levels for alcohol, coffee and cigarettes. In a NIOSH study of 23 occupations (Caplan et al., 1975), 48.9% of the respondent workers were reported as smokers. For the combined IUPA and NIOSH samples of patrol officers, a slightly higher figure (50.3%) was obtained.

There were 2045 police officers in the combined IUPA and NIOSH samples who indicated that they had been married and of these 462, or 22.6% were divorced at least once. This figure is quite high compared to the 13.8% figure for white urban males surveyed in the United States census in 1970. The validity of such a comparison, however, is diminished by the fact that the age distribution of police officers is considerably lower than that of the average white urban male. If the age distribution of police officers is equated to that of the white urban males in the 1970 census, the ever divorced/ever married ratio becomes a striking 28.2%, more than two times that of the comparison group.

The relationship of this high divorce rate and the job of police officer is clarified somewhat by noting that of the officers who married before entering the police department, 26.5% have since become divorced. On the other hand, only 11.3% of officers married after entry have divorced. This would indicate that the sheer fact of becoming a police officer has a dramatic effect on the chances of martial success. In elaborating further on this point, police officers in this study were asked how many of the five officers they work with most often have each of the several types of serious problems. The officers indicated that approximately 37% of their fellow workers have serious marital problems. Comparable questions produced results revealing about 36% of officers had serious health problems, 23% serious alcohol problems, 21% serious problems

with neighbors, 20% serious problems with their children, and almost 10% serious drug problems. In addition, the officers reported knowing an average of 1.35 officers each who has attempted suicide and 4.85 officers who have had one or more heart attacks, an average of 1.79 while on duty.

4. Automobile Accidents: Table 8 presents the mean number of automobile accidents reported for patrol officers in the 1975 year prior to the survey. The results indicate the average patrol officer may incur an accident approximately every 7 months. While there are no comparable data, this accident rate would seem high and possibly due to an officer's job which so often entails driving.

5. Somatic Complaints: Rated occurrence of different somatic complaints for the IUPA and NIOSH respondents are shown in Figures 12a and 12b. The most recurrent complaints reported were those of feeling fidgety and tense during both on- and off-duty hours, experiencing headaches and constipation, and suffering backaches. These different problems would seem plausible if one considers a police officer's job routines as necessitating long non-eventful patrols, variable work shifts, and incessant use of patrol cars. Unfortunately, no data exists for other occupational groups on these measures so that comparisons cannot be made to assess their significance.

6. Health Disorders: Table 9 describes the frequency with which the combined IUPA and NIOSH samples of patrol officers reported having various disorders during the 6 month period prior to completing their questionnaires. Also shown for comparison are the frequencies found for similar kinds of problems in a representative sample of 1500 workers as reported in the Quality of Employment survey (Quinn and Shepard, 1974) mentioned earlier. The overall impression from

Table 8

Mean Number of Automobile Accidents
Within Past Year

SCALE NAME	NIOSH SAMPLE	IUPA SAMPLE	TOTAL SAMPLE
Total Automobile Accidents	.63	.57	.58
Total Automobile Accidents at Fault	.19	.12	.13
Total on Duty Automobile Accidents	.42	.42	.42
On Duty Automobile Accidents at Fault	.11	.09	.09
Total Off Duty Automobile Accidents	.21	.27	.26
Off Duty Automobile Accidents at Fault	.04	.06	.06

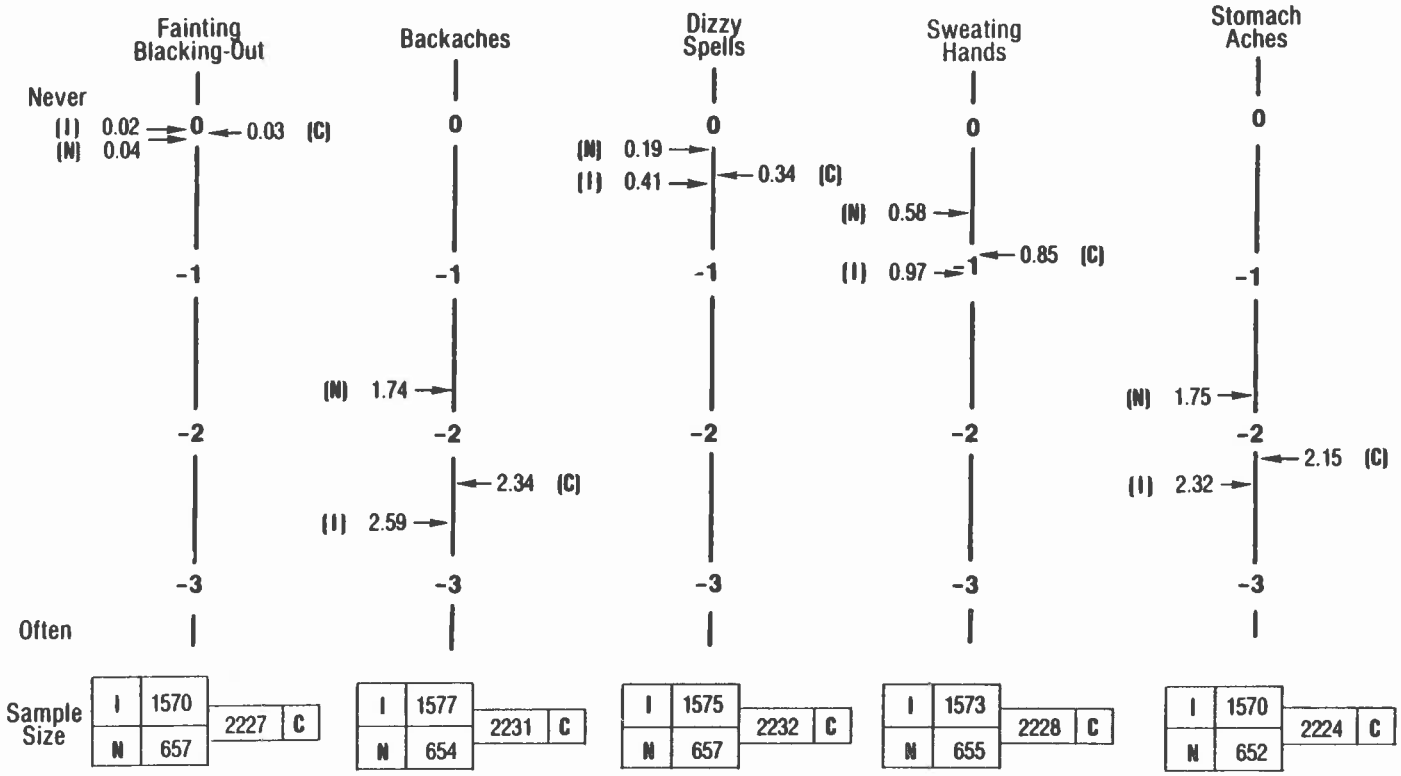

Figure 12a. Mean IUPA, NIOSH and Combined Sample Ratings for Somatic Complaints

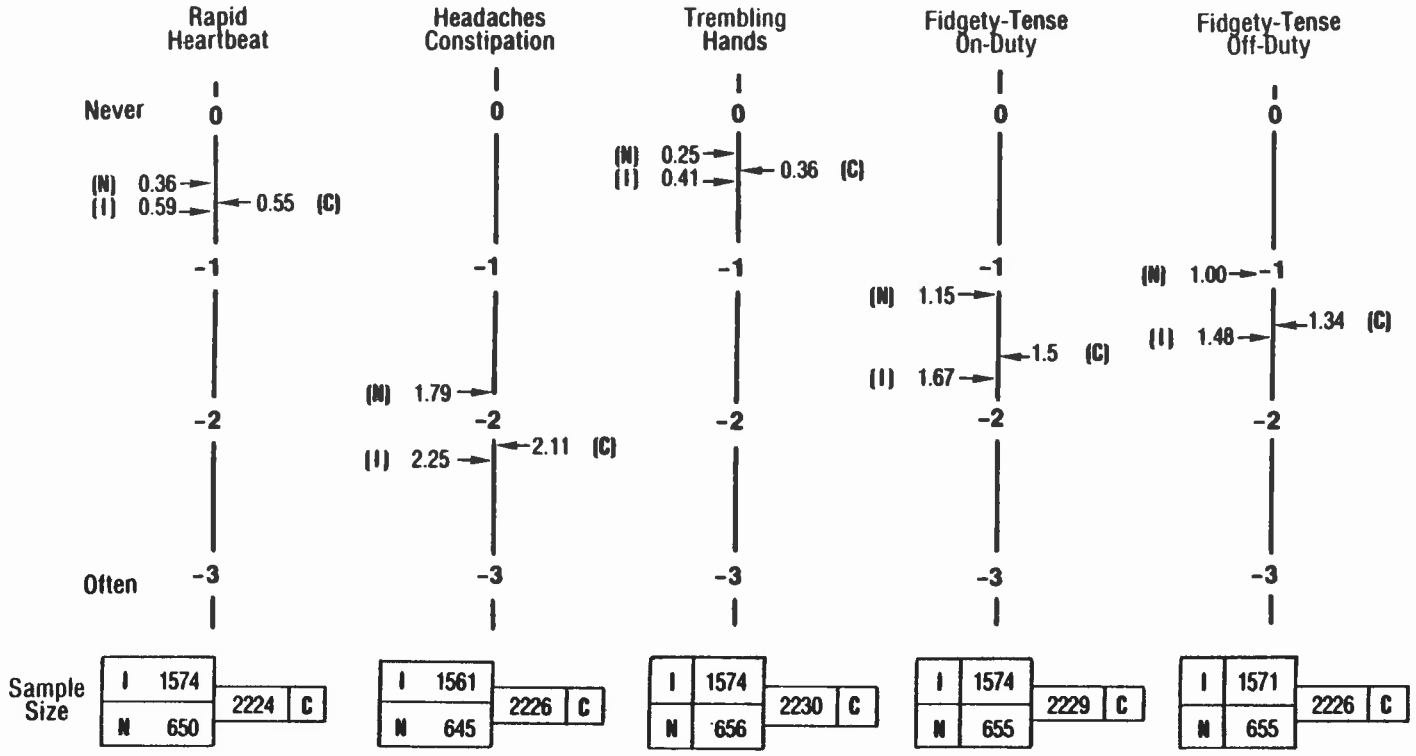

Figure 12b. Mean IUPA, NIOSH and Combined Sample Ratings for Somatic Complaints — (Continued)

Table 9

Reported Disorders, by Frequency Total Patrol Officer Sample (N=2622) U.S. National Probability Sample (N=2157)

Illness	Patrol officers having illness in past six months	Workers having illness in past year*
A cold/influenza	68.1%	70.0%
Trouble with teeth or gums	14.3	n.d.**
Migraine/severe headaches	13.7	n.d.
Trouble with spine	13.5	18.8
Trouble with gastrointestinal tract	12.7	n.d.
Hay fever	11.9	10.8
Hypertension/high blood pressure	10.1	9.2
Repeated skin trouble	9.6	10.3
Arthritis or rheumatism	9.5	12.6
Trouble with seeing	8.2	12.0
Trouble with hearing	6.5	7.8
Bronchitis	5.6	5.8
Ulcers	5.1	4.8
Whiplash injuries	5.1	n.d.
Trouble with urinary tract	4.5	n.d.
Paralysis, tremor or shaking	2.8	n.d.
Asthma	2.2	2.3
Kidney trouble	1.7	n.d.
Hernia or rupture	1.5	2.5
Heart disease/trouble	1.4	2.1
Diabetes	1.2	2.2
Gout	1.1	n.d.
Thyroid trouble/goiter	1.0	2.5
Hypoglycemia/low blood sugar	1.0	n.d.
Gall baldder trouble	0.9	n.d.
Mental illness/nervous breakdown	0.7	n.d.
Veneral disease	0.7	n.d.
Liver trouble	0.5	n.d.
Epilepsy	0.3	0.2
Cancer	0.3	0.2
Tuberculosis	0.3	0.2
A stroke	0.2	0.1

*Source: Quinn and Shepard, 1974:28-9
**n.d. - no data were collected

examining these data is that the number of disorders for both survey samples is quite similar. However, other considerations bearing on these comparisons suggest a different interpretation. Specifically, workers in the Quality of Employment Survey were instructed to note which disorders, if any, they had incurred over the past year and not over a six-month period which was the case for the police officers under study. The six month reference period for patrol officers was used to facilitate better recall. Finding near equivalent results for these two groups would suggest that police officers may have as many problems in 6-months as the average worker reports in 12 months. An alternative interpretation is that a recency effect may have resulted in an underestimate of the number of disorders experienced by the respondents in the Quality of Employment Survey due to the 12 month reference period.

Nevertheless, it should be noted that the age, sex, race and social class of workers comprising the Quality of Employment survey were representative of the national make-up of the U.S. labor force. In contrast, patrol officers are a more select group, notably, younger, male and white. Moreover, the officers must pass a rigorous physical examination to obtain and often retain their jobs. These considerations would dictate that the patrol officers would have fewer health disorders than evident in the general work population. That they do not, suggests some problems possibly inherent in their jobs.

Table 10 indicates for those officers reporting specific disorders, the relative frequency of those judged to be either caused or worsened by their job situation. The results show that musculoskeletal problems are most predominantly perceived as job connected. Those commonly associated with stress, i.e., hypertension, mental illness or nervous breakdown, gastrointestinal troubles also loom significant in this type of evaluation.

Table 10

Percent of Disorders Judged tó be Caused or Made Worse by the Job - Total Patrol Officer Sample

Disorder	Percent Termed Job-Related
Whiplash injuries	80.0
Trouble with spine	79.3
Hypertension or high blood pressure	69.4
Mental illness or nervous breakdown	66.7
Trouble in the gastrointestinal tract	62.9
Paralysis, tremor or shaking	62.5
Heart disease or heart trouble	58.1
Hernia or rupture	57.6
Bronchitis	54.0
Gall bladder trouble	52.4
Migraine or severe headaches	51.9
Arthritis or rheumatism	50.5
Tuberculosis	50.0
Trouble with seeing	49.5
Hypoglycemia	45.5
Repeated skin trouble	44.0
Trouble in the urinary tract	43.6
Epilepsy	42.9
A cold or influenza	42.4
Trouble with hearing	42.2
Kidney trouble	41.0
A stroke	40.0
Diabetes	35.7
Asthma	34.0
Liver trouble	33.3
Venereal disease	31.3
Cancer	28.6
Gout	28.0
Hay fever	26.4
Trouble with teeth or gums	11.2
Thyroid trouble or goiter	9.1

Figure 13 presents mean ratings on scales of obesity and self-assessment of one's health state for the IUPA and NIOSH sample respondents. The ratings for obesity are in the mid-range in both samples, with the mean rating for the combined groups not too dissimilar from that reported in 23-occupation survey. The self-reported health ratings suggest that patrol officers believe themselves in relatively good health. In fact, over 75% of the patrol officers' ratings in both samples fell in the more favorable categories to describe their health while less than 4% of this group gave judgments in the opposite or less favorable direction.

Relations Between Stressors and Strains

A series of regression analyses was performed to establish the extent to which the different strain measures, termed outcome variables in such analyses, could be predicted by one or more of the stressor and contextual factors, termed predictor variables. Essential features of these analyses are enumerated below.

1. Since high intercorrelation between predictor variables limits the power of regression in isolating factors most associated with changes in the dependent or outcome measure, a test for collinearity, using procedures outlined by Belsley, Kuh, and Welsch (1980), was conducted before beginning the regression analyses. This test served as an added check on the independence of the predictor variables. Two colliniarity problems were found. One involved the factors, Relations with Supervisor, Inter-Officer Communication and Sharing of Information Across Shifts. To correct the problem, these three factors were combined for purposes of the regression analyses into a single predictor entitled Interpersonal Relations/Communications with Fellow Officers and Supervisor. The second problem involved different factors comprising the

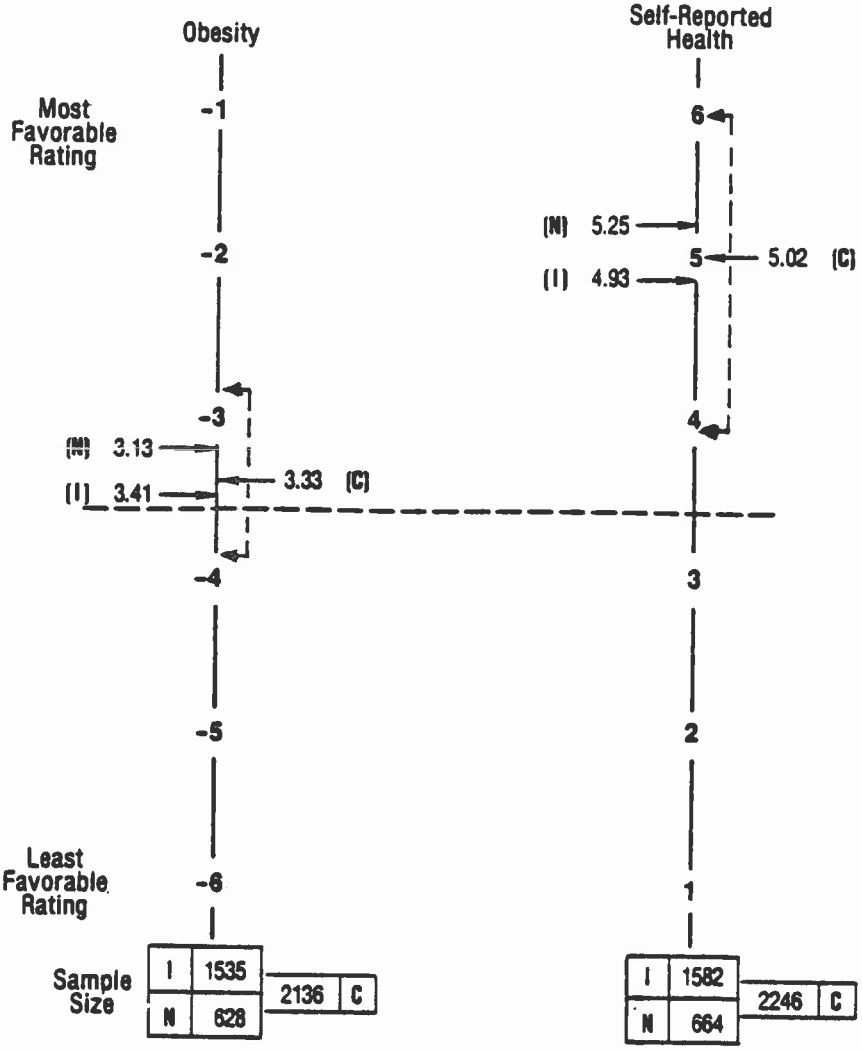

Figure 13. Mean IUPA, NIOSH and Combined Sample Ratings for Health and Physical Illness (brackets depict combined sample mean ± 1 standard deviation)

category, Job Schedule Carry Over Problems. Here too, the data on these factors were combined into a single predictor variable for the regression analyses.

2. The regression analyses involved first multivariate then univariate treatments of the data. The multivariate approach was used to test for evidence of correpondence between sets of predictor variables and sets of outcome measures. The different sets or blocks of variables so evaluated are shown in Figure 14, which also outlines the total scheme of the regression analyses. Given evidence of significant correspondence between the sets of predictor and outcome variables treated in this way, a univariate series of analyses were then performed to sort out those variables within each predictor group which bore a significant relation to the different measures composing the set of outcome variables. For example, as outlined in Series I of Figure 14, a test (F-test) was performed to determine if there was a significant relationship between the predictor set Contextual Variables and Demographic Characteristics and the outcome set of Job Related Responses. If a significant relationship was found, all of the individual variables comprising the Contextual Variables and Demographic Characteristics set were designated for inclusion in a univariate multiple regression. Next, as shown in Figure 14, a test was performed to determine if the predictor set Personality Traits bore a significant relationship to the Job Related Responses outcome set. If so, the two personality trait measures (Type A behavior and social desirability) comprising the Personality Traits predictor set were designated for inclusion in the univariate regression. This process was repeated for each of the remaining six predictor sets shown in Series I. In Series II, treating Affective States as the set of outcome measures, the Job Related Responses were entered into the analyses as an added set of predictor variables along with the others indicated.

FIGURE 14

OUTLINE OF MULTIVARIATE REGRESSION ANALYSES

SETS OF OUTCOME VARIABLES	SETS OF PREDICTOR VARIABLES
SERIES I: JOB RELATED ATTITUDES	CONTEXTUAL VARIABLES AND DEMOGRAPHIC CHARACTERISTICS PERSONALITY TRAITS SOCIAL SUPPORT AND FAMILY ENVIRONMENT VARIABLES ORGANIZATIONAL/CAREER SOURCES ASPECTS OF WORK ROUTINES INTERPERSONAL RELATIONS/COMMUNICATIONS JOB CARRY-OVER PROBLEMS PERSON-ENVIRONMENT FIT VARIABLES
SERIES II: AFFECTIVE STATES	ADD ↓ JOB RELATED ATTITUDES
SERIES III: BEHAVIORAL STRAINS	ADD ↓ AFFECTIVE STATES
SERIES IV: SOMATIC COMPLAINTS	SAME AS SERIES III
SERIES V: HEALTH AND ILLNESS	SAME AS SERIES III
SERIES VI: AUTOMOBILE ACCIDENTS	SAME AS SERIES III

This was to account for the fact that changes in affective states can be conditioned by job related responses as well as by the more antecedent sources of interest. Affective States were similarly entered in Series III, as an added predictor set for the Behavioral Strains.

3. After completing the multivariate analyses described above, univariate multiple regression analyses were performed to identify those individual variables (within significant predictor sets) which were significantly ($p<.01$) related to the different measures comprising the sets of outcome variables. In these analyses, the Contextual Variables and Demographic Characteristics were treated as covariates, meaning that they were held constant in order to eliminate their variance from subsequent calculations. This was done to permit clearer examination of the variability that could be accounted for by the more primary factors of concern to the study, i.e., job environment stressors, social support variables etc.

Some cautions must be raised concerning the results of the regression analyses. To begin with, the particular values obtained in any regression analysis are a complex function of the actual underlying relationship and the manner in which it is measured. The direction of a particular regression coefficient may be very different if another sample were used, if different indicators were calculated, if certain other predictors were included or excluded. No great emphasis can be placed, therefore, on the exact values of the regression coefficients obtained. Consistent with this orientation, only the direction of significant regression coefficients will be presented. Secondly, to find that a particular factor or set of factors is a statistically significant predictor of another factor or set of factors is not be confused with determining one to be the cause of the other. Indeed no assertion of causality can be drawn from these analyses.

1. Results and Multivariate Analyses: A significant ($p < .01$) relationship was found between each of the sets of predictor variables shown in Figure 14 and their corresponding sets of outcome variables. Hence, all of the variables comprising each of the predictor sets were used in the univariate multiple regression analyses.

2. Results and Univariate Multiple Regression: The univariate multiple regression results are presented below for each set of outcome measures, starting from Job Related Responses followed by Affective States, Behavioral Strains, Somatic Complaints, Health and Illness and Auto Accidents. Tables summarizing the results of the analyses for all but the Auto Accident measures (which as will be seen was unnecessary) are provided. These tables indicate which factors were found to be significant ($p < .01$) predictors of individual outcome measures along with the direction of the relationship.

a. Job Related Attitudes as Outcome Variables - As seen in Table 11, two factors were significant predictors of both job dissatisfaction and work related self-esteem. These were the Sales Type A personality measure and boredom. In terms of the direction of the relationships, officers reporting higher scores on the Type A measures tended to report less job dissatisfaction and higher levels of work related self-esteem. Those officers who reported high levels of boredom tended to report more job dissatisfaction and lower levels of work related self-esteem.

Six additional factors were found to be significantly related to job dissatisfaction. Officers reporting higher levels of satisfaction with

TABLE 11

SUMMARY OF RELATIONSHIPS BETWEEN PREDICTORS SIGNIFICANT AT THE .01 LEVEL FOR JOB RELATED ATTITUDES

PREDICTORS \ OUTCOMES	JOB RELATED ATTITUDES		Total Number of Relations
	JOB DISSATISFACTION	WORK RELATED SELF ESTEEM	
PERSONALITY CHARACTERISTICS			
CROWNE-MARLOWE SOCIAL DESIRABILITY		+	1
SALES TYPE A PERSONALITY	-	+	2
SOCIAL SUPPORT AND FAMILY CHARACTERISTICS			
GENERAL SOCIAL SUPPORT FROM SUPERVISOR		+	1
GEN'L SOC. SUPP.-SPOUSE/FRIEND OF OPPOSITE SEX			
JOB REL. SOC. SUPP. OTHER THAN SPOUSE/FRIEND OF OPPOSITE SEX			
PERSONAL PROB. SOC. SUPP. FROM NON SPOUSE			
FAMILY CONCERN FOR OFFICERS SAFETY			
JOB ENVIRONMENT STRESSORS			
A. ORGANIZATIONAL/CAREER SOURCES:			
MANAGEMENT	-		1
RIGIDITY OF DEPARTMENT POLICIES	+		1
PAY	-		1
PROMOTIONAL SYSTEM			
OPPORTUNITY FOR EXPRESSION			
UNION MEMBERSHIP			
TRAINING		+	1
JOB SECURITY	-		1
COMMUNICATION OF DEPARTMENT POLICY			
EQUIPMENT			
B. ASPECTS OF WORK ROUTINES:			
SHIFTWORK			
OVERTIME			
WORKLOAD DISSATISFACTION		-	1
UTILIZATION OF ABILITY		-	1
COURT APPEARANCE TIME			
COURT LENIENCY			
COURT DELAYS			
BOREDOM	+	-	2
ROLE CONFLICT		-	1
C. INTERPERSONAL RELATIONS/COMMUNICATIONS:			
WITH FELLOW OFFICERS			
WITH CITIZENS	-		1
D. JOB SCHEDULE CARRY OVER PROBLEMS:			
E. PERSON-ENVIRONMENT FIT:			
VARIANCE IN WORKLOAD			
JOB COMPLEXITY	-		1
RESPONSIBILITY FOR OTHERS			
ROLE AMBIGUITY		-	1
PARTICIPATION			
REPETITIOUSNESS			
QUANTITATIVE WORKLOAD			

Note: A plus sign indicates a significant positive relationship and a negative sign indicates a significant negative relationship. An empty cell indicates that no significant relationship was found.

management and pay tended to report less job dissatisfaction, Likewise, officers reporting good police-citizen relations, job security, and those reporting good fit with respect to job complexity tended to report less job dissatisfaction. Those officers who perceived their departments policies as rigid, however, reported more dissatisfaction. Seven other factors showed significant relationships with work related self-esteem. Officers who scored high on the social desirability scale generally reported high levels of work related self-esteem. Similarly, officers who reported high levels of social support from their supervisors and satisfaction with their training also tended to report higher levels of work related self-esteem. Officers reporting more workload dissatisfaction, underutilization of abilities and role conflict, as well as those reporting poor fit with respect to role ambiguity, reported lower levels of work related self-esteem.

b. Affective States as Outcome Variables - Table 12 summarizes the results of the regression analyses in which the Affective States measures served as the dependent variables. As shown in the table, social desirability was related to all five states. In general, officers who scored high on the social desirability scale reported lower levels of anxiety, depression, irritability, and irritation and higher levels of placidity.

The Sales Type A personality measure, role conflict, and work related self-esteem were significant predictors of four of the five states. Officers scoring higher on the Type A personality measure in general reported more depression, irritability, irritation and more placidity. Officers reporting more role conflict generally reported more anxiety, depression, irritability and less placidity whereas, officers reporting high levels of work related self-esteem to report less anxiety, depression, and irritation and more placidity.

TABLE 12

SUMMARY OF RELATIONSHIPS BETWEEN PREDICTORS SIGNIFICANT AT THE .01 LEVEL FOR AFFECTIVE STATES

PREDICTORS \ OUTCOMES	AFFECTIVE STATES					Total Number of Relations
	ANXIETY	DEPRESSION	IRRITABILITY	IRRITATION	PLACIDITY	
PERSONALITY CHARACTERISTICS						
CROWNE-MARLOWE SOCIAL DESIRABILITY	-	-	-	-	+	5
SALES TYPE A PERSONALITY		+	+	+	+	4
SOCIAL SUPPORT AND FAMILY CHARACTERISTICS						
GENERAL SOCIAL SUPPORT FROM SUPERVISOR						
GEN'L SOC. SUPP.-SPOUSE/FRIEND OF OPPOSITE SEX		-			+	2
JOB REL. SOC. SUPP. OTHER THAN SPOUSE/FRIEND OF OPPOSITE SEX						
PERSONAL PROB. SOC. SUPP. FROM NON SPOUSE						
FAMILY CONCERN FOR OFFICERS SAFETY				+		1
JOB ENVIRONMENT STRESSORS						
A. ORGANIZATIONAL/CAREER SOURCES:						
MANAGEMENT						
RIGIDITY OF DEPARTMENT POLICIES			+	+		2
PAY						
PROMOTIONAL SYSTEM		-		-		2
OPPORTUNITY FOR EXPRESSION						
UNION MEMBERSHIP						
TRAINING					+	1
JOB SECURITY					-	1
COMMUNICATION OF DEPARTMENT POLICY						
EQUIPMENT						
B. ASPECTS OF WORK ROUTINES:						
SHIFTWORK						
OVERTIME						
WORKLOAD DISSATISFACTION		+			-	2
UTILIZATION OF ABILITY						
COURT APPEARANCE TIME					-	1
COURT LENIENCY						
COURT DELAYS						
BOREDOM		+	+		-	3
ROLE CONFLICT	+	+	+	+		4
C. INTERPERSONAL RELATIONS/COMMUNICATIONS:						
WITH FELLOW OFFICERS						
WITH CITIZENS			-	-	+	3
D. JOB SCHEDULE CARRY OVER PROBLEMS:					-	1
E. PERSON-ENVIRONMENT FIT:						
VARIANCE IN WORKLOAD						
JOB COMPLEXITY					+	1
RESPONSIBILITY FOR OTHERS						
ROLE AMBIGUITY	+				-	2
PARTICIPATION			-			1
REPETITIOUSNESS						
QUANTITATIVE WORKLOAD			+	+		2
JOB RELATED ATTITUDES						
JOB DISSATISFACTION		+			-	2
WORK RELATED SELF ESTEEM	-	-		-	+	4

Note: A plus sign indicates a significant positive relationship and a negative sign indicates a significant negative relationship. An empty cell indicates that no significant relationship was found.

Boredom, and relations with citizens were predictors of three of the five states. Those officers reporting more boredom tended to report more depression and irritability and less placidity. By contrast, officers who reported good police/citizen relations generally reported less anxiety, irritability and irritation.

Seven factors were found to be related to two of the five states. In general, those officers who reported more support from their spouse/closest friend of the opposite sex reported less depression and more placidity. Those officers who reported higher levels of satisfaction with their promotion system tended to report less depression and less irritation. However, officers who reported that their departments had rigid policies and those who reported poor fit with respect to quantitative workload reported more irritability and irritation. Similarly, those officers who reported higher levels of workload dissatisfaction and job dissatisfaction tended to report more depression and less placidity. Likewise, officers who reported poor fit with respect to role ambiguity reported more anxiety and less placidity.

c. Behavioral Strains as Outcome Variables - As Table 13 indicates, anxiety was a significant predictor or five of the nine behavioral strains. In general, officers who reported higher levels of anxiety in their jobs tended to report more alcohol, coffee and cigarette consumption as well as more frequent use of medications. Satisfaction with management was a predictor of four of the nine strains and depression a predictor of three of the nine. Here, officers reporting more satisfaction reported more cigarette smoking and marital disharmony. Depression as might be expected, was positively associated with sleeping pill and tranquilizer use as well as martial disharmony.

Five factors, general social support from spouse/friend of opposite sex, job related social support from other than spouse/closest friend of opposite sex, court leniency, relations with citizens, and P-E fit with respect to variance

TABLE 13

SUMMARY OF RELATIONSHIPS BETWEEN PREDICTORS SIGNIFICANT AT THE .01 LEVEL FOR BEHAVIORAL STRAINS

PREDICTORS \ OUTCOMES	BEHAVIORAL STRAINS									TOTAL NO. RELATIONS
	ALCOHOL INTAKE	COFFEE INTAKE	CIGARETTE SMOKING	ASPIRIN COUGH/COLD DRUGS ANTACIDS	SLEEPING PILLS TRANQUILIZERS	DIVORCE AFTER JOINING FORCE	DIVORCE OR SEPARATION SINCE JOINING FORCE	EVER DIVORCED	EVER DIVORCED OR SEPARATED	
PERSONALITY CHARACTERISTICS										
CROWNE-MARLOWE SOCIAL DESIRABILITY				-						1
SALES TYPE A PERSONALITY										
SOCIAL SUPPORT AND FAMILY CHARACTERISTICS										
GENERAL SOCIAL SUPPORT FROM SUPERVISOR										
GEN'L SOC. SUPP.-SPOUSE/FRIEND OF OPPOSITE SEX	-		-							2
JOB REL. SOC. SUPP. OTHER THAN SPOUSE/FRIEND OF OPPOSITE SEX			+			-				2
PERSONAL PROB. SOC. SUPP. FROM NON SPOUSE										
FAMILY CONCERN FOR OFFICERS SAFETY				+						1
JOB ENVIRONMENT STRESSORS										
A. ORGANIZATIONAL/CAREER SOURCES:										
MANAGEMENT			+				+	+	+	4
RIGIDITY OF DEPARTMENT POLICIES										
PAY										
PROMOTIONAL SYSTEM										
OPPORTUNITY FOR EXPRESSION										
UNION MEMBERSHIP				+						1
TRAINING										
JOB SECURITY			+							1
COMMUNICATION OF DEPARTMENT POLICY						-				1
EQUIPMENT										
B. ASPECTS OF WORK ROUTINES:										
SHIFTWORK										
OVERTIME										
WORKLOAD DISSATISFACTION										
UTILIZATION OF ABILITY										
COURT APPEARANCE TIME										
COURT LENIENCY						+		+		2
COURT DELAYS										
BOREDOM										
ROLE CONFLICT										
C. INTERPERSONAL RELATIONS/COMMUNICATIONS:										
WITH FELLOW OFFICERS-SUPERVISORS				-						1
WITH CITIZENS	-		-							2
D. JOB SCHEDULE CARRY OVER PROBLEMS:										
E. PERSON-ENVIRONMENT FIT:										
VARIANCE IN WORKLOAD						-	-			2
JOB COMPLEXITY										
RESPONSIBILITY FOR OTHERS										
ROLE AMBIGUITY					+					1
PARTICIPATION										
REPETITIOUSNESS										
QUANTITATIVE WORKLOAD										
JOB RELATED ATTITUDES										
JOB DISSATISFACTION										
WORK RELATED SELF-ESTEEM										
AFFECTIVE STATES										
ANXIETY	+	+	+	+	+					5
DEPRESSION					+		+		+	3
IRRITABILITY								-		1
IRRITATION										
PLACIDITY										

NOTE: Plus signs indicate a significant positive relationship and minus signs indicate a significant negative relationship. An empty cell indicates that no significant relationship was found.

in workload, were associated with two of the nine behavioral strains. Officers reporting more general social support from spouse/friend of the opposite sex reported less alcohol and cigarette consumption while those reporting high levels of job related social support from other than spouse/friend of opposite sex reported more cigarette smoking and less divorce. The perception that the courts were too lenient with accused offenders was associated with being divorced. Good relations with citizens was associated with less alcohol and cigarette consumption. Lastly, and inexplicably, poor fit with respect to variance in workload was associated with less divorce and separation.

Eight additional factors were related to one of the nine Behavioral Strains. These were, social desirability, family concern for safety, union membership, job security, communication of department policy, interpersonal relations/ communications with fellow officers, poor fit with respect to role ambiguity and irritability.

d. Somatic Complaints as Outcome Variables - As indicated in Table 14, anxiety was a significant predictor of all thirteen somatic complaint indicators while depression significantly prediced ten of the thirteen. All relationships were positive for both predictors.

Two factors, job security and family concern for officers safety were linked to six of the thirteen complaints. The direction of these relationships indicate that job security concerns and high levels of family concern for the safety of the officer are associated with more frequent complaints.

Job schedule carry over problems and placidity were each associated with five measures of complaints while union membership and irritation were each predictors of four. In the case of job schedule carry over problems, union memberships

TABLE 14

SUMMARY OF RELATIONSHIPS BETWEEN PREDICTORS SIGNIFICANT AT THE .01 LEVEL FOR SOMATIC COMPLAINTS

PREDICTORS \ OUTCOMES	SOMATIC COMPLAINTS													
	FAINT OR BLACK OUT	BACK-ACHES	DIZZI-NESS	SWEATING HANDS	STOMACH ACHE NAUSEA	RAPID HEART BEAT	HEAD-ACHE CONSTIP-ATION	TREMB-LING HANDS	TENSE-ON DUTY	TENSE-OFF DUTY	TOTAL SOMATIC COMPL.	ON DUTY SOMATIC COMPL.	OFF-DUTY SOMATIC COMPL.	TOTAL # RELA-TIONS.
PERSONALITY CHARACTERISTICS														
CROWNE-MARLOWE SOCIAL DESIRABILITY						+			−	−				3
SALES TYPE A PERSONALITY									+	+		+		3
SOCIAL SUPPORT AND FAMILY CHARACTERISTICS														
GENERAL SOCIAL SUPPORT FROM SUPERVISOR														
GENERAL SOCIAL SUPPORT FROM SPOUSE/CLOSEST FRIEND OF OPPOSITE SEX														
JOB RELATED SOCIAL SUPPORT FROM OTHER THAN SPOUSE/CLOSEST FRIEND OF OPPOSITE SEX														
PERSONAL PROBLEMS SOCIAL SUPPORT FROM OTHER THAN SPOUSE														
FAMILY CONCERN FOR OFFICERS SAFETY							+		+	+	+	+	+	6
JOB ENVIRONMENT STRESSORS														
A. ORGANIZATIONAL/CAREER SOURCES														
MANAGEMENT														
RIGIDITY OF DEPARTMENT POLICIES														
PAY														
PROMOTIONAL SYSTEM														
OPPORTUNITY FOR EXPRESSION														
UNION MEMBERSHIP										+	+	+	+	4
TRAINING														
JOB SECURITY	+	+							+		+	+	+	6
COMMUNICATION OF DEPARTMENT POLICY														
EQUIPMENT		−												1
B. ASPECTS OF WORK ROUTINES														
SHIFTWORK														
OVERTIME														
WORKLOAD DISSATISFACTION														
UTILIZATION OF ABILITIES														
COURT APPEARANCE TIME														
COURT LENIENCY														
COURT DELAYS														
BOREDOM						−								1
ROLE CONFLICT							+				+	+		3
C. INTERPERSONAL RELATIONS/COMMUNICATIONS														
FELLOW OFFICERS AND SUPERVISOR														
CITIZENS														
D. JOB SCHEDULE CARRYOVER PROBLEMS					+				+		+	+	+	5
E. PERSON ENVIRONMENT FIT														
VARIANCE IN WORKLOAD										+				1
JOB COMPLEXITY														
RESPONSIBILITY FOR OTHERS														
ROLE AMBIGUITY														
PARTICIPATION	+		+											2
REPETITIOUSNESS														
QUANTITATIVE WORKLOAD														
JOB RELATED ATTITUDES														
JOB DISSATISFACTION				+								+		2
WORK RELATED SELF-ESTEEM														
AFFECTIVE STATES														
ANXIETY	+	+	+	+	+	+	+	+	+	+	+	+	+	13
DEPRESSION	+		+		+	+	+		+	+	+	+	+	10
IRRITABILITY														
IRRITATION			+		+	+								3
PLACIDITY				−		−			−		−	−		4

Note: A plus sign indicates a significant positive relationship and a negative sign indicates a significant negative relationship. An empty cell indicates that no significant relationship was found.

and irritation, the relationships were all positive whereas each of the five significant relationships between placidity and somatic complaints was negative.

Three factors, social desirability, Type A personality, and role conflict were significant predictors of three measures of complaints. In the case of the Type A personality and role conflict, the relationships were all positive. Social desirability was, however, negatively linked to tension on and off duty but positively linked to rapid heart beat.

Two factors, participation and job dissatisfaction were each significantly linked to two complaints while an additional four, satisfaction with equipment, boredom, poor fit with respect to variance in workload, and irritability were associated with one measure of complaint.

c. Health and Disorders as Outcome Variables - As seen in Table 15, relatively few factors were associated with the ten Health and Disorder measures. Anxiety was positively related to six different disorders. Placidity was negatively related to three different disorders and positively related to self reported health. Union membership was positively associated with three different disorders and six additional factors were related to one of the disorders.

f. Automobile Accidents as Outcome Variables - Out of all the predictor variables, only three were associated with automobile accidents. These predictors were anxiety, Type A personality, and general social support from supervisor. Anxiety was related to three of the six types of accidents assessed while Type A personality and social support from supervisor were each related to one of the six. Anxiety was positively associated with on-duty accidents at fault, total number of accidents and total accidents at fault. Type A personality was positively associated with total off duty accidents and social support was negatively related to off duty accidents at fault.

TABLE 15

SUMMARY OF RELATIONSHIPS BETWEEN PREDICTORS SIGNIFICANT AT THE .01 LEVEL FOR HEALTH AND DISORDERS

PREDICTORS \ OUTCOMES	HEALTH COMPLAINTS										
	OBESITY	TOTAL DISORDERS	ENDOCRINE DISORDERS	NERVOUS DISORDERS	CIRCULAT. DISORDERS	RESPIRA-TORY DISORDERS	GASTRO-INTEST. DISORDERS	URINARY DISORDERS	MUSCULO-SKELETAL DISORDERS	SELF-HEALTH RATING	TOTAL NO. RELATIONS
PERSONALITY CHARACTERISTICS											
CROWNE-MARLOWE SOCIAL DESIRABILITY											
SALES TYPE A PERSONALITY			+								1
SOCIAL SUPPORT AND FAMILY CHARACTERISTICS											
GENERAL SOCIAL SUPPORT FROM SUPERVISOR											
GEN'L SOC. SUPP.-SPOUSE/FRIEND OF OPPOSITE SEX											
JOB REL. SOC. SUPP. OTHER THAN SPOUSE/FRIEND OF OPPOSITE SEX											
PERSONAL PROB. SOC. SUPP. FROM NON SPOUSE											
FAMILY CONCERN FOR OFFICERS SAFETY											
JOB ENVIRONMENT STRESSORS											
A. ORGANIZATIONAL/CAREER SOURCES:											
MANAGEMENT											
RIGIDITY OF DEPARTMENT POLICIES											
PAY			+								
PROMOTIONAL SYSTEM											
OPPORTUNITY FOR EXPRESSION											
UNION MEMBERSHIP		+				+			+		3
TRAINING											
JOB SECURITY											
COMMUNICATION OF DEPARTMENT POLICY											
EQUIPMENT									-		1
B. ASPECTS OF WORK ROUTINES:											
SHIFTWORK											
OVERTIME											
WORKLOAD DISSATISFACTION											
UTILIZATION OF ABILITY											
COURT APPEARANCE TIME								+			1
COURT LENIENCY											
COURT DELAYS											
BOREDOM											
ROLE CONFLICT											
C. INTERPERSONAL RELATIONS/COMMUNICATIONS:											
WITH FELLOW OFFICERS-SUPERVISORS											
WITH CITIZENS											
D. JOB SCHEDULE CARRY OVER PROBLEMS:											
E. PERSON-ENVIRONMENT FIT:											
VARIANCE IN WORKLOAD											
JOB COMPLEXITY											
RESPONSIBILITY FOR OTHERS								+			1
ROLE AMBIGUITY							+				1
PARTICIPATION											
REPETITIOUSNESS											
QUANTITATIVE WORKLOAD											
JOB RELATED ATTITUDES											
JOB DISSATISFACTION											
WORK RELATED SELF ESTEEM											
AFFECTIVE STATES											
ANXIETY		+		+	+	+	+		+		6
DEPRESSION				+					-		1
IRRITABILITY											
IRRITATION											
PLACIDITY		-		-			-			+	4

NOTE: Plus signs indicate a significant positive relationship and minus signs indicate a significant negative relationship. An empty cell indicates that no significant relationship was found.

DISCUSSION

As stated at the outset of this report, the purpose of the present study was to identify those aspects of policing which are perceived as major sources of stress by patrol officers, and to examine the impact of these perceived stressors on their health and well-being. The results provide two bases for making these determinations. One is through acknowledging the highest mean levels of perceived stress and strain evident in the responses of the police officers surveyed in the study. The other is through the regression analyses, emphasizing those factors which appear to exert the greatest influence on the different strain measures as well as noting those strains most readily affected. The most salient outputs from both approaches are summarized in Tables 16 and 17. Specifically, shown in Table 16 are those stressors, contextual factors, and strain measures whose mean response deviated substantially from the mid-range or other reference levels used for gauging significance. The criteria used for the purpose of sorting out such factors were:

(1) Combined sample mean levels for either stressors or strains differing from the mid-point of the designated scaled measures by the equivalent of one or more standard deviations, and/or-

(2) Differences of more than 25% from responses to similar items found in other surveys of work populations, and/or-

(3) Items reflecting strain indications in 70% or more of the combined sample respondents.

The signs coupled to the different factors shown in Table 16 are mostly negative in acknowledging the adverse direction of the stress and strain levels observed. In some instances, a given factor shows a positive and negative sign suggesting a dual influence or consequence or mixed extreme results as explained below. In Table 17, are noted the frequency of significant relations found between each of the predictor stressor/contextual factors and the individual measures comprising the six different categories of strain (e.g., job related attitudes,

affective states, behavioral strains, somatic complaints, health disorders, auto accidents). The cell entries represent a collation of the regression analyses reported in Tables 11-15. The above two tabular summaries form the basis for discussing aspects of police stress and strain as observed in this study.

Job Related Stressors: Those job features receiving the most negative ratings in Table 16 appear to relate to aspects of organizational and management practice. The modern day police officer functions within a bureaucratic organization which can mean devoting time to routine administrative chores. This may have been the basis for the patrol officers perceiving too much

Table 16

Job Stressors, Contextual Factors and Strains
Showing Most Extreme Response

STRESSOR/CONTEXTUAL FACTORS	STRAIN MEASURE
Job Environment Stressors:	Job Attitudes:
. Opportunity for Expression (-) . Court Obligations (-) . Participation in job decisions (-) . Repetitiousness in job routines (-) . Responsibility for others (-) . Boredom (+)	. Work related self-esteem(±)
	Behavioral Strains:
	. Divorce since joining force (-)
Social Support:	Somatic Complaints:
. Relations with own children (±) . Family concern for safety (±)	. Backaches (-) . Stomachaches (-) . Headaches/Constipation (-)
Personality	Health Disorders (perceived as job caused or worsened)
• Sales Type A personality (±)	. Musculoskeletal (-) . Hypertension (-)
	Auto Accidents
	. Total number (-)

TABLE 17

NUMBER OF SIGNIFICANT RELATIONSHIPS AT THE .01 LEVEL BY STRESS RESPONSE CATEGORY

PREDICTORS \ OUTCOMES	STRESS RESPONSE CATEGORY: JOB RELATED ATTITUDES	AFFECTIVE STATES	BEHAVIORAL STRAINS	SOMATIC COMPLAINTS	HEALTH AND DISORDERS	AUTO ACCIDENTS	Total Number of Relations
PERSONALITY CHARACTERISTICS							
CROWNE-MARLOWE SOCIAL DESIRABILITY	1	5	1	3			10
SALES TYPE A PERSONALITY	2	4		3	1	1	11
SOCIAL SUPPORT AND FAMILY CHARACTERISTICS							
GENERAL SOCIAL SUPPORT FROM SUPERVISOR	1					1	2
GEN'L SOC. SUPP. SPOUSE/FRIEND OF OPPOSITE SEX		2	2				4
JOB REL. SOC. SUPP. OTHER THAN SPOUSE/FRIEND OF OPPOSITE SEX			2				2
PERSONAL PROB. SOC. SUPP. FROM NON SPOUSE							
FAMILY CONCERN FOR OFFICERS SAFETY		1	1	6			8
JOB ENVIRONMENT STRESSORS							
A. ORGANIZATIONAL/CAREER SOURCES:							
MANAGEMENT	1		4				5
RIGIDITY OF DEPARTMENT POLICIES	1	2					3
PAY	1						1
PROMOTIONAL SYSTEM		2					2
OPPORTUNITY FOR EXPRESSION							
UNION MEMBERSHIP			1	4	3		8
TRAINING	1	1					2
JOB SECURITY	1	1	1	6			9
COMMUNICATION OF DEPARTMENT POLICY			1				1
EQUIPMENT				1	1		2
B. ASPECTS OF WORK ROUTINES:							
SHIFTWORK							
OVERTIME							
WORKLOAD DISSATISFACTION	1	2					3
UTILIZATION OF ABILITY	1						1
COURT APPEARANCE TIME		1			1		2
COURT LENIENCY			2				2
COURT DELAYS							
BOREDOM	2	3		1			6
ROLE CONFLICT	1	4		3			8
C. INTERPERSONAL RELATIONS/COMMUNICATIONS:							
WITH FELLOW OFFICERS-SUPERVISORS			1				1
WITH CITIZENS	1	3	2				6
D. JOB SCHEDULE CARRY OVER PROBLEMS:		1		5			6
E. PERSON-ENVIRONMENT FIT:							
VARIANCE IN WORKLOAD			2	1			3
JOB COMPLEXITY	1	1					2
RESPONSIBILITY FOR OTHERS					1		1
ROLE AMBIGUITY	1	2	1		1		5
PARTICIPATION		1		2			3
REPETITIOUSNESS							
QUANTITATIVE WORKLOAD		2					2
JOB RELATED ATTITUDES							
JOB DISSATISFACTION		2		2			4
WORK RELATED SELF ESTEEM		4					4
AFFECTIVE STATES							
ANXIETY			5	13	6	3	27
DEPRESSION			3	10	1		14
IRRITABILITY			1	1			2
IRRITATION				4			4
PLACIDITY				5	4		9

repetitiousness in their job routines. Tempering this rating was the observation, however, that the officers did not, on the average, consider their job to be boring. Lack of opportunity for expression and participation in job decisions would appear to stem from the quasi-military nature of police organizations. The supervisory command structure invites directives from above with little opportunity for input from subordinates. Court experiences may be particular sources of frustration. From the officers' perspective, courts do not respect the efforts and risks taken in apprehending offenders. Inability to prosecute offenders, and lenient sentences mean repeated arrests in far to many cases. The desire to assume more responsibility for other officers could be a manifestation of the strong loyalty each officer feels toward his peers.

The above findings indicating patrol officers disaffection with an autocratic management style typical of police organizations, increased bureaucratic burdens, and court leniency confirms observations from smaller sample studies (see Kroes and Hurrell, 1975). But while displaying the most extreme ratings, these factors show relatively few significant associations with the different strain indicators (Table 17). Consequently, their impact as stressors would seem limited. It is, in fact, other factors, in particular, job security and role conflict which show more frequent and widespread correlations with the different categories of strain measures. As such they would appear to wield the greatest influence as stress-producing elements in police work and command attention in this regard.

Job security shows the greatest number and breadth of significant associations with the different strains showing correlations with various somatic complaints, job related attitudes, affective states and behavioral strains. To some extent, this may reflect the precarious economic status of certain municipalities which has necessitated freezes on promotions and salaries, and in some instances,

reduction in force. It may also be attributed to dissatisfaction with opportunities for career advancement within the department.

Role conflict is also a potentially important source of stress in policing as it is in other jobs as well. Police work requires that one act as enforcer and peacemaker, mediator and executor, authority figure and public servant. Social, economic, political, legal and personal considerations must be weighed and balanced in many of the decisions to be made by the patrol officer. Controversy and contradictions here inevitably lead to the patrol officer feeling caught in the middle of many disputes and criticized for whatever actions which he/she would take.

As another form of role conflict, a patrol officer may perceive job-related responsibilities to impede expectations in fulfilling other roles. Job schedule carry over problems, involving competing work and domestic demands on time seem typical of such conflicts and, as can be seen from Table 17, are associated with both affective and somatic complaint problems. Certainly, similar conflicts are experienced in other occupations as well, but it is unlikely that such work involves the same degree of role involvement as policing. Indeed, the dress code, the regimentation, the cohesive effects of shared threats and experience, combine to produce much intragroup solidarity and identity among police officers. Unfortunately, however, such strong identification can differentiate and isolate the officer from the surrounding community, thus compounding problems of social roles apart from police work. Moreover, behaviors which may evolve as effective ways in countering job-specific stressors (assertiveness, detachment) may prove inappropriate in other role situations (e.g., spouse, parent, neighbor), thereby increasing the possibilities for conflict. It is not surprising then that familial problems, marital discord in particular, are strongly connected with those in police work.

Another aspect of role conflict relates to the fact that the law enforcement officer is inheriting many of society's major problems – poverty, overcrowding, urban decay, drug and alcohol abuse, domestic instability and related concerns. These problems defy immediate, simple solution and have become matters of containment for the police, who in turn, are blamed for not doing enough to control the spiralling crime rate. As seen in Table 17, problematic relations with citizens are associated with negative affective states and behavioral strains reported by the police officers surveyed.

Given the above results, it would appear that major problems of stress among police officers involve needs for greater clarification of their job roles which must take account of perceptions and expectations of others with whom they interact both on and off the job. Freer discussions and interactions with police management on matters of mutual concern can be beneficial here in reducing bureaucratic indifference. Special training or counseling in developing strategies for better dealing with conflicts which bear on professional and familial responsibilities also have merit. Duty assignments allowing more positive kinds of contact between patrol officers and the public can also do much to reduce the apparent estrangement now felt. An updated equivalent to the "cop on the beat" and co-mingling with the community needs study in this regard.

Job Related Strains

Few strain measures showed deviant ratings or other indications of significant problems among the police officers surveyed in this study. To the contrary, most of the overall group ratings fell in the mid-range of the different

strain measures and in some cases were remarkably low. The latter was especially true for the affective set of strains (anxiety, depression, irritability, irritation, and placidity). The absence of notable troubles here could be a function of the selection procedures used in police recruitment and also the training of officers which reinforces the idea of maintaining composure even under the most extreme emotional situations. On the other hand, the affective strain measures are among those showing the most frequent co-variations with the different job stressor/contextual factors shown in Table 17. This suggests a potential for affective problems, given more extreme conditions of certain stressor or contextual factors. Table 17 indicates role conflict and personality factors to be primary predictors of these kinds of problems.

Police officer ratings of work-related, self-esteem, while in a distinctly positive direction, nevertheless were poor when compared to data obtained from other occupational groups similarly surveyed. That officers view their jobs with less pride may reflect on the role conflict issues already addressed and the public's cynical, if not negative, view of any law enforecement work.

The frequency of divorce among police officers since joining the force was also excessive and gave evidence of significant strain. This finding emphasizes the need to expand concerns about job related stress in this occupation to include the officers' family as well. As previously discussed, police work is demanding and involves a degree of commitment that is not required in most other jobs. Long and irregular work hours,hostile encounters with the public, and role conflict can impact directly on the nature and quality

of family life. It is important to note that the divorce rate was higher in this study among officers who married prior to joining the force (26.5%) than among those who married after joining (11.3%). Presumably, in the latter case, courtship allowed for the development of role expectancies and interpersonal compromises which facilitated family adjustment to police work. For those officers who married prior to joining the force, the impact of police work may have proved too immediate and overwhelming to permit a gradual redefinition of family roles. These results suggest that special attention be given to preparing the family members of police officers for job-related problems and adjustments, especially those officers who are already married at the time of entering the force.

The absence of suitable comparative data makes it difficult to gauge the significance of certain other strain measures in Table 16 which also displayed extreme mean levels in the somatic complaint, health disorder, and auto accident categories. It would seem plausible for some of these measures to be more problematic for police in light of their job routine. Indeed, extensive patrol car usage would explain the apparent elevated rates of backache, musculoskeletal problems and auto accidents observed. Similarly, stomachaches, headaches and constipation may be indicative of irregular eating habits dictated by varying work hours. Hypertension is so common and ideopathic that the ratings here may not be really deviant or sufficient to imply job linkage. Despite any such contentions, the officers perceive themselves as in good overall health (Figure 13).

The somatic complaint measures of strain showed numerous significant associations with the job stressor/contextual factors shown in Table 17.

Job security, job schedule carry over problems and role conflict were predictive of these kinds of reactions. The former finding is consistent with the results of a study by Cobb and Kasl (1976) in which the anticipation of job loss and uncertainty about the future resulted in a higher incidence of health complaints than the actual loss of the job itself. The apprehension surrounding an anticipated aversive event may deplete coping reserves and heighten individual susceptibility to psychosomatic ailments (Selye, 1950).

Job-related strains involving specific health disorders and auto accidents show the fewest occurrences of co-variation with the job stressor/contextual variables listed in Table 17. Hence, controlling factors for these kinds of problems would appear more obscure. With regard to health disorders, as well as the somatic complaint and behavioral strain categories, the separate regression analyses show affective status, primarily level of anxiety or depression, to play an important corollary role. While the present study design does not permit a temporal analysis for these kinds of effects, one might speculate that the appearance of a negative affective state is an intermediate step in the causal chain leading to these kinds of outcomes.

Contextual Factors - Personality and Social Support

Personality factors and aspects of social support are known to modify relations between stress and consequent strain experience. As shown in Table 16, ratings on a Type-A personality scale suggested it to be a strong factor among the police officers surveyed. As many of the hard-driving, results-oriented attributes of Type-A individuals are believed important

qualities for successful police officers, this result was not surprising. In terms of relationships with strains, a Type-A personality is a double-edged sword. While those scoring high on the Type-A scale report less job dissatisfaction and greater work-related self-esteem, they also report higher levels of irritability and irritation in terms of affective problems and more somatic complaints of nervousness and tension. Social desirability as a personality factor also seems to be an important shaping factor with respect to emotional status. Greater expressed needs for social approval are linked with lower levels of affective problems such as anxiety, depression, and irritation.

Relations with one's children and family concern for safety represented two social support type measures which received a strong positive response. That warm, supportive family relationships can insulate the individual against job-related strain would seem reasonable and possibly account for the few strain measures showing any serious problems for the officers surveyed in this study. In this regard, social support from one's spouse/friend of the opposite sex looms as a particularly important source for moderating problems, especially those manifesting themselves in affective states and behavioral strains.

On the other hand, there exist associations between family concern for safety and certain strain measures that don't fit this view. For example, those officers reporting greater family concern for their safety also displayed higher levels of somatic complaints. It appears that, rather than providing the officer with needed social support and feelings of being cared

for, family expressions of concern may actually heighten the officer's strain perhaps out of feelings of guilt for jeopardizing the family's security. Obviously, much research is needed regarding the efficacy and dynamics of family coping styles in response to police stress.

Relations with Union and Other Issues

A major issue yet to be addressed in the present report has to do with the impact of the union on the study outcomes. Union influence was apparent at two levels. One involved the intervention and cooperation of the national union in securing survey sites, distributing questionnaires, and collecting the results. The other involved the day-to-day activities of the local union in moderating and conditioning the quantity and quality of stressors experienced by police officers on the job. Relevant to the last point is whether or not the stressors encountered by an officer in a unionized department are different in nature and/or frequency from those affecting an officer in a non-union department. These two issues will be addressed in order.

As previously described, the questionnaire survey was conducted in two samples of police departments. In one, NIOSH targeted and surveyed a number of non-union police departments, while in the other, the IUPA independently distributed the identical questionnaire to a sample of unionized departments. Both samples only included departments from which mutual consent to participate had been secured from both police management as well as officer representatives. Neither the NIOSH nor IUPA sampled departments were randomly selected, and it is possible that some

bias, (however inadvertent), may have influenced the identification of target sites. In much the same way, it could be argued that those departments which agreed to participate differed in some important respects from those departments which refused, introducing additional bias into the sampling procedure. There is no easy and satisfactory way to resolve such issues, but an examination of the departments surveyed (Tables 2 and 3) indicates that the individual sites varied along such dimensions as size, geographic locale, density, and patrolment/citizen ratio. In this respect, the cimbined NIOSH/IUPA sample has, at least, a fairly broad representation.

NIOSH distributed and collected questionnaires on-site (i.e., at each police department headquarters). IUPA, however, mailed questionnaires to each potential respondent's residence and collected completed questionnaires via a self addressed return envelop. While no accurate assessment can be made of the nature and degree of bias entering as a result of these different procedures, it seems likely that some biasing occurred. Indeed the different procedures may have been in part responsible for the response rate from the NIOSH sampled cities being approximately twice that obtained by the IUPA (64.9% vs 31.6%).

An equally critical issue concerns the potential impact of union participation on demand characteristics and responder bias in those cities surveyed by the IUPA. As noted above, the IUPA distributed and collected the questionnaires by mail. Each packet distributed by both NIOSH and IUPA contained the survey instrument and a brief cover letter from NIOSH describing the general purpose of the study and requesting the police officer's participation. In addition, however, those questionnaires distributed by the IUPA contained a letter from the union president urging the cooperation of the members in completing and

returning the forms. Regardless of the intent, this endorsement constituted an additional "treatment" which differed betweem the IUPA and NIOSH samples and which may have jeopardized the comparability of the data from these two sample sources. Furthermore, even within the IUPA, it is possible that the officers' decision to participate and the quality and nature of their responses may have been influenced by their individual feelings about the union (local as well as national) and by the officer's perceptions about union involvement in the design, interpretation, and application of the research. Presumably, the officers most likely to comply with the union request for participation were those holding strong union attitudes (pro or con) which may have resulted in a respondent sample that was extreme relative to the general population. The absence of a follow-up mailing to nonrespondents, precluded by procedural and administrative considerations, may have further limited the sample to the highly motivated officers. Indeed, a comparison of the results from the IUPA and the NIOSH sampled cities reveals some interesting differences. In general, the officers included the IUPA sample tended to report higher overall levels of stress and strain than the NIOSH officers. Whether this is due to a demand characteristic engendered in the IUPA sample by the union cover letter or whether it reflects actual stress and strain differences in the IUPA and NIOSH sampled cities cannot be determined. It should be noted, however, that the IUPA cities were considerably larger than those in the NIOSH sample (median city size in the IUPA sample = 530,830 vs 72,863 in the NIOSH sample). Thus, in addition to the elevated stress and strain associated with urban life in general (e.g., Glass and Singer, 1972) and urban police work in particular, the officers in the IUPA sample, as compared to those in the NIOSH sample, were more susceptible to the problems of organizational estrangement and ambiguity (e.g., Phelps, 1975; McGrath, 1976) and characteristics of large, bureaucratic police departments.

Kahn et al (1964) have discussed the effects of role conflict and role ambiguity on organizational members, specifying such outcomes as an increase in internal conflicts, reduced job satisfaction, and decreased confidence in superiors and in the organization. They further suggest that the problem of role definition and acceptance are likely to increase with the size and complexity of the organization. This appears to be the case in the present study with the IUPA sample generally reporting a greater degree of stress than the NIOSH sample.

These differences are primarily quantitative rather than qualitative, however, in that both samples reported the same types of stressors as common to police work. One notable exception involved the officers' satisfaction with the manner in which department policies are communicated and the quality of his/her interactions with supervisory personnel. On this issue, the NIOSH and IUPA samples differed not only in degree but in direction, with the NIOSH officers expressing general satisfaction with the status quo and the IUPA sample, dissatisfaction. This difference could reflect the escalating problems of communication and interpersonal harmony and sensitivity as a function of organizational size, or it could be viewed as a primary cause (or effect) of unionization in the IUPA cities. The present study design does not allow for a resolution of these alternative explanations. Nevertheless, the dissatisfaction with supervisory relations and organizational climate expressed by the IUPA officers is consistent with Kahn's (1965) discussion of the effects of bureaucratization and organizational size on the individual member.

The discrepancy in size between the IUPA and NIOSH sampled cities could also partially account for the observed differences in response rates between these two sources. Presumably, the smaller departments (i.e., those in the NIOSH sample) posed fewer problems in terms of distributing and collecting the

questionnaires, handling communications relevant to the survey, and promoting cooperation among the force to participate. The lower response rate among the IUPA cities would thus not be due to the operation of any type of union bias but would reflect the logistical problems of surveying large populations.

In summary, the survey conducted by the IUPA differed from that conducted by NIOSH in several respects: (1) although the questionnaires were identical, they were distributed and collected by different means; (2) the IUPA survey packet contained a letter requesting officer participation from the national union president; (3) the IUPA sampled cities were considerably larger than the NIOSH sites; (4) the IUPA response rate was approximately half that of the NIOSH sample; and (5) the officers in the IUPA sample reported quantitatively more stress and strain than those in the NIOSH sample. Despite these qualifications, the survey encompassed a broad spectrum of American cities and police departments, and resulted in a body of findings which are internally logical and consistent with existing theory. Thus, while the results of the present study do not altogether allow for cross-sectional comparison of the stresses and strains of police work relative to other occupations, they do permit an identification of the relevant occupational problems of law enforcement as perceived by the officers themselves.

Reflecting further on the union issue, an examination of Table 17 reveals that union membership was a predictor of several strains, notably those in the categories of somatic complaints and health disorders. Surprisingly, reference to the individual associations between union membership and these strain measures (Table 15) indicates that these relationships are generally positive, i.e., the incidence of these self-reported strains is greater among union as opposed to non-union officers. This may reflect an expectancy effect such that those officers

experiencing the most severe problems, have the highest expectancy that the union will help to resolve their distress. This may be indicative of the operation of demand characteristics such that union officers feel compelled to report more serious strains in an attempt to confirm the perceived hypotheses. Yet another explanation is that the larger, more bureaucratic and stressful departments are more likely to unionize. While the present study design does not permit a resolution of these alternatives, it does appear that unionization plays a role in understanding the stress-strain relationships in certain departments, and should be examined more closely in future research.

As a final point to close out this discussion of different issues bearing on the study results, one needs to mention the limitations of self-report measures of strains and to emphasize again that the data represent only perception of job stress factors. More objective appraisals of the work conditions coupled with clinical or medical findings would be essential to validating such findings. At best, the current findings can be considered as offering only more suggestive evidence.

SUMMARY

The purpose of this study was to provide a broad-based empirical investigation of job elements in policing deemed stressful by police patrol officers and to examine the relationship between these stressors and emotional, behavioral and health difficulties. For this purpose, officers in some twenty-nine different police departments throughout the United States were administered self report type questionnaires yielding rating levels on various job environment stressors and strain measures related to one's health and well being, and personal and

family characteristics. In all, more than 2,200 officers completed and returned the questionnaire survey forms, representing an overall response rate of 37%.

Few of the more than 25 job environment factors displayed overall mean ratings suggestive of a significant stress level among the population surveyed. Those features receiving the most negative ratings related primarily to organizational and management practices, notably lack of participation and expression in job decisions, frustration with lenient court rulings, and too much repetitiousness in work rotines. Correlations between the different job elements and strain measures, however, revealed other factors to be more influential as stress producers in police work. In this regard, job future uncertainty and role conflict showed the most frequent significant associations with negative health and emotional strain measures. Given the above results, it was felt that problems of stress among police officers involve needs for greater clarification of their job roles, expectancies and development of strategies for better dealing with issues that bear on those professional and familial responsibilities. Freer discussions and interactions with police management about problems of mutual concern were viewed as beneficial in this regard as were more prosocial contacts with the public. Preparing officers through special training or counseling for handling individual or familial problems was also considered as a positive step in limiting potential stress and strain problems.

Most of the more than 30 strain measures were non-remarkable in terms of their overall mean ratings. Work related self-esteem and divorce actions, especially among officers married before joining the force, were among the few showing extreme problematic values. Complaints reflecting musculoskeletal and

gastrointestinal troubles and numbers of auto accidents also appeared excessive. Many more strain measures appeared linked significantly with the different job factors, with those in the affective and somatic complaints categories covarying with the greatest number of perceived work stressors. Relationships between job stressors and strains appeared moderated by personality as well as social support factors. The latter included family concern for safety and support from the spouse. Such findings coupled with the high divorce rate evident in this sample of patrol officers suggest the need to expand concerns about job related stress among police officers to include the officer's family.

Patrol officers from unionized departments included in the survey tended to give higher levels of stress and strain than their non-union cohorts. Possible methodological reasons for this difference were noted, including the fact that the unionized departments were from much larger cities, presumably subjecting the patrol officers to more bureaucratic pressures and problems.

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APPENDIX A

STUDY QUESTIONNAIRE

OMB No. 68S-75013
Expires April 1976

JOB ENVIRONMENT AND HEALTH

QUESTIONNAIRE

FOR

POLICE OFFICERS

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service

National Institute for Occupational Safety and Health

Center for Disease Control

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH
U.S. POST OFFICE AND COURT HOUSE
CINCINNATI, OHIO 45202

Dear Respondent:

The National Institute for Occupational Safety and Health is interested in American workers. We are concerned with the types of work they do, and the problems they face, their feelings about their work and the effects of work on their health and well-being. The aim of this study is to obtain an idea of how to improve the working conditions of the police officer so as to provide him with a healthier and more satisfying work environment.

Answers to all questions on the attached questionnaire are voluntary and anonymous. To insure confidentiality we are not asking for your name nor will your individual questionnaire be shown to anyone in your department, so please answer honestly. Feel free to add comments in the margins or at the end of the questionnaire.

We are grateful for your assistance.

Sincerely yours,

William Kroes

William Kroes, Ph.D.
Chief, Stress Research Section

INSTRUCTIONS

1. Most questions can be answered by filling in the appropriate numbers in the spaces provided. If you do not find the exact answer which fits your case, choose the one which comes the closest to it. For some questions, you will fill in the blank_____.

2. Please answer all question in order.

3. Ignore the small numbers to the side or under the responses; these numbers are for later use in computer analyses.

   The value of the study depends on your being honest in answering this questionnaire. Remember, you will not be identified with your answers.

1. For what police department do you work? _____

2. How long have you worked for your present department? ___ ___ Years (8) ___ ___ Months (10)

3. Have you ever worked as a police officer in any other department(s)? (12)

_____ 1. No

_____ 2. Yes

a. If Yes, for how long? ___ ___ Years (13) ___ ___ Months (15)

4. What is your present rank? (CHECK ONE OF THE FOLLOWING) (17) (18)

_____ (01) Recruit Officer

_____ (02) Probationary Officer

_____ (03) Patrol/Police Officer

_____ (04) Corporal

_____ (05) Sergeant

_____ (06) Lieutenant

_____ (07) Detective

_____ (08) Investigator

_____ (09) Inspector

_____ (10) Other (SPECIFY) _____

a. How long (if at all) have you served in each of the following ranks in your present department?

	Years	Months		Years	Months
1. Recruit Officer	(19) ___	(21) ___	6. Lieutenant	(39) ___	(41) ___
2. Probationary Officer	(23) ___	(25) ___	7. Detective	(43) ___	(45) ___
3. Patrol/Police Officer	(27) ___	(29) ___	8. Investigator	(47) ___	(49) ___
4. Corporal	(31) ___	(33) ___	9. Inspector	(51) ___	(53) ___
5. Sergeant	(35) ___	(37) ___	10. Other (SPECIFY) _____	(55) ___	(57) ___

5. Which of the following describes your present regular duty assignment? (CHECK ONE) (59) (60)

_____ (01) Patrol

_____ (02) Staff Planning

_____ (03) Tactical Unit

_____ (04) Crimes Against Persons

_____ (05) Crimes Against Property

_____ (06) Traffic

_____ (07) Staff Inspection

_____ (08) Vice

_____ (09) Internal Affairs

_____ (10) Juvenile

_____ (11) Property

_____ (12) Communications

_____ (13) Records

_____ (14) Personnel

_____ (15) Training or Education

_____ (16) Narcotics

_____ (17) Canine

_____ (18) Jail

_____ (19) Other (SPECIFY) _____

a. How long have you been on your present assignment? ___ ___ Years (61) ___ ___ Months (63)

b. In an average week, how many hours do you usually work on the following types of assignment:

1. On foot patrol ___ ___ (65) Hours
2. In a marked police car ___ ___ (67) Hours
3. In an unmarked police car ___ ___ (69) Hours
4. On a motorcycle ___ ___ (71) Hours
5. In a helicopter ___ ___ (73) Hours
6. On a horse ___ ___ (75) Hours
7. In a police station or office ___ ___ (77) Hours

1 2 3 4 5 6 7

c. In an average week, how many hours do you usually work:

1. Alone ___ ___ (8) Hours
2. With an assigned partner ___ ___ (10) Hours
3. With more than one other person ___ ___ (12) Hours.

6. In your job, do you usually have direct supervisory responsibility over other officers or civilian employees?

_____ 1. No

(14) _____ 2. Yes

a. If Yes, how many people do you usually supervise? (FILL IN THE NUMBER OF PEOPLE)

___ ___ (15) People

7. As a police officer, how often do you have weekends off? (CHECK ONE)

_____ 1. Rarely

_____ 2. Occasionally

_____ 3. Sometimes

(17) _____ 4. Fairly often

_____ 5. Very often

8. As a police officer, do you usually:

_____ 1. Work the same hours each day

(18) _____ 2. Work on a rotating/alternating shift (that is, you work one schedule of hours for a number of days and then change to another schedule). (SKIP TO QUESTION 8b)

a. If you work the same hours each workday, what are those hours? (USE MILITARY TIME)

Work begins at ___ ___ ___ ___ (19) hours

Work ends at ___ ___ ___ ___ (23) hours

(SKIP TO QUESTION 9)

b. If you work on a rotating/alternating shift, what are the work hours on your current shift? (USE MILITARY TIME)

Work begins at ___ ___ ___ ___ hours (27)

Work ends at ___ ___ ___ ___ hours (31)

c. How long do you normally work this shift? (IN DAYS OR MONTHS) ___ ___ Days (35)

___ ___ Months (37)

d. What will your work hours be on your next shift change? (USE MILITARY TIME)

Work will begin at ___ ___ ___ ___ hours (39)

Work will end at ___ ___ ___ ___ hours (43)

e. How long will you work on that shift? (IN DAYS OR MONTHS) ___ ___ Days (47)

___ ___ Months (49)

f. If your job has another shift rotation, what will your hours be on that shift? (USE MILITARY TIME)

Work will begin at ___ ___ ___ ___ hours (51)

Work will end at ___ ___ ___ ___ hours (55)

g. How long will you work on that shift? (IN DAYS OR MONTHS) ___ ___ Days (59)

___ ___ Months (61)

9. In the last month approximately how many hours of overtime did you work per week?

___ ___ Hours per week (63)

a. Of those overtime hours, about how many hours per week did you want to work?

___ ___ Hours per week (65)

b. How many hours of overtime would you like to work per week?

___ ___ Hours per week (67)

10. In addition to your job with the police department do you now:

a. Attend school/university

_____ 1. No

_____ 2. Yes (69)

If Yes, how many hours per week? ___ ___ Hours per week (70)

b. Hold an off-duty police/security job?

_____ 1. No

_____ 2. Yes (72)

If Yes, how many hours per week? ___ ___ Hours per week (73)

c. Hold another (non-police) off-duty job (including self-employed)?

_____ 1. No

_____ 2. Yes (75)

If Yes, how many hours per week? ___ ___ Hours per week (76)

11. How much do you <u>like</u> or <u>dislike</u> handling the following situations or duties? Use the following code:

1 = Dislike very much
2 = Dislike moderately
3 = Dislike slightly
4 = Like slightly
5 = Like moderately
6 = Like very much

For example, if you "dislike moderately" a certain situation, place a "2" in the blank to the left of it. If you "like very much" a situation, place a "6" in the blank.

_____ Domestic disturbance [8]	_____ Delivering death messages [16]	_____ Offense incident reports [24]
_____ Person with gun	_____ Silent burglar alarms	_____ Routine department paperwork
_____ Auto accidents [10]	_____ Possible homicide	_____ Another officer needs assistance
_____ Prowler	_____ Child beating	_____ Unknown nature of call [27]
_____ Shooting	_____ Robbery in progress [20]	_____ High speed auto chase
_____ Routine patrol	_____ Taking rape reports	_____ Mentally disturbed person
_____ Car check	_____ Sudden death/D.O.A.	_____ Staying alert to the police radio [30]
_____ Pedestrian check [13]	_____ Burglary in progress [23]	

12. How <u>tense</u> or <u>relaxed</u> do you feel in handling the following situations or duties? Use the following code:

1 = Very tense
2 = Moderately tense
3 = Slightly tense
4 = Slightly relaxed
5 = Moderately relaxed
6 = Very relaxed

_____ Domestic disturbance [31]	_____ Delivering death messages [39]	_____ Offense incident reports [47]
_____ Person with gun	_____ Silent burglar alarms	_____ Routine department paperwork
_____ Auto accidents	_____ Possible homicide	_____ Another officer needs assistance
_____ Prowler [34]	_____ Child beating [42]	_____ Unknown nature of call [50]
_____ Shooting	_____ Robbery in progress	_____ High speed auto chase
_____ Routine patrol	_____ Taking rape reports	_____ Mentally disturbed person
_____ Car check	_____ Sudden death/D.O.A.	_____ Staying alert to the police radio [53]
_____ Pedestrian check [38]	_____ Burglary in progress [46]	

13. In the next set of questions, assume you had <u>the job you would most like to have</u>. Use the following code:

1 = Rarely
2 = Occasionally
3 = Sometimes
4 = Fairly often
5 = Very often

How often would you like to:

_____ Be able to predict what others will expect of you on your job [54]

_____ Experience a marked increase in how fast you have to think

_____ Have a chance to develop new talents

_____ Remain seated

_____ Experience a sharp increase in work load

_____ Have the opportunity to be creative [59]

13. (continued)

1 = Rarely
2 = Occasionally
3 = Sometimes
4 = Fairly often
5 = Very often

How often would you like to:

_____ Be certain about what your job responsibilities were (60)

_____ Do different things each day

_____ Work in the same location

_____ Know how well you did at the end of the day (63)

_____ Be certain about what others expect of you on the job

_____ Experience a marked increase in the amount of concentration required on your job

_____ Repeat the same activities over and over

_____ See the results of your work (67)

14. In the following questions, use this code:

1 = Very little
2 = Little
3 = A moderate amount
4 = Much
5 = Very much

If you could have <u>the job you would most like to have</u>, how much:

_____ Would you like to decide with others what part of a task you will do (68)

_____ Responsibility would you like to have for the morale of other officers

_____ Time would you like to have to do all your work

_____ Responsibility would you like to have for the well-being of other officers

_____ Time would you like to have to think and contemplate (72)

_____ Would you like to participate with others in making decisions that affect you

_____ Free time between heavy work load periods would you like to have

_____ Would you like to participate with others in determining the way things are done on your job

_____ Freedom would you like to have in setting your own work hours and days off (76)

15. How <u>satisfied</u> or <u>dissatisfied</u> are you with the following elements of your job as a police officer? Use the following code:

1 = Very dissatisfied
2 = Moderately dissatisfied
3 = Slightly dissatisfied
4 = Slightly satisfied
5 = Moderately satisfied
6 = Very satisfied

1 2 3 4 5 6 7 (14)

_____ Job security (8)	_____ Equipment maintenance (15)	_____ System of determining work schedules (22)
_____ Fellow officers	_____ Top administration	_____ Personal appearance code
_____ Promotion system	_____ Immediate supervisor	_____ Method of determining days-off
_____ Academy training (11)	_____ Disciplinary system (18)	_____ Performance evaluation system (25)
_____ Overtime pay	_____ Middle management	_____ Freedom to make decisions
_____ Excitement	_____ In-service training	_____ Method of determining assignments
_____ Salary (14)	_____ Amount of overtime (21)	_____ Recognition from supervisors (28)

16. Below are some questions about the future of your job as a police officer. Use the following code:

1 = Very uncertain	4 = Slightly certain
2 = Moderately uncertain	5 = Moderately certain
3 = Slightly uncertain	6 = Very certain

How certain are you about:

_____ What your future career picture looks like
29

_____ The opportunities for promotion and advancement which will exist in the next few years

_____ Whether your job skills will be of use and value five years from now

_____ What your responsibilities will be six months from now
32

Please read the pairs of descriptions below. Then describe your present job and the job you would most like to have.

17.

JOB A	JOB B
In this job, you are required to be around people constantly. You work and talk with people most of the time.	In this job, you are not required to work with anyone else. You work alone and rarely deal with other people

Use the following code to describe your present job and the job you would most like to have:

1 = Very much like JOB A	4 = Slightly like JOB B
2 = Somewhat like JOB A	5 = Somewhat like JOB B
3 = Slightly like JOB A	6 = Very much like JOB B

Your present job is _____
33

The job you would most like to have would be _____

18.

JOB C	JOB D
In this job, you are required to work with people from several different groups. You have to handle each group differently because they have different needs and objectives.	In this job, your contact is strictly with the people in your own group. You do not need to deal with different groups.

Use the following code to describe your present job and the job you would most like to have:

1 = Very much like JOB C	4 = Slightly like JOB D
2 = Somewhat like JOB C	5 = Somewhat like JOB D
3 = Slightly like JOB C	6 = Very much like JOB D

Your present job is _____
35

The job you would most like to have would be _____

19.

JOB E	JOB F
In this job, you are required to work on many different tasks which are all in different stages of completion. Some things are just being started while others are halfway finished, and others may be finished by someone else.	In this job, you are required to work on one job at a time. When that task is completed, you start work on another. Two or more tasks are never worked on at the same time. You always finish one task before starting on another.

Use the following code to describe your present job and the job you would most like to have:

1 = Very much like JOB E	4 = Slightly like JOB F
2 = Somewhat like JOB E	5 = Somewhat like JOB F
3 = Slightly like JOB E	6 = Very much like JOB F

Your present job is _____
37

The job you would most like to have would be _____

20.

JOB G

In this job, you have changes in work load. Every once in a while you have to work to your absolute maximum. When that happens, you have to concentrate very hard, work very fast and as carefully as you can.

JOB H

In this job, you go along evenly from hour to hour and from day to day. The pace of the work stays about the same. You rarely, if ever, have to suddenly change the pace of your work and work even faster and harder.

Use the following code to describe your present job and the job you would most like to have:

1 = Very much like JOB G
2 = Somewhat like JOB G
3 = Slightly like JOB G
4 = Slightly like JOB H
5 = Somewhat like JOB H
6 = Very much like JOB H

Your present job is _____ 39

The job you would most like to have would be _____

21.

JOB I

In this job, your work is defined and described in almost every detail. Nothing is left to chance. There is a procedure for every type of task.

JOB J

In this job, you have some idea of the purpose of the job, but no exact instructions are given on how to do the work. There is often no set procedure.

Use the following code to describe your present job and the job you would most like to have:

1 = Very much like JOB I
2 = Somewhat like JOB I
3 = Slightly like JOB I
4 = Slightly like JOB J
5 = Somewhat like JOB J
6 = Very much like JOB J

Your present job is _____ 41

The job you would most like to have would be _____

22.

JOB K

In this job, things change almost every day. Each task is rarely the same as the previous one. You are likely to use different procedures from task to task.

JOB L

In this job, you work on the same tasks every day. You use the same procedures or equipment all of the time. Each task is like the one you just finished.

Use the following code to describe your present job and the job you would most like to have:

1 = Very much like JOB K
2 = Somewhat like JOB K
3 = Slightly like JOB K
4 = Slightly like JOB L
5 = Somewhat like JOB L
6 = Very much like JOB L

Your present job is _____ 43

The job you would most like to have would be _____

---

23. Now think about your present job as a police officer. Use the following code to describe your job:

1 = Rarely
2 = Occasionally
3 = Sometimes
4 = Fairly often
5 = Very often

How often do you feel that you:

_____ Are able to use your skills from your previous experience and training
45

_____ Are certain about what others expect of you on the job

_____ Are certain about what your job responsibilities are

_____ Can predict what others will expect of you on your job in the future

_____ Are able to use your skills and knowledge

_____ Are given a chance to do the things you do best
50

_____ Get conflicting orders from superiors

_____ See the results of your work

_____ Have feelings of pressure from having to please too many bosses

_____ Have superiors giving you things to do which conflict with other things you have to do

_____ Experience a sharp increase in work load
55

_____ Notice a marked increase in amount of concentration required on your job

_____ Have a marked increase in how fast you have to think

_____ Have too little authority to carry out the responsibilities assigned to you

_____ Know what opportunities for advancement or promotion exist for you

_____ Have too heavy a work load
60

_____ Are able to satisfy the conflicting demands of various people over you

_____ Are fully qualified to handle your job

_____ Don't know how your supervisor evaluates your performance

_____ Have the information necessary to do your job

_____ Have too much influence over the lives of other people
65

_____ Are able to influence the decisions of your immediate supervisor which affect you

_____ Have so much work that you can't do as good a job as you would like

_____ Have to do things on the job that are against your better judgment

_____ Repeat the same activities over and over

_____ Have a chance to develop new talents
70

_____ Remain seated

_____ Have the opportunity to be creative

_____ Do different things each day

_____ Work in the same location

_____ Know how well you did at the end of the day
75

24. On the next items, use this code:

1 = Very little
2 = Little
3 = A moderate amount
4 = Much
5 = Very much

12 1 2 3 4 5 6 7

In your job as police officer, how much:

_____ Responsibility do you have for the morale of other officers (8)

_____ Do you participate with others in determining the way things are done on your job

_____ Freedom do you have in setting your own work hours and days off

_____ Time do you have to do all your work (11)

_____ Responsibility do you have for the well-being of other officers

_____ Do you decide with others what part of a task you will do

_____ Free time do you have between heavy work load periods

_____ Do you participate with others in making decisions that affect you

_____ Time do you have to think and contemplate (16)

25. In answering each of the following questions, use this code:

1 = Very much less than I ought to get
2 = Somewhat less than I ought to get
3 = Slightly less than I ought to get
4 = Slightly more than I ought to get
5 = Somewhat more than I ought to get
6 = Very much more than I ought to get

_____ Compared to other people where you work who do a job <u>similar</u> to yours, how fair is your pay? (17)

_____ Compared to other people where you work who do a job <u>different</u> from yours, how fair is your pay?

_____ Compared to other people <u>who do not work where you work</u> but who have skills similar to yours, how fair is your pay?

_____ Compared to other people where you work who do a job <u>different</u> from yours but who have an educational background similar to yours, how fair is your pay? (20)

26. Below are some phrases which indicate how you might see yourself in your work. For example, if you think that you are very "successful" in your work, put a circle around the number right next to the word "successful." If you think that you are not at all successful in your work, circle the number next to the words "not successful." If you think you are somewhere in between, <u>circle the appropriate number</u>.

Successful	1	2	3	4	5	6	7	Not successful (21)
Sad at work	1	2	3	4	5	6	7	Happy at work (22)
Not important at work	1	2	3	4	5	6	7	Important at work (23)
Doing my best	1	2	3	4	5	6	7	Not doing my best (24)

27. The following questions concern your relationships with other people. Use this code:

1 = Rarely
2 = Occasionally
3 = Sometimes
4 = Fairly often
5 = Very often

a. How often do the following people go out of their way to make your job easier for you?

_____ (25) Your immediate supervisor

_____ (26) Your spouse, or if not married, your closest friend of the opposite sex

_____ (27) Other people at work

_____ Other relatives

_____ (29) Close friends

b. How often can you have meaningful talks with the following people about your personal problems?

_____ (30) Your immediate supervisor

_____ (31) Your spouse, or if not married, your closest friend of the opposite sex

_____ (32) Other people at work

_____ Other relatives

_____ (34) Close friends

27. Please think now about the type of work you do. Use this code:

1 = Very unlikely
2 = Moderately unlikely
3 = Slightly unlikely
4 = Slightly likely
5 = Moderately likely
6 = Very likely

_____ (35) Knowing what you know now, how likely is it that you would <u>again</u> take a job as a police officer?

_____ If a friend of yours expressed an interest in becoming a police officer, how likely is it that you would advise <u>against</u> it?

28. Please indicate the degree to which you agree or disagree with the following statements. Use this code:

1 = Strongly disagree
2 = Moderately disagree
3 = Slightly disagree
4 = Slightly agree
5 = Moderately agree
6 = Strongly agree

_____ (37) My work is interesting to do

_____ I often have to "bend" department policies and procedures in order to get my job done

_____ My family takes pride in the work I do

_____ (40) There's pretty good sharing of information among the officers on all three shifts

_____ I like the amount of work I'm expected to do

_____ To be married to a police officer is often difficult

_____ Most of the time there is not much tension between me and my children

_____ I feel bored with the work I have to do

_____ (45) The officers who work the same shift with me often get a chance to discuss common problems

_____ Department policies are too strict to let me do my job properly

_____ I am satisfied with the pace of my work

_____ (46) My family is often worried that something might happen to me while I'm at work

29. (continued)

1 = Strongly disagree
2 = Moderately disagree
3 = Slightly disagree
4 = Slightly agree
5 = Moderately agree
6 = Strongly agree

_____ My children and I don't get along very well
49

_____ The work on my job is dull

_____ The department's job promotion policies are basically good

_____ I am happy about my current work load

_____ Other people give my children a hard time because I am a police officer

_____ Some of the best qualified people can't get promoted under the current system

_____ Many of the department's regulations are unrealistic
55

_____ Families of police officers are expected by the community to behave better than other families

_____ Overall, my job has a negative effect on my home life

_____ This department is a good one to work for

_____ I don't receive enough praise for the work I do

_____ My family is no more concerned about my safety than they would be if I were not a police officer
60

_____ My department is too much like a military organization

_____ Nobody seems to notice when I do my job well

_____ Most citizens have a great deal of respect for the police

_____ My job requires me to do too much paperwork

_____ I feel I am getting ahead in the department
65

_____ My progress toward promotion is satisfactory

_____ Citizens usually report the crimes they observe

_____ My department does a poor job in maintaining communications equipment

_____ Many citizens believe that investigations of police misconduct are usually biased in favor of police

_____ The public is generally eager to cooperate with the police
70

_____ Police vehicles are kept in good mechanical condition

_____ My department does a good job in providing the equipment I need

_____ The relationship between citizens and police in this city is a good one

_____ Many citizens believe that police officers are people who like power and tend to abuse it

_____ I sometimes try to get even, rather than forgive and forget
75

_____ I thrive on challenging situations

_____ In comparison to most people I know, I'm very involved in my work

_____ There have been occasions when I felt like smashing things

_____ In general, I approach my work more seriously than most people I know
79

29. (continued)

1 = Strongly disagree
2 = Moderately disagree
3 = Slightly disagree
4 = Slightly agree
5 = Moderately agree
6 = Strongly agree

:61
1 2 3 4 5 6 7

_____ I sometimes feel resentful when I do not get my way
8
_____ The more challenges I have, the better

_____ I have to spend too many hours in court
10
_____ The courts are often too lenient with accused offenders

_____ Court cases are usually scheduled at convenient times for me

_____ I don't get enough compensation for my court appearances

_____ I usually don't have to wait very long in court for a case to be called

_____ I am sometimes irritated by people who ask favors of me
15
_____ Most lawyers try to make officers look foolish

_____ Bail is usually set too high

_____ I never hesitate to go out of my way to help someone in trouble

_____ Most judges treat officers with respect

_____ Juries are often prejudiced against police officers
20
_____ I have never deliberately said something that hurt someone's feelings

_____ Plea-bargaining should be eliminated

_____ There is a big difference between whether a person is really guilty and what the court decides

_____ I am always courteous, even to people who are disagreeable

_____ My immediate supervisor keeps me well informed
25
_____ The officers I work with don't get much chance to talk to each other

_____ My immediate supervisor is willing to listen to suggestions

_____ I don't feel there is enough communication among the officers on different shifts

_____ Officers in this department are quickly informed about policy changes

_____ No matter who I am talking to, I am always a good listener
30
_____ My immediate supervisor will back me up when I need it

_____ Department policies are communicated clearly to all members of the department

_____ I don't feel totally comfortable talking to my immediate supervisor
33

30. In the past year, have you had any vehicular accidents <u>while on police duty</u>? _____ 1. No
34
_____ 2. Yes

If Yes, a. How many accidents have you had on-duty? ___ ___ Accidents
35

b. In how many accidents were you found to be at fault by the department? ___ ___ Accidents
37

c. How many accidents involved emergency situations or high speed chases? ___ ___ Accidents
39

31. In the past year, have you had any vehicular accidents <u>while off-duty</u>?

_____ 1. No

_____ 2. Yes 41

If Yes, a. How many accidents have you had off-duty?

___ ___ Accidents (42)

b. In how many accidents were you found to be legally at fault?

___ ___ Accidents (44)

32. The following questions concern your appearances in court as a police officer.

a. On the average, how many regular duty hours <u>per week</u> do you spend in court?

___ ___ Hours <u>per week</u> (46)

b. On the average, how many hours <u>per week</u> do you spend in court during which you are not normally on duty?

___ ___ Hours <u>per week</u> (48)

33. What kind of effect do your <u>work hours</u> have on each of the following aspects of your life? Use this code:

1 = Very negative
2 = Moderately negative
3 = Slightly negative
4 = Slightly positive
5 = Moderately positive
6 = Very positive

_____ (50) Recreation
_____ Family life
_____ Sleep
_____ Holidays
_____ Digestion
_____ (53) Sex life
_____ (56) Eating habits
_____ Ability to stay alert
_____ Social life
_____ General energy level
_____ Ability to go to school
_____ (61) Ability to hold a second job
_____ (62) Friendships with other police officers
_____ Friendships with persons who are not police officers
_____ Ability to deal with household chores
_____ (63) Ability to perform personal errands

34. What kind of effect do the <u>days of the week</u> that you normally work have on each of the following aspects of your life? Use this code:

1 = Very negative
2 = Moderately negative
3 = Slightly negative
4 = Slightly positive
5 = Moderately positive
6 = Very positive

_____ (66) Sleep
_____ Sex life
_____ Digestion
_____ Holidays
_____ Social life
_____ (71) Family life
_____ (72) Ability to stay alert
_____ General energy level
_____ Recreation
_____ Ability to go to school
_____ Eating habits
_____ (77) Ability to hold a second job
_____ (8) Friendships with other police officers
_____ Friendships with persons who are not police officers
_____ Ability to deal with household chores
_____ (11) Ability to perform personal errands

35. Which of the following best describes the situation in your department?

_____ 1. There is no union or association (SKIP TO QUESTION 37)

_____ 2. There is a union or association for lower ranking officers only (SKIP TO QUESTION 35c)

_____ 3. There is one union or association for officers of all ranks (SKIP TO QUESTION 35c) 12

_____ 4. There is one union or association for lower ranking officers and another for senior level officers (SKIP TO QUESTION 35a)

a. How good a job does the union or association which represents lower ranking officers do in the following areas? Use this code:

1 = Very bad job
2 = Moderately bad job
3 = Slightly bad job
4 = Slightly good job
5 = Moderately good job
6 = Very good job

_____ Getting better benefits for members
13

_____ Improving relations between members and the department

_____ Making members' jobs more satisfying and interesting

_____ Improving members' working conditions

_____ Representing the interests of its members
17

b. How good a job does the union or association which represents senior level officers do in the following areas? Use this code:

1 = Very bad job
2 = Moderately bad job
3 = Slightly bad job
4 = Slightly good job
5 = Moderately good job
6 = Very good job

_____ Getting better benefits for members
18

_____ Improving relations between members and department administrators

_____ Making members' jobs more satisfying and interesting

_____ Improving members' working conditions

_____ Representing the interests of its members
22

(SKIP TO QUESTION 36)

c. How good a job does the union or association do in the following areas? Use this code:

1 = Very bad job
2 = Moderately bad job
3 = Slightly bad job
4 = Slightly good job
5 = Moderately good job
6 = Very good job

_____ Getting better benefits for members
23

_____ Improving relations between members and the department

_____ Making members' jobs more satisfying and interesting

_____ Improving members' working conditions

_____ Representing the interests of its members
27

36. Are you a member of a police union or association? _____ 1. No
28
_____ 2. Yes

37. The following questions concern your health.

a. In an average week, how many hours do you spend in physical conditioning (jogging, weight lifting, exercises, etc.)?

___ ___ Hours per week
29

b. In an average week, how many hours do you spend actively engaged in sports activities (playing softball, tennis, golf, bowling, etc.)?

___ ___ Hours per week
31

38. How often have you experienced each of the following during the past month while on-duty? Use this code:

0 = Never
1 = Once
2 = Twice
3 = Three or more times

_____ 33 Fainting or blacking out
_____ Spells of dizziness
_____ Headaches
_____ 36 A loss of appetite
_____ Being fidgety or tense
_____ Being nervous or shaky inside
_____ Nausea
_____ 40 Backaches
_____ 41 Hands trembling enough to bother you
_____ Hands sweating so that you felt damp and clammy
_____ Stomachaches
_____ Feeling you were going to have a nervous breakdown
_____ Being bothered by your heart beating faster than usual
_____ Shortness of breath when you were not working hard or exercising
_____ 47 Constipation

39. In addition, have you experienced any of the following while off-duty during the past month? Use this code:

0 = Never
1 = Once
2 = Twice
3 = Three or more times

_____ 48 Nightmares
_____ Fainting or blacking out
_____ Headaches
_____ Being fidgety or tense
_____ 52 A loss of appetite
_____ Nausea
_____ Spells of dizziness
_____ Stomachaches
_____ 56 Backaches
_____ 57 Trouble falling or staying asleep
_____ Feeling you were going to have a nervous breakdown
_____ Being nervous or shaky inside
_____ 60 Hands trembling enough to bother you
_____ Hands sweating so that you felt damp and clammy
_____ Being bothered by your heart beating faster than usual
_____ Shortness of breath when you were not working hard or exercising
_____ 64 Constipation

40. How much of the time do you have the following feelings while you are at work? Use this code:

0 = Never
1 = A little of the time
2 = Some of the time
3 = A good part of the time
4 = Most of the time
5 = All of the time

I feel:

_____ 65 Nervous
_____ Sad
_____ Jittery
_____ Calm
_____ 69 Unhappy
_____ 70 Good
_____ Depressed
_____ Angry
_____ 73 Fidgety
_____ 74 Blue
_____ Aggravated
_____ Cheerful
_____ 77 Irritated or annoyed

41. Below is a list of illnesses you may or may not have had. For every illness you have had in the past six months, please check the corresponding box.

	Check below if you have had the illness in the past six months. Then check the appropriate boxes to the right for every illness you have had.	For every illness you have had in the past six months, please answer each of these questions: a. If this illness was diagnosed by a doctor, please check below.	b. If you took any medication for this in the past six months, please check below.	c. If this illness was caused or made worse by your job, please check below.
a. Asthma	☐	8 ☐ 9	☐ 10	☐ 11
b. Hay fever	☐	12 ☐ 13	☐ 14	☐ 15
c. Thyroid trouble or goiter	☐	16 ☐ 17	☐ 18	☐ 19
d. Bronchitis	☐	20 ☐ 21	☐ 22	☐ 23
e. Repeated skin trouble	☐	24 ☐ 25	☐ 26	☐ 27
f. Paralysis, tremor or shaking (of any kind)	☐	28 ☐ 29	☐ 30	☐ 31
g. Gall bladder trouble	☐	32 ☐ 33	☐ 34	☐ 35
h. Trouble with your spine	☐	36 ☐ 37	☐ 38	☐ 39
i. Arthritis or rheumatism (trouble with joints)	☐	40 ☐ 41	☐ 42	☐ 43
j. Heart disease or any heart trouble	☐	44 ☐ 45	☐ 46	☐ 47
k. Hypertension or high blood pressure	☐	48 ☐ 49	☐ 50	☐ 51
l. Diabetes (sugar)	☐	52 ☐ 53	☐ 54	☐ 55
m. Ulcers (stomach)	☐	56 ☐ 57	☐ 58	☐ 59
n. A cold or the flu	☐	60 ☐ 61	☐ 62	☐ 63
o. A stroke	☐	64 ☐ 65	☐ 66	☐ 67
p. Epilepsy	☐	68 ☐ 69	☐ 70	☐ 71
q. Cancer	☐	72 ☐ 73	☐ 74	☐ 75
r. Tuberculosis	☐	76 ☐ 77	☐ 78	☐ 79
s. Hernia or rupture * 1 2 [9] 3 4 5 6 7	☐	8 ☐ 9	☐ 10	☐ 11
t. Trouble with seeing	☐	12 ☐ 13	☐ 14	☐ 15
u. Trouble with hearing	☐	16 ☐ 17	☐ 18	☐ 19
v. Trouble in the urinary tract	☐	20 ☐ 21	☐ 22	☐ 23
w. Trouble in the gastrointestinal tract	☐	24 ☐ 25	☐ 26	☐ 27
x. Trouble with teeth or gums	☐	28 ☐ 29	☐ 30	☐ 31
y. Hypoglycemia (low blood sugar)	☐	32 ☐ 33	☐ 34	☐ 35
z. Migraine (or severe headaches)	☐	36 ☐ 37	☐ 38	☐ 39
aa. Liver trouble	☐	40 ☐ 41	☐ 42	☐ 43
bb. Venereal disease	☐	44 ☐ 45	☐ 46	☐ 47
cc. Kidney trouble	☐	48 ☐ 49	☐ 50	☐ 51
dd. Gout	☐	52 ☐ 53	☐ 54	☐ 55
ee. Whiplash injuries	☐	56 ☐ 57	☐ 58	☐ 59
ff. Mental illness or nervous breakdown	☐	60 ☐ 61	☐ 62	☐ 63
gg. Other (s) (PLEASE SPECIFY)				
_____	☐	64 ☐ 65	☐ 66	☐ 67
_____	☐	68 ☐ 69	☐ 70	☐ 71

42. Think now about your health in general.

a. During the past six months would you say your health has been: (CHECK ONE)

_____ 1) Very bad
_____ 2) Moderately bad
_____ 3) Slightly bad
_____ 4) Slightly good
_____ 5) Moderately good
_____ 6) Very good

72

b. How does your health now compare with your health when you became a police officer? (CHECK ONE)

_____ 1) Very much worse
_____ 2) Moderately worse
_____ 3) Slightly worse
_____ 4) The same
_____ 5) Slightly better
_____ 6) Moderately better
_____ 7) Very much better

73

43. During the past month how often have you used each of the following? Use this code:

0 = Never
1 = Once
2 = Twice
3 = Three or more times

_____ 8 Antacids
_____ Laxatives
_____ 10 Tranquilizers
_____ 11 Aspirin or headache medicine
_____ Medication to give you pep
_____ 13 Cough or cold medicine
_____ Sleeping pills
_____ 15 Other medicines

44. On an average day, how many of each of the following do you usually drink:

a. Bottles of beer ___ ___ 16 Bottles
b. Glasses of wine ___ ___ 18 Glasses
c. Shots of liquor ___ ___ 20 Shots
d. Cups of coffee ___ ___ 22 Cups

45. On an average day, how many of each of the following do you smoke:

a. Cigarettes ___ ___ 24 Cigarettes
b. Cigars ___ ___ 26 Cigars
c. Pipesful of tobacco ___ ___ 28 Pipesful

46. Of the five people on the department you work with most often, how many have serious problems with the following: (IN THE SPACE NEXT TO EACH PROBLEM, PLEASE WRITE IN A NUMBER FROM 0 TO 5 TO INDICATE HOW MANY OF THOSE PEOPLE HAVE A SERIOUS PROBLEM)

_____ 30 Alcohol
_____ 31 Marriage
_____ 32 Children
_____ 33 Health
_____ 34 Finances
_____ 35 Drugs
_____ 36 Neighbors

47. How many officers on this department have you known who have attempted or successfully committed suicide?

___ ___ 37 Officers

48. How many officers on this department have you known who have had one or more heart attacks?

___ ___ 39 Officers

a. If you have known officers who have had heart attacks, how many of these officers had attacks during regular duty hours?

___ ___ 41 Officers

The last set of questions is included to provide further information about the backgrounds of police officers.

49. What is your age? ___ ___ Years
(43)

50. What is your sex? (CHECK ONE)
(45)
_____ 1. Male
_____ 2. Female

51. What is your ethnic background? (CHECK ONE)
(44)
_____ 1. White/Caucasian
_____ 2. Black/Negro
_____ 3. Chicano/Mexican-American
_____ 4. Other (SPECIFY) _____

52. What is your weight? ___ ___ ___ Pounds
(47)

53. Do you consider yourself to be: (CHECK ONE)
(50)
_____ 1. Very underweight
_____ 2. Moderately underweight
_____ 3. Slightly underweight
_____ 4. About the right weight
_____ 5. Slightly overweight
_____ 6. Moderately overweight
_____ 7. Very overweight

54. What is your height? ___ Feet ___ ___ Inches
(51) (52)

55. When you joined the department, what was your marital status: (CHECK ONE)
(54)
_____ 1. Never married
_____ 2. Married, never divorced or widowed
_____ 3. Remarried after divorce
_____ 4. Remarried after being widowed
_____ 5. Separated
_____ 6. Divorced
_____ 7. Widowed

56. a. Has your marital status changed since joining the department? (CHECK ONE)
(55)
_____ 1. Marital status has not changed (have not been married, separated, divorced, or widowed since joining the department)
_____ 2. Have been married for the first time
_____ 3. Have been married after a divorce
_____ 4. Have been married after being widowed
_____ 5. Have separated (but not divorced)
_____ 6. Have divorced
_____ 7. Have been widowed

b. If you have ever been divorced, are you now paying:

1. Alimony	2. Property Settlement	3. Child support
(56) _____ 1. No	_____ 1. No	_____ 1. No
(57) (58) _____ 2. Yes	_____ 2. Yes	_____ 2. Yes

57. a. If you are now married, does your spouse currently hold a job? (CHECK ONE)

_____ 1. No

_____ 2. Yes, part time

_____ 3. Yes, full time

39

b. If Yes, how important is your spouse's income for the maintenance of your household? (CHECK ONE)

_____ 1. Very unimportant

_____ 2. Moderately unimportant

_____ 3. Slightly unimportant

_____ 4. Slightly important

_____ 5. Moderately important

_____ 6. Very important

40

58. Before you joined the department, what was the highest level of formal education you had completed? That is, when you became a police officer, was your education: (CHECK ONE)

_____ (01) Eighth grade or less

_____ (02) Some high school, but not a graduate

_____ (03) Graduate from high school or General Education Diploma (G.E.D.)

_____ (04) Some technical school, but not a graduate

_____ (05) Graduate from technical school

_____ (06) Some college courses, but did not graduate

_____ (07) Graduate from junior college

_____ (08) Graduate from college

_____ (09) Some graduate courses in college

_____ (10) Graduate degree

61 62

59. Since joining the department, how much additional formal education have you had? That is, after you became a police officer, have you: (CHECK ONE)

_____ (01) Had no additional formal education

_____ (02) Taken some high school courses, but did not graduate

_____ (03) Graduated from high school or General Education Diploma (G.E.D.)

_____ (04) Taken some technical school courses, but have not graduated

_____ (05) Taken some additional college courses, but have not graduated

_____ (06) Graduated from technical school

_____ (07) Graduated from junior college

_____ (08) Graduated from college

_____ (09) Taken some graduate college courses, but have not received a graduate degree

_____ (10) Obtained a graduate degree

63 64

60. How important do you think your department considers it that an officer go to school in order to be promoted?

_____ 1. Very unimportant	_____ 4. Slightly important
_____ 2. Moderately unimportant	_____ 5. Moderately important
_____ 3. Slightly unimportant	_____ 6. Very important

63

61. How many children do you now support? ___ ___ Children
64

62. Other than your spouse and children, how many people depend upon you as their primary source of support?

___ ___ Persons
66

This completes the questionnaire. Thank you for your cooperation. If you have any comments about the questionnaire or its contents please write those comments below.

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APPENDIX B

IUPA SAMPLING PLAN

IUPA Sampling Plan

(1) Department	(2) ICPA Members	(3) Sample Desired	(4) Mailing Required	(5) Sampling Interval
Albuquerque	430	203	430	ALL
Bellevue	65	56	65	ALL
Buffalo	1500	306	765	TWO
Cleveland	1301	296	740	TWO
Detroit	4009	350	875	FOUR
Joplin, Mo.	78	65	78	ALL
Memphis	725	251	628	ALL
Minneapolis	870	266	665	ALL
San Francisco	1705	313	783	TWO
Seattle	1042	281	703	TWO
St. Louis	2232	328	820	THREE
Toledo	501	223	501	ALL
Trenton	350	183	350	ALL
Total	14808	3121	7403	———

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