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Anticipated and Actual Stress of Deployment to the Dover AFB Mortuary During Operation Desert Storm

SUMMARY

Persons assigned to the Dover AFB Mortuary in anticipation of Operation Desert Storm (N= 638) were tested before and after human remains from the war were processed there. Analyses focussed on the relationship between various worker characteristics and anticipated (and, to some degree, actual post-war) stress, as measured mainly by the Impact of Event (IOE) and Brief Symptom Inventory (BSI) scales. Worker characteristics included prior experience, volunteer status, sex, fear of mutilation, tendency to give socially desirable responses, and duty to which workers were assigned at the mortuary. Hundreds of analyses were performed. Results included the following. The IOE proved to have high concurrent and discriminant validity. Alcohol consumption and stress-reducing strategies were minimally predictive of level of stress. Workers' reports of spouses' stress were lower if workers had had prior experience. Sex, as a main effect or in interaction with other predictors, had very little influence on results. Prior experience generally was associated with lower stress. Volunteering was associated with fewer general symptoms of disturbance, while anticipation of having to work with bodies led to more symptoms. Multiple regression analyses showed that stress reactions were best predicted by other measures of personality or emotional state, and not by demographic or prior experience characteristics. Prewar-postwar change in stress levels were not generally predictible by main effects, though some interactions were significant. It was concluded that further analysis of this rich and complex data set could yield insights of considerable practical and theoretical significance.

Anticipated Stress of Deployment to the Dover AFB Mortuary During Operation Desert Storm

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Anticipated Stress of Deployment to the Dover AFB Mortuary During Operation Desert Storm

Background

In the winter of 1990-91, the U.S. armed services were faced with the prospect of dealing with casualties from armed conflict in the Persian Gulf. Because it was feared that fatalities would be heavy, over 600 personnel were assigned to the Dover Air Force Base Mortuary, the sole facility for the processing of fatal casualties for the U.S. armed forces. An additional 181 were assigned to the duty of escorting remains to the surviving relatives, and were stationed at Ft. Meade. Most of the mortuary and escort personnel were reservists who had had little or no experience with mortuary procedures. The mortuary duty was likely to be a stressful one for most of the personnel, as it included a sudden separation from family, friends, civilian jobs, and home community, uncertainty as to the duties to be required, and the possibility of handling mutilated or contaminated human remains.

The reactions of workers to psychologically stressful jobs is of considerable interest, both to the psychiatric community at large, and to the armed forces. Besides the simple humane goal of minimizing human unhappiness, and the desirability of advancing our general theoretical understanding of human psychological processes, substantial practical benefits could result from a knowledge of who reacts in what ways in which circumstances. First, it is evident that highly stressed workers do not perform their jobs as well as those who are less reactive to the situation. Second, workers under stress tend to have more accidents, endangering themselves and others. Third, the employer, in this case the U.S. government, is obligated to repair any short-term or long-term damage suffered by the individual. Finally, an understanding of successful and unsuccessful strategies for dealing with the stress may contribute to the efficiency of personnel under other types of extreme stress, in particular, soldiers in combat.

The situation at the Dover Mortuary offered a hitherto unknown opportunity to examine the reactions of a substantial number of persons to the stress of anticipated exposure to human remains.

Although some research has been conducted on body handlers after a natural disaster or mass-casualty accident, it is very unusual to be able to anticipate stressful events affecting hundreds of persons all gathered together in one place. Consequently, researchers from the Department of Military Psychiatry of Walter Reed Army Institute of Research, working in conjunction with the Department of Psychiatry of the Uniformed Services University of the Health Sciences, conducted surveys both before and after the bulk of the casualties appeared at Dover AFB. As yet, only the data from the pre-exposure survey are available for analysis, but these provide a wealth of information on the stresses encountered by personnel of varying levels of experience with body handling and of anticipated likelihood of having to work with the remains.

Plan of Research

The research was performed in two stages. The first stage was to assess subjects' reactions to their deployment to the mortuary. The second was to measure their reactions to their actual duties. The third was to integrate the two stages of research, using information gathered before exposure to human remains and/or separation from home to predict and interprete later reactions.

The general objectives of the first stage of research were to compare stress due to deployment and in anticipation of mortuary duties to prior experience, and to search for demographic and personality correlates of anticipated stress. The general approach was to propose hypotheses regarding relationships among variables based on prior research in the field, to test these hypotheses, and to examine the data more generally in areas where there were no clear-cut prior hypotheses.

This report is intended as a reference and documentation of work performed. Its orientation is much less theoretical than would be the case in a paper intended for journal publication.

METHOD

Subjects

A total of 638 persons assigned to the Dover Mortuary participated in the study. This represented the great majority (probably 90%) of the personnel who worked there during Operation Desert Storm. The workers came to be assigned to the mortuary by various means. Some were active duty military personnel, some were reservists who had been activated for Desert Storm duty, and a few were civilians; some volunteered specifically for mortuary duty, some were ordered there; some (especially food service

workers and military police) were brought in intact units, some were assigned individually. Table 1 (in Results) gives demographic information on the subjects.

Duty

Subjects were assigned to some 55 different duties, such as x-ray technician under AFME, or uniform preparation under Mortuary Operations. Commonest duties:

Duty	N
Personnel Support: General	71
Administrative Support: Computer Support, Ops., etc.	33
Personnel Support: Remains Handler	30
Administrative Support: General	26
Personal Effects: General	25
Supply and Services: Food Services	22
Supply and Services: Security	21
Records Management: General	20
Mortuary Operations: General	19
Command & Control: Exec., Svcs. Liaison, Sr. Ops., +	14
Supply and Services: General	14
Command and Control: General	13
Escort: General	13
Escort: Coordinator, etc.	11

On the basis of these duties, subjects were assigned to categories consisting of: Regular Mortuary Workers whose work might have exposed them to remains (N=403), Food Services Workers, MPs, and others who would not have expected exposure (N=90), and Remains Escorts (N=141). Escorts were in many ways not typical of the population of interest to this study. Therefore, after Table 1 which reports demographic statistics for the three groups, all subsequent analyses and discussions are concerned only with the mortuary workers and/or the support personnel.

Questionnaire

Soon after their arrival at the mortuary (usually the same day), subjects filled out a questionnaire (see Appendix B). The questionnaire requested identifying information, demographic information (age, sex, marital status, education, race/ethnicity), and background information on their experience in mortuary duties and related work (participation in a mass casuality/disaster event, whether they had seen anyone who had died by violent means, prior work with dead bodies, and training

for their present duty[1]. Subjects also reported whether or not they had volunteered[2], and whether their spouse/significant other had expressed concerns. A number of questions gathered information on subjects' recent physical history, anticipated stress of various activities (including body handling and being away from family and friends), stress experienced by self and family members during the prior week, and how helpful they found various activities in reducing stress.

The bulk of the questionnaire was taken up with seven self-report scales. These were the Impact of Event, Perceived Social Support-Friends, and Perceived Social Support-Family scales, the Brief Symptom Inventory, the Interpersonal Reactivity Index, the Mutilation Questionnaire, and the Marlowe-Crowne Social Desirability Scale. The principal ones used in the analyses reported here are described below.

The Impact of Event (IOE) scale (Horowitz et al., 1979) is a scale of the subjective stress experienced as the result of a specific event. The IOE is a 30-item scale, of which only the first 15 (the revised Horowitz items) have been used in the analysis so far. In its original form, the stressful event was referred to generically as "it" or "the event." For use in this study, questions were altered to refer specifically to anticipation of exposure to Desert Shield casualties. (See Appendix B for actual items.) For each item, subjects circled numbers from 0 to 3 (labeled in a key from "not at all" to "often"). These responses were later rescaled to a non-equal-interval scale (0, 1, 3, 5) for consistency with Horowitz et al. The scale can be scored as subscales for intrusive thoughts and avoidant behaviors, or as a total score. As discussed below, the subscales proved redundant, so most analyses below make use of only the total score.

The Brief Symptom Inventory (Derogatis & Melisaratos, 1983), is a short form of the SCL-90-R. As used here, it is a set of 74 items consisting of 53 from the original BSI plus additional sets of 8 and 13 focussing on PTSD symptoms, added by the USUSH researchers. Items were responded to on a 0-4 Likert scale labelled from "not at all" to "extremely." The basic scale is

---

[1]It should be noted that the interpretation of responses to this question is ambiguous. "This duty" would have been interpreted differently depending upon what duty (body handling, e.g., or food preparation) subjects expected to be performing.

[2]Also somewhat ambiguous, since some subjects had volunteered for any duty without knowing that they would be sent to a mortuary, and some others were not given the opportunity to volunteer but might have if they had been asked.

divided into 9 dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. As discussed below, the dimensions proved too redundant to be useful, so only the Global Severity Index (total score divided by number of items) was used in most analyses below.

The Perceived Social Support (PSS)-Friends and PSS-Family (Procidano & Heller, 1983) scales are 20-item questionnaires which measure the extent to which respondents perceive that their needs for support, communication, and sharing are met by, respectively, friends and family.

The Mutilation Questionnaire (referred to occasionally below as Mutilation Fear or MFQ) was developed by Klorman et al. (1974). It consists of 30 true/false items in which fear of mutilation is expressed. The Marlowe-Crowne (MC) scale (Crowne & Marlowe, 1960) is a 33-item true/false scale generally used to measure socially desirable response style. It was used here as an estimate of subjects' tendency to avoid reporting unpleasant thoughts.

RESULTS

Table 1
Descriptive Statistics

		Duty Category (see above)		
		Mortuary Workers N=403	Food Svcs Workers & MPs N=90	Escorts N=141
DEMOGRAPHICS				
Age	Mean:	32.5	31.7	48.3
	SD:	9.3	8.6	8.5
	Range:	19-67	19-55	23-63
Sex: Male	N:	343	68	133
	%:	85.5%	76.4%	94.3%
Female	N:	58	21	8
	%:	14.5%	23.6%	5.7%
Marital Status:				
Single	N:	99	27	12
	%:	24.9%	30.0%	8.5%
Single w/SO	N:	4	4	0
	%:	1.0%	4.4%	0.0%
Married	N:	175	31	63
	%:	44.1%	34.4%	44.7%
Sep/Div	N:	51	9	28
	%:	12.8%	10.0%	19.9%
Div, Remarr	N:	59	17	35
	%:	14.9%	18.9%	24.8%
Other	N:	9	2	3
	%:	2.3%	2.2%	2.1%
MISSING	N:	6	0	0

Table 1 continued

			Duty Category		
			Mortuary Workers	Food Svcs Workers & MPs	Escorts
Children:	Yes	N:	250	50	121
		%:	62.3%	55.6%	85.8%
	No	N:	152	40	20
		%:	37.8%	44.4%	14.2%
Median number (those w/ children)			1.4	1.8	2.5
Education					
	Under G12	%:	1.0	1.1	0.7
	High Sch	%:	24.4	29.2	18.0
	Some Col	%:	54.7	53.9	57.6
	Bach Deg	%:	12.2	11.2	17.3
	Mast Deg	%:	6.5	3.4	5.8
	Doct Deg	%:	1.2	1.1	0.7
Race	White	%:	72.1	67.4	75.7
	Black	%:	19.8	22.1	18.6
	Oriental	%:	1.5	1.2	0.0
	Hispanic	%:	4.3	4.7	2.9
	Other	%:	2.3	4.7	2.9
PAST EXPERIENCE					
Participated in mass cas./disaster					
	Yes	N:	76	12	43
		%:	19.0%	13.6%	30.5%
	No	N:	325	76	98
		%:	81.0%	86.4%	69.5%
Seen anyone who had died violently					
	Yes	N:	217	37	108
		%:	53.8%	42.0%	76.6%
	No	N:	186	51	33
		%:	46.2%	58.0%	23.4%

Table 1 continued

		Duty Category		
		Mortuary Workers	Food Svcs Workers & MPs	Escorts
Worked with dead bodies before				
Yes	N:	154	28	60
	%:	38.3%	31.8%	42.9%
No	N:	248	60	80
	%:	61.7%	68.2%	57.1%
Had training for this duty				
Yes	N:	125	27	22
	%:	31.0%	31.4%	15.7%
No	N:	278	59	118
	%:	69.0%	68.6%	84.3%
Volunteered for assignment				
Yes	%:	68.9	42.7	85.7
No	%:	31.1	57.3	14.3
Spouse/SO expressed concern				
Yes	%:	32.2	25.0	22.0
No	%:	67.8	75.0	78.0
Experienced major life event in past six months				
Yes	%:	28.4	29.8	29.1
No	%:	71.6	70.2	70.9

TABLES AND SUMMARY OF DATA: STRESS OF DEPLOYMENT TO MORTUARY

Demographic Variables, Combined Mortuary and Support Workers

Total N of subjects whose data were analysed for this report was 493, in two duty categories: "Mortuary workers," who probably anticipated handling bodies (N= 403, 81.7%), and other "Support" workers (N= 90, 18.3%)

Table 2
Demographics of combined duty categories

Age: M= 32.4 SD= 9.2 Range: 19-67

Education: Mdn= midway between High School and Some College

Distribution:	N	%
Less than grade 12:	5	1.0
High School:	124	25.3
Some College:	268	54.6
Bachelor's Degree:	59	12.0
Master's Degree:	29	5.9
Doctorate Degree:	6	1.2

Race: Distribution:	N	%
White:	345	71.3
Black:	98	20.2
Hispanic:	21	4.3
Oriental/Other:	20	4.1

Sex:	Male	Female
N:	411	79
%:	83.9	16.1

Age, education, and race did not differ between the duty categories. However, sex did, such that females represented only 14.5% of mortuary workers, but 23.6% of support workers. This difference was significant by χ^2 = 4.49, p=.034.

Table 3

Duty category by sex

		Male	Female	Total
Mortuary Workers	N:	343	58	401
	%:	85.5	14.5	100%
Support Workers	N:	68	21	89
	%:	76.4	23.6	100%

Experience and Volunteer Status

Table 4
Experience and volunteer status

		Seen someone who had died violently	Worked w/ dead bodies	Particip. mass cal/ disaster	Rec'd Training	Volun-teered
Yes	N:	254	182	88	152	313
	%:	51.7%	37.1%	18.0%	31.1%	64.1%
No	N:	237	308	401	337	175
	%:	48.3%	62.9%	82.0%	68.9%	35.9%

Significant Sex Differences
"Seen someone...": Females more likely to have responded "No" in full sample and both duty groups.
"Worked with...": Females more likely to have responded "No" in full sample.

Significant Duty Differences
"Seen someone...": Handlers slightly more likely to have answered "Yes" than Other Workers (54% vs. 42%).
"Volunteered": Handlers were more likely to have volunteered than Other Workers (69% vs. 43%).

Significant Sex x Duty Differences: none.

OVERVIEW OF IOE AND BSI SCALES

Measures of Stress: IOE (Combined mortuary & support workers)

Impact of Event-- Total Score (IOE)

A 15-item questionnaire answered on a 0-3 scale. Mean is sum of all responses.

M= 15.74 SD= 13.23 Range: 0-63

IOE total scores did not differ significantly by age, education, race, or duty, but did by sex, such that females scored higher (M= 18.8, SD= 13.3) than males (M= 15.2, SD= 13.2), $t_{[illegible]}$ = 2.18, p= .0299.

IOE total scores also did not differ by three of the experience variables, but did on having worked with dead bodies and volunteering. Those who had not worked with bodies before had higher IOE scores ($M_{(not\ work)}$ = 16.9 vs. $M_{(work)}$ = 14.1), $t_{(476)}$ = 2.25, p= .025. Non-volunteers also had higher scores ($M_{(non-vol)}$ = 18.2 vs. $M_{(vol)}$ = 14.2), $t_{(324)}$ = 3.06, p= .0024.

The Impact of Event (IOE) scale consists of subscales for intrusive thoughts and avoidant behaviors. Correlations with other reports (subjects were mortuary and support workers combined, N=340 to 445, depending on missing data):

Table 5
Stress and IOE subscales

	Intrus	Avoid
Degree of Stress Experienced by		
Subject During Week Prior	.31***	.27***
Spouse/ Significant Other	.23***	.25***
How often Drank Alcoholic Beverages	.00	-.02
Number of Drinks at One Time	.03	.07

Table 6
Mean comparisons with past experience and duty

		N	Intrus	Avoid
Particip. in mass cas/disaster				
	Yes	81	5.9	8.4
	No	362	6.3	9.4
Seen anyone who had died violently				
	Yes	233	5.8	8.6
	No	211	6.8	9.8
Worked with dead bodies before				
	Yes	164	5.5	8.0
	No	279	6.7*	10.0*
Had training for this duty				
	Yes	141	6.2	8.2
	No	302	6.3	9.7

* p< .05
** p< .01
*** p< .001.

Table 7
Intercorrelations among measures

	BSI	IOE Total	IOE Intru.	IOE Avoid.
BSI	----			
IOE Total	.462	----		
IOE Intrusion	.437	.902	----	
IOE Avoidance	.414	.940	.702	----

Note: N was 473 to 481. All correlations were significant at p< .0001.

Measures of Stress: IOE (Mortuary workers only)

Table 8
Correlations between IOE scores and predictors (Mortuary Workers).

	IOE Total	IOE Intrusion	IOE Avoidance
Age	.03	.05	-.01
Level of Education	-.06	-.08	-.07
Stress of Recent Life Event	.19	.11	.15
PSS: Friends	-.05	-.05	-.05
PSS: Family	-.16**	-.11*	-.18**
IRI: Fantasy	.26***	.27***	.24***
IRI: Perspective Taking	.01	-.01	.01
IRI: Empathic Concern	.30***	.29***	.27***
IRI: Perceived Distress	.35***	.34***	.31***
Mutilation Fear Questionnaire	.46***	.46***	.41***
Marlowe-Crown Questionnaire	-.19**	-.22***	-.17**

Note: N=355 to 395, except for correlations with "Stress of Recent Life Event," for which N=94.
* p< .05
** p< .01
*** p< .0001.

Table 9
Concurrent correlations between IOE total and subscale scores and other measures of stress (Mortuary Workers).

	IOE Total	IOE Intrusion	IOE Avoidance
IOE Intrusion	.91***		
IOE Avoidance	.94***	.71***	
BSI: Somatization	.34***	.35***	.31***
BSI: Interpersonal Sensit.	.36***	.33***	.35***
BSI: Depression	.42***	.40***	.41***
BSI: Anxiety	.52***	.55***	.45***
BSI: Hostility	.34***	.35***	.29***
BSI: General Severity Index	.48***	.48***	.44***
BSI: Positive Symptom Total	.45***	.45***	.42***
Stress, Week Prior	.33***	.33***	.31***
Spouse/SO Stress, Week Prior	.28***	.24***	.27***
Anticip. Stress, Body Handling	.44***	.45***	.39***
Anticip. Stress, Being Away	.24***	.22***	.24***
Hours of Sleep	-.14**	-.15**	-.14*

Note: N=345 to 388, except for correlations with "Spouse/SO Stress," for which N=278.
* p< .05
** p< .01
*** p< .0001.

Table 10
Correlations between IOE scores and Coping Behaviors (Mortuary Workers).

	IOE Total	IOE Intrusion	IOE Avoidance
Frequency of Alcohol Consumpt.	-.02	.00	-.02
Number of Drinks at a Time	.07	.04	.09
Reducing Stress: Gym/Exercise	-.15**	-.12*	-.17**
Reducing Stress: Socializing	-.04	-.03	-.06
Redu. Str. Sum of 11 Activities	-.01	-.01	-.04

Note: N=354 to 395.
* p< .05
** p< .01
*** p< .0001.

The subscales for intrusion and avoidance correlated at r= .74 (p< .0001). Because of the high degree of redundancy between the subscales and their lack of discriminant validity as shown above, the total score was used in all analyses reported below.

Measures of Stress: BSI

Brief Symptom Inventory-- General Severity Index (BSI-GSI)

A 53-item questionnaire answered on a 0-4 scale. Mean is average response per item.

M= 0.318 SD= 0.411 Range: 0-2.6

BSI-GSI scores did not differ significantly by age, education, race, sex, or duty category. Scores also did not differ on any of the experience variables, except volunteering. Non-volunteers scored higher ($M_{[illegible]}$ = 0.426 vs. $M_{[illegible]}$ = 0.257, $t_{[illegible]}$ = 4.01, p=.0001).

The nine BSI dimensions tended to be highly redundant in practice. They were intercorrelated as follows:

Table 11
Intercorrelations of BSI dimensions

	SOM	OC	INT	DEP	ANX	HOS	PHOB	PAR
SOM somatization	---							
OC obsessive-comp	.57							
INTER interpers. sens.	.54	.64						
DEP depression	.52	.70	.68					
ANX anxiety	.57	.72	.61	.71				
HOS hostility	.47	.57	.51	.58	.59			
PHOB phobic anx.	.49	.60	.54	.54	.62	.47		
PAR paran. ideation	.44	.63	.63	.58	.58	.71	.51	
PSY psychoticism	.52	.62	.70	.81	.64	.60	.59	.64

Note: All correlations were significant at $p < .0001$. Analyses here and below were performed on regular mortuary workers (N= 393).

Relationships between BSI and anticipated stress: Four different types of anticipated stressors were assessed; of these, two were of particular interest: Handling dead bodies, and being away from family and friends. All nine dimensions correlated positively and significantly with these two stressors, ranging from r= .15 (PHOB x family) to r= .34 (ANX x body handling). Correlations tended to be higher for family stress than body handling on interpersonal sensitivity (r= .26 vs. r= .16) and on paranoid ideation (r= .23 vs. r= .16), and lower on anxiety (r= .24 vs. r= .34). Because of the high degree of redundancy among the dimensions, most of the analyses and discussion to follow makes use of the General Severity Index.

Analyses of Variance

Table 12
Means of IOE Scores: Mortuary Workers Only

Males

	Volunteers			Non-Volunt.			Combined		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Experienced	83	12.1	12.7	51	16.7	15.1	134	13.9	13.8
Not Exper.	149	15.0	11.9	52	21.9	15.4	201	16.8	13.2
Combined	232	14.0	12.3	103	19.3	15.4	335	15.6	13.5
							(cell^: all males)		

Females

	Volunteers			Non-Volunt.			Combined		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Experienced	12	16.9	12.1	2	9.0	5.7	14	15.8	11.6
Not Exper.	24	18.4	13.8	17	24.5	13.3	41	21.0	13.8
Combined	36	17.9	13.1	19	22.9	13.5	55	19.6	13.4
							(cell^: all females)		

Note: "cell^" refers to the bottom righthand (grand total) cell.

Table 13

Analysis of Variance: IOE, Mortuary Workers Only
Both Sexes

Source	df	SS*	F	p
Volunteer	1	124.9	0.71	.3984
Sex	1	13.5	0.08	.7808
Volunteer x Sex	1	234.6	1.34	.2473
Experience	1	853.4	4.88	**.0277**
Volunteer x Experience	1	355.9	2.04	.1544
Sex x Experience	1	108.2	0.62	.4318
Volunteer x Sex x Exper	1	186.6	1.07	.3022
Error	402			

Males

Source	df	SS*	F	p
Volunteer	1	2258.8	12.92	**.0004**
Experience	1	1138.5	6.51	**.0112**
Volunteer x Experience	1	87.2	0.50	.4805
Error	351			

Females

Source	df	SS*	F	p
Volunteer	1	4.6	0.03	.8709
Experience	1	425.4	2.44	.1244
Volunteer x Experience	1	286.7	1.65	.2054
Error	51			

*SAS Type III SS. Since all df=1, SS=MS. Probabilities at conventional significance levels are in boldface.

Table 14
Means of BSI Scores: Mortuary Workers Only

Males

	Volunteers			Non-Volunt.			Combined		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Experienced	83	0.24	0.40	50	0.43	0.48	133	0.31	0.44
Not Exper.	147	0.26	0.35	50	0.55	0.59	197	0.33	0.44
Combined	230	0.25	0.37	100	0.49	0.54	330	0.32	0.44

(cell^: all males)

Females

	Volunteers			Non-Volunt.			Combined		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Experienced	12	0.32	0.39	2	0.27	0.39	14	0.32	0.37
Not Exper.	25	0.23	0.28	17	0.59	0.50	42	0.38	0.42
Combined	37	0.26	0.32	19	0.56	0.49	56	0.36	0.41

(cell^: all females)

Table 15

Analysis of Variance: BSI, Mortuary Workers Only
Both Sexes

Source	df	SS*	F	p
Volunteer	1	0.839	4.75	**.0299**
Sex	1	0.004	0.03	.8729
Volunteer x Sex	1	0.040	0.23	.6351
Experience	1	0.185	1.04	.3074
Volunteer x Experience	1	0.050	1.98	.1602
Sex x Experience	1	0.008	0.04	.8329
Volunteer x Sex x Exper	1	0.128	0.72	.3957
Error	378			

Males

Source	df	SS*	F	p
Volunteer	1	3.918	21.62	**.0001**
Experience	1	0.366	2.02	.1565
Volunteer x Experience	1	0.172	0.95	.3300
Error	326			

Females

Source	df	SS*	F	p
Volunteer	1	0.139	0.94	.3358
Experience	1	0.073	0.49	.4853
Volunteer x Experience	1	0.244	1.65	.2040
Error	52			

Table 16

Means of BSI Scores: Support Workers Only

	Volunteers			Non-Volunt.			Combined		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Males	29	.277	.221	38	.222	.300	67	.246	.269
Females	8	.229	.388	12	.354	.347	20	.304	.360
Combined	37	.267	.260	50	.254	.314	87	.259	.292

Analysis of Variance: BSI, Support Workers Only
Both Sexes

Source	df	SS*	F	p
Volunteer	1	0.019	0.22	.6411
Sex	1	0.026	0.30	.5828
Volunteer x Sex	1	0.120	1.41	.2389
Error	83			

Table 17

Means of BSI Scores: Mortuary and Support Workers Combined

Mortuary Workers

	Volunteers			Non-Volunt.			Combined		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Males	230	.252	.368	101	.489	.533	331	.324	.439
Females	37	.261	.318	19	.556	.488	56	.361	.405
Both Sexes	267	.253	.361	120	.500	.525	387	.330	.434

(cell^: all Mortuary)

Support Workers

	Volunteers			Non-Volunt.			Combined		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Males	29	.277	.221	38	.222	.300	67	.246	.269
Females	8	.229	.388	12	.354	.347	20	.304	.360
Both Sexes	37	.267	.260	50	.254	.314	87	.259	.291

(cell^: all Support)

Analysis of Variance: BSI, Mortuary and Support Workers Combined Both Sexes

Source	df	SS*	F	p
Duty	1	0.624	3.91	**.0487**
Volunteer	1	1.003	6.27	**.0126**
Duty x Volunteer	1	0.587	3.67	.0560
Sex	1	0.070	0.44	.5090
Duty x Sex	1	0.000	0.00	.9736
Volunteer x Sex	1	0.155	0.97	.3248
Duty x Volunteer x Sex	1	0.041	0.26	.6120
Error	466			

Multiple Regression: Preliminary Analyses using Mortuary Workers Only

The general strategy of the multiple regression analyses was to break the work down into interpretable segments. The first was a practical, predictive approach. The goal was to predict potential workers' preoccupation with the proposed duty (IOE score) and symptomatology (BSI score) on the basis of a few simple questions such as could be asked over the telephone. The second approach was to take a more omniscient point of view, using most of the information available, to try to develop a more theoretical understanding of the processes. In both, only Mortuary Workers were used as subjects.

First Phase

The first phase used the predictors listed below, the criteria of IOE Total score and BSI Global Severity Index, and several regression models (forward, backward, stepwise, at different levels of significance) to explore their effects. Regarding the latter, runs in which the significance level for entry and significance level for staying in the backwards regression were equal to .05 were necessarily redundant with default runs except that they ended sooner. Backward runs were redundant with forward runs except that they in effect went further and, of course, the order of variables was reversed. Stepwise runs proved to be perfectly redundant with forward runs since no variables which had been entered into the equation were subsequently dropped. Thus, the 12 possible MR runs reduce to two (although the table below also includes order removed from the backward variants of each).

Table 18
Multiple regression with IOE Total as criterion.

Order of Inclus./ Removal	Predictor	Increm. R^2	R^2	Pears r Equiv.[1]	Sig. of F*
1/not	HANDSTR (Antic. stress of body handling)		.2036	.45	**.0001**
2/not	VOLUNT (NOT volunteering)	.0183	.2219	.47	**.0038**
3/6	FAMSTR (Antic. stress away from fam/friends)	.0051	.2270	.48	.1235
4/5	TRAIN (Rec'd training)	.0016	.2286	.48	.3895
5/4	DEADBOD (Had NOT worked w/ bodies)	.0027	.2313	.48	.2640
6/3	PARTIC (Partic. in mass cas/disaster)	.0011	.2325	.48	.4682
7/2	SEX (Females had higher IOE)	.0011	.2336	.48	.4666
not/1	VIOLENT[2] (Seen one died by viol.)	.0007	.2348	.48	ns

*Significance of F at time of inclusion (forward method). Significances below the conventional $p < .05$ are in boldface.

---

[1] Pearson r's are more familiar than R^2 and may be more interpretable. In this case r is the Pearson correlation between the criterion and an ideally-weighted sum of the predictors.

[2] Data are from the backward run.

Table 19
Multiple regression with BSI- GSI as criterion.

Order of Inclus./ Removal	Predictor	Increm. R^2	R^2	Pears r Equiv.	Sig. of F*
1/not	FAMSTR (Antic. stress away from fam/friends)		.0951	.31	**.0001**
2/not	HANDSTR (Antic. stress of body handling)	.0450	.1401	.37	**.0001**
3/not	VOLUNT (NOT volunteering)	.0370	.1771	.42	**.0001**
4/5	TRAIN (Rec'd training)	.0051	.1822	.43	.1379
5/4	PARTIC (Had NOT partic. in mass cas/disaster)	.0047	.1869	.43	.1538
not/3	VIOLENT (Had NOT seen one died by viol.)	.0008	.1877	.43	.5669
not/2	DEADBOD (Had NOT worked w/ bodies)	.0001	.1877	.43	.8584
not/1	SEX (Females had higher BSI)	.0000	.1877	.43	.9312

*Significance of F at time of inclusion (forward method). Significances below the conventional $p < .05$ are in boldface.

Second Phase

The first phase of regression analysis was oriented toward practical prediction, as if the goal were to estimate the degree of potential workers' distress based on only a few easily-obtained data. This second phase uses a wider range of predictors, including lengthy multi-item scales, to attain an "omniscient" view of the data. For all these analyses, the backward method was redundant with the forward method.

Multicollinearity issues were also examined. Most predictors had low correlations with one another. The simplest way to check on the few which had moderate intercorrelations (around r=.50) was to change their ordering via heirarchical regression analysis.

However, it appears that SAS has no provision for direct heirarchical analysis, so this had to be imitated by means of the INCLUDE=n option of SAS's PROC REG, which forces in the first n-listed variables.

Finally, residuals were examined using procedures similar to those in USUHS's program PSCL4.SAS. The analysis of residuals is mainly to detect curvilinearity and violation of assumption problems, and extreme (possibly erroneous) values.

Table 20
Multiple regression with IOE Total as criterion.

Table 20a: A regression with just the scales:

Order of Inclus.	Predictor	Increm. R^2	R^2	Pears r Equiv.	Sig. of F
1	MFQSCR (Mutilation Fear)		.2257	.48	.0001
2	MCSCORE (LOW Marlowe-Crowne)	.0242	.2499	.50	.0008
3	PSFRSCOR (PSS-Friends)	.0031	.2530	.50	.2279
4	PSFMSCOR (LOW PSS-Family)	.0037	.2566	.51	.1870

Note: With BSI dimensions included as predictors (logically questionable since BSI questions referred to a time subsequent to IOE scores), ANX (anxiety) was the first predictor included; no other BSI dimension was significant at p=.50; R^2 for full model was .3663 (equivalent to r=.61).

Multicollinearity issues: No two predictors were intercorrelated more highly than r=.29.

Table 20b: IOE: Regression with all scales above (since all were reasonably significant) and first four predictors from First Phase:

Order of Inclus.	Predictor	Increm. R^2	R^2	Pears r Equiv.	Sig. of F
1	MFQSCR (Mutilation Fear)		.2355	.49	.0001
2	HANDSTR (anticipated st of handling)	.0654	.3009	.55	.0001
3	MCSCORE (LOW Marlowe-Crowne)	.0127	.3136	.56	.0143
4	PSFMSCOR (LOW PSS-Family)	.0041	.3176	.56	.1644
5	TRAIN (DID receive training)	.0031	.3207	.57	.2230
6	VOLUNT (did NOT volunteer)	.0034	.3241	.57	.2018
7	PSFRSCOR (PSS-Friends)	.0021	.3263	.57	.3107
8	FAMSTR (anticip st of being away from family & fr)	.0014	.3276	.57	.4209

All predictors were significant at p=.50.

Multicollinearity issues: MFQSCR and HANDSTR were correlated at r=.50. When HANDSTR was forced in at step 0, it yielded an R^2 of .2172 (equivalent to r=.47); MFQSCR, which was the first predictor entered, added .0837 of incremental R^2 to yield, therefore, the same R^2 of .3009 after two steps. Other intercorrelations were relatively low.

Examination of residuals: Nothing untoward was detected in the examination of scatterplots and correlations among IOESCR, the predictor variable, residuals, standard error of residual, and Studentized residual.

Table 21
Multiple regression with BSI-GSI as criterion

Table 21a: A regression with scales only:

Order of Inclus.	Predictor	Increm. R^2	R^2	Pears r Equiv.	Sig. of F
1	IOE_INT (IOE-intrusion)		.2394	.49	.0001
2	PSFRSCOR (LOW PSS-Friends)	.0881	.3274	.57	.0001
3	MFQSCR (Mutilation Fear)	.0569	.3843	.62	.0001
4	MCSCORE (LOW Marlowe-Crowne)	.0377	.4220	.65	.0001
5	PSFMSCOR (LOW PSS-Family)	.0066	.4386	.65	.0546
6	IOE_AVD (IOE-avoidance)	.0041	.4327	.66	.1265

All predictors were significant at p=.50.

Multicollinearity issues: See "Note" and "Multicollinearity issues" below.

After analyses had been performed using IOE_INT and IOE_AVD as separate scales, it was decided that it would be more appropriate to use only the combined IOE Total score. "Revised" versions of the above table and ones below are therefore also included.

Table 21a$_{revised}$: Regression with scales only:

Order of Inclus.	Predictor	Increm. R^2	R^2	Pears r Equiv.	Sig. of F
1	MFQSCR (Mutilation Fear)		.2340	.48	.0001
2	MCSCORE (LOW Marlowe-Crowne)	.0874	.3214	.57	.0001
3	IOESCR (IOE-total)	.0544	.3758	.61	.0001
4	PSFRSCOR (LOW PSS-Friends)	.0485	.4243	.65	.0001
5	PSFMSCOR (LOW PSS-Family)	.0065	.4308	.66	.0546

All predictors were significant at p=.50.

Table 21b: BSI-GSI: Regression with all scales above and first four predictors from First Phase:

Order of Inclus.	Predictor	Increm. R^2	R^2	Pears r Equiv.	Sig. of F
1	MFQSCR (Mutilation Fear)		.2416	.49	.0001
2	MCSCORE (LOW Marlowe-Crowne)	.0876	.3292	.57	.0001
3	IOE_INT (IOE-intrusion)	.0553	.3846	.62	.0001
4	PSFRSCOR (LOW PSS-Friends)	.0535	.4380	.66	.0001
5	FAMSTR (anticip st of being away fr fam & fr)	.0150	.4530	.67	.0044
6	PSFMSCOR (LOW PSS-Family)	.0088	.4619	.68	.0275
7	VOLUNT (did NOT volunteer)	.0043	.4661	.68	.1240
8	IOE_AVD (IOE-avoidance)	.0025	.4687	.68	.2338
9	TRAIN (rec'd training)	.0016	.4703	.69	.3472

Another predictor, HANDSTR (anticipated stress of handling bodies) was not significant at p=.50.

Note: It may be observed that in the last two original tables, different predictors (IOE_INT and MFQSCR, respectively) were the first entered. Since the criterion for each analysis was the same, this should not have happened (the first predictor is the one with the highest zero-order correlation with the criterion). After some study, I concluded that this apparent paradox was due to the fact that the analyses were based on slightly different sets of respondents. In the analysis reported in Table 21b, 24 respondents (of the 330 in Table 21a) were dropped due to missing data on the additional predictors. This was enough to shift the zero-order correlations slightly.

Multicollinearity issues: MFQSCR correlated at r=.46 with IOE_INT and r=.41 with IOE_AVD. (Because the issue described

above muddies the picture somewhat, this discussion deals only with the full analysis reported in Table 21b.) When IOE_INT was forced to be the first predictor, the following results were obtained for the first four predictors (the rest of the analysis necessarily duplicated the above).

Table $21b_{revised}$: BSI-GSI: Regression with all scales above and first four predictors from First Phase:

Order of Inclus.	Predictor	Increm. R^2	R^2	Pears r Equiv.	Sig. of F
1	MFQSCR (Mutilation Fear)		.2340	.48	.0001
2	MCSCORE (LOW Marlowe-Crowne)	.0874	.3214	.57	.0001
3	IOESCR (IOE-total)	.0544	.3758	.61	.0001
4	PSFRSCOR (LOW PSS-Friends)	.0485	.4243	.65	.0001
5	FAMSTR (anticip st of being away fr fam & fr)	.0165	.4408	.67	.0022
6	PSFMSCOR (LOW PSS-Family)	.0080	.4488	.67	.0315
7	VOLUNT (did NOT volunteer)	.0048	.4536	.67	.0950
8	TRAIN (rec'd training)	.0020	.4556	.67	.2791

Another predictor, HANDSTR (anticipated stress of handling bodies) was not significant at p=.50.

Note that since the first four predictors entered were all scales, this table duplicates Table $21a_{revised}$ up to that point.

Table 21c: Partial results of above analysis repeated with IOE_INT forced in first.

Order of Inclus.	Predictor	Increm. R^2	R^2	Pears r Equiv.	Sig. of F
0	IOE_INT (IOE-intrusion)		.2409	.49	.0001
1	PSFRSCOR (LOW PSS-Friends)	.0933	.3342	.58	.0001
2	MFQSCR (Mutilation Fear)	.0664	.4006	.63	.0001
3	MCSCORE (LOW Marlowe-Crowne)	.0374	.4380	.66	.0001

When both IOE_INT and IOE_AVD were forced in, the pattern above was not materially altered (except of course for the slight additional variance added by IOE_AVD -- incremental R^2 was .0156 in step 0). Therefore the simplest explanation of the above is that MFQSCR accounts for some variance which overlaps both IOE_INT and having a low PSFRSCOR.

Analysis of residuals: Nothing unusual was detected, except that the standard error of the residual was correlated at r= -.42 with raw BSI-GSI score and r= -.60 with the predictor variable. This suggested that there might have been a violation of the homoscedasticity assumption. However, the SEres was about .327 when BSI-GSI=0, and .324 when BSI-GSI=1.3 (about the 95th percentile). This is obviously not the "grossly unequal variances" mentioned by my source (Cohen & Cohen, 1975).

Table 21c$_{revised}$: Partial results of above analysis repeated with IOESCR forced in first.

Order of Inclus.	Predictor	Increm. R2	R2	Pears r Equiv.	Sig. of F
0	IOESCR (IOE-total)		.2297	.48	.0001
1	PSFRSCOR (LOW PSS-Friends)	.0931	.3227	.57	.0001
2	MFQSCR (Mutilation Fear)	.0589	.3816	.62	.0001
3	MCSCORE (LOW Marlowe-Crowne)	.0427	.4243	.65	.0001

(After this step, Table 21b$_{revised}$ is duplicated.)

Multiple Regression:
Full Analyses Comparing IOE and BSI and Mortuary and Support Workers

Note: All Experience/Volunteered variables were entered into preliminary runs. Only Received Training and Volunteered were significant at the p= .50 level and were retained for the analyses reported below.

Table 22
Some Relevant zero-order correlations

Mortuary and Support Workers combined.

	Antic. Stress Handling Bodies	Mutil. Fear	BSI-GSI
Mutilation Fear	.498		
BSI-GSI	.295	.456	
IOE-Total	.442	.463	.480

For all above: N is approx. 374, p< .0001.

Table 23
Multiple Regression Models by Stepwise Procedure
Predicting Impact of Event Score

IMPACT OF EVENT SCORE -- MORTUARY WORKERS, INCLUDING MFQ

Order of Inclus.	Predictor	Partial R^2	Model R^2	Beta	SE of Beta	p
1	Mutilation Fear	.2355	.2355	0.847	0.152	.0001
2	Anticipated Stress of Handling	.0654	.3009	2.094	0.431	.0001
3	Social Desirability	.0127	.3136	-0.252	0.117	.0143
4	Perceived Social Support from Family	.0041	.3176	-0.208	0.128	.1644
5	Received Training*	.0031	.3207	1.748	1.425	.2230
6	Volunteering*	.0034	.3241	-1.736	1.447	.2018
7	Perceived Social Support from Friends	.0021	.3263	0.171	0.164	.3107
8	Anticipated Stress Away from Family & Friends	.0014	.3276	0.306	0.380	.4209

Intercept= 6.383; $F_{-,3231}$= 19.67, p<.0001

* Predictors marked by asterisk here and below were scored as 1=yes, 2=no; signs of betas have been reversed to make direction of effect consistent with labels.

IMPACT OF EVENT SCORE -- MORTUARY WORKERS, NOT INCLUDING MFQ

Order of Inclus.	Predictor	Partial R^2	Model R^2	Beta	SE of Beta	p
1	Anticipated Stress of Handling	.2199	.2199	3.577	0.370	.0001
2	Perceived Social Support from Family	.0182	.2381	-0.359	0.128	.0052
3	Volunteered*	.0139	.2521	3.586	1.449	.0138
4	Social Desirability	.0090	.2610	-0.237	0.119	.0469
5	Received Training*	.0027	.2638	-1.636	1.481	.2701
6	Anticipated Stress Away from Family & Friends	.0020	.2658	0.372	0.394	.3455

Note: A seventh predictor, Perceived Social Support from Friends, did not reach the p= .500 criterion for inclusion.

Intercept= 7.823; $F_{(6,326)}$ = 19.67, p<.0001

IMPACT OF EVENT SCORE -- OTHER WORKERS, INCLUDING MFQ

Order of Inclus.	Predictor	Partial R^2	Model R^2	Beta	SE of Beta	p
1	Mutilation Fear	.1891	.1891	0.968	0.249	.0002
2	Anticipated Stress Away from Family & Friends	.0656	.2548	1.609	0.678	.0206
3	Anticipated Stress of Handling	.0305	.2853	1.080	0.659	.1061
4	Perceived Social Support from Friends	.0214	.3067	0.387	0.279	.1712
5	Volunteered*	.0201	.3268	3.276	2.427	.1821

Note: Three other predictors, Social Desirability, Perceived Social Support from Family, and Received Training, did not reach the p= .500 criterion for inclusion.

Intercept= -13.4; $F_{(5,61)}$= 5.92, p=.0002

IMPACT OF EVENT SCORE -- OTHER WORKERS, NOT INCLUDING MFQ

Order of Inclus.	Predictor	Partial R^2	Model R^2	Beta	SE of Beta	p
1	Anticipated Stress of Handling	.0834	.0834	1.751	0.715	.0169
2	Perceived Social Support from Friends	.0187	.1021	0.381	0.328	.2493
3	Anticipated Stress Away from Family & Friends	.0200	.1220	0.966	0.800	.2317
4	Volunteered*	.0097	.1317	2.394	2.855	.4049

Note: Three other predictors, Social Desirability, Perceived Social Support from Family, and Received Training, failed to reach the p= .500 criterion for inclusion.

Intercept= -6.385; $F_{4,[illegible]}$ = 2.39, p=.0602

Note that Model R^2 fails to reach significance.

Table 24
Comparison Among Multiple Regressions, IOE as Criterion, Two Classes of Workers, and With and Without the MFQ

IMPACT OF EVENT SCORE as criterion

This table summarizes the previous ones.

Predictor	Mortuary Workers MFQ	Mortuary Workers w/out MFQ		Other Workers MFQ	Other Workers w/out MFQ
Mutilation Fear	1 XXXXX	-----		1 XXXXX	-----
Anticip. Stress of Handling	2 XXXX	1 XXXXX		3 XXX	1 XXXX
Social Desirability	3 XXX	4 XX			
Perceived Social Support from Family	4 X	2 XXX			
Received Training	5 X	5 X			
Volunteered	6 X	3 XXX		5 XXX	4 XX
Perceived Social Support from Friends	7 X			4 XXX	2 XXX
Anticip. Stress Away from Fam. & Friends	8 X	6 X		2 XXXX	3 XXX

Partial R^2 Key:
X: <.005
XX: .005-.010
XXX: .011-.050
XXXX: .051-.100
XXXXX: >.100

Table 25
Multiple Regression Models by Stepwise Procedure Predicting Brief Symptom Inventory (General Severity Index)

BRIEF SYMPTOM INVENTORY (GENERAL SEVERITY INDEX) -- MORTUARY WORKERS, INCLUDING MFQ

Order of Inclus.	Predictor	Partial R^2	Model R^2	Beta	SE of Beta	p
1	Mutilation Fear	.2340	.2340	0.021	0.004	.0001
2	Social Desirability	.0874	.3214	-0.015	0.003	.0001
3	Impact of Events	.0544	.3758	0.008	0.002	.0001
4	Perceived Social Support from Friends	.0485	.4243	-0.021	0.005	.0001
5	Anticipated Stress Away from Family & Friends	.0165	.4408	0.031	0.010	.0022
6	Perceived Social Support from Family	.0080	.4488	-0.008	0.004	.0315
7	Volunteered*	.0048	.4536	0.072	0.041	.0950
8	Received Training*	.0020	.4556	-0.043	0.040	.2791

Note: A ninth predictor, Anticipated Stress of Handling Bodies, was not significant at p= .50.

Intercept= 0.632; $F_{(8,312)}$= 33.37, p<.0001

BRIEF SYMPTOM INVENTORY (GENERAL SEVERITY INDEX) -- MORTUARY WORKERS, NOT INCLUDING MFQ

Order of Inclus.	Predictor	Partial R^2	Model R^2	Beta	SE of Beta	p
1	Impact of Events	.2262	.2262	0.015	0.002	.0001
2	Perceived Social Support from Friends	.0957	.3219	-0.033	0.005	.0001
3	Social Desirability	.0466	.3686	-0.017	0.003	.0001
4	Anticipated Stress Away from Family & Friends	.0282	.3968	0.042	0.011	.0001
5	Perceived Social Support from Family	.0119	.4087	-0.010	0.004	.0108
6	Volunteered*	.0112	.4198	0.104	0.041	.0128
7	Anticipated Stress of Handling	.0023	.4222	0.014	0.012	.2533

Note: An eighth predictor, Received Training, was not significant at p= .50.

Intercept= 19.88; $F_{(7,325)}$= 31.84, p<.0001

BRIEF SYMPTOM INVENTORY (GENERAL SEVERITY INDEX) -- OTHER WORKERS, INCLUDING MFQ (regression not including MFQ was virtually identical and is omitted)

Order of Inclus.	Predictor	Partial R^2	Model R^2	Beta	SE of Beta	p
1	Impact of Events	.1092	.1092	0.009	0.003	.0063
2	Anticipated Stress Away from Family & Friends	.0569	.1660	0.044	0.021	.0407
3	Social Desirability	.0354	.2014	-0.012	0.007	.0998
4	Perceived Social Support from Friends	.0406	.2420	-0.015	0.008	.0733
5	Received Training	.0121	.2541	0.076	0.076	.3228

Note: Four other predictors, Mutilation Fear, Perceived Social Support from Family, Volunteered, and Anticipated Stress of Handling Bodies, were not significant at p= .50.

Intercept= 0.321; $F_{15,01}$= 4.16, p=.0026

Table 26
Reanalysis of MRs:
For each of the five sets of mortuary worker subjects, there are 9 MR analyses summarized (3 IOE, 6 BSI)

SUBJECTS: Mortuary Workers, Males & Females,
Experienced (DEADBOD) + Inexperienced N= 356.

	Criterion								
	IOE			BSI					
	TOT	Int	Avd	TOT	Dep	Anx	Som	Hos	Inp
MFQ	**1***	**1***	**1***	**1***	**1***	**1***	**1***	**2***	**1***
MC	**2**	**2***	3	**2***	**2***	**2***	**2***	**1***	**2***
PSFR	5	4	4	**3***	**3***	**3**	**3**	**4**	**3***
PSFM	4	x	**2**	**5**	**4**	6	6	x	**4**
VOL	6	5	x	**4**	**5**	**4**	x	**3**	x
SEX	3	3	5	6	6	**5**	4	x	5
DEDBO	x	x	x	x	x	x	5	5	6
MODEL	.2647		.2186		.3080		.2165		.1915
R^2		.2437		.3677		.3164		.2269	

1-7 order, x not inserted (failed to reach p= .50),
1* sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

Males and Females

SUBJECTS: Mortuary Workers, Males & Females,
Experienced (DEADBOD=yes) only N= 135.

	Criterion								
	IOE			BSI					
	TOT	Int	Avd	TOT	Dep	Anx	Som	Hos	Inp
MFQ	**1***	**1***	**1***	**1***	**2***	**3**	**1***	**3**	**1***
MC	2	2	3	**2***	**1***	**1***	**2**	**1***	**2***
PSFR	x	x	4	**3**	**3**	**2***	3	4	**3**
PSFM	x	x	2	4	**4**	5	x	x	4
VOL	x	x	x	6	x	6	x	**2**	6
SEX	3	x	x	5	x	4	4	x	5
DEDBO (not relevant)									
MODEL	.2321		.1887		.3221		.2594		.3113
R^2		.2363		.3719		.2795		.2282	

1-6 order, x not inserted (failed to reach p= .50),
1* sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

SUBJECTS: Mortuary Workers, Males & Females,
Inexperienced (DEADBOD= no) N= 221.

	Criterion								
	IOE			BSI					
	TOT	Int	Avd	TOT	Dep	Anx	Som	Hos	Inp
MFQ	**1***	**1***	**1***	**1***	**1***	**1***	**1***	**1***	**1***
MC	**2**	**2***	2	**2***	**3**	**2***	**2**	**2***	3
PSFR	5	4	4	**3**	**2***	4	4	**3**	4
PSFM	4	6	3	5	**5**	x	3	x	**2**
VOL	6	3	x	**4**	**4**	**3**	5	4	x
SEX	3	5	5	6	6	5	x	x	5
DEADBO (not relevant)									
MODEL	.2741		.2173		.3511		.2072		.1386
R^2		.2638		.3706		.3511		.2338	

1-6 order, x not inserted (failed to reach p= .50),
1* sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

Males only

SUBJECTS: Mortuary Workers, Males only
Experienced (DEADBOD=yes) only N= 122.

	Criterion								
	IOE			BSI					
	TOT	Int	Avd	TOT	Dep	Anx	Som	Hos	Inp
MFQ	**1***	**1***	**1***	**3**	**4**	**3**	**1***	**4**	**1***
MC	2	2	2	**1***	**1***	**1***	**2**	**1***	**2***
PSFR	x	x	4	**2***	**2***	**2***	3	**3**	**3**
PSFM	x	x	3	4	**3**	4	x	x	**4**
VOL	x	x	5	5	x	5	x	2	x
SEX	(not relevant)								
DEDBO	(not relevant)								
MODEL	.2289	.1938	.3355	.2833	.3138				
R^2	.2416	.3722	.2653	.2319					

1-5 order, x not inserted (failed to reach p= .50),
1* sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

SUBJECTS: Mortuary Workers, Males only,
Inexperienced (DEADBOD=no) only N= 183.

	Criterion								
	IOE			BSI					
	TOT	Int	Avd	TOT	Dep	Anx	Som	Hos	Inp
MFQ	**1***	**1***	**1***	**1***	**1***	**1***	**1***	**2***	**1***
MC	**2**	**2***	2	**2***	**3**	**2***	**2**	**1***	**3**
PSFR	4	4	4	**3**	**2***	4	4	**3**	4
PSFM	5	x	3	5	**4**	x	3	4	**2**
VOL	3	3	x	4	5	**3**	x	5	x
SEX	(not relevant)								
DEDBO	(not relevant)								
MODEL	.2646	.2128	.2865	.1975	.1301				
R^2	.2553	.3418	.3532	.2120					

1-5 order, x not inserted (failed to reach p= .50),
1* sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

For each of the two sets of support worker subject analyses, there are 6 MR analyses summarized (BSI criteria)

SUBJECTS: Support Workers, Males & Females N= 83.

	Criterion BSI					
	TOT	Dep	Anx	Som	Hos	Inp
MC	**1**	2	**3**	2	**1**	**2**
PSFR	2	**1**	1	4	x	x
PSFM	x	x	4	x	2	x
VOL	x	x	x	3	x	x
SEX	3	x	**2**	1	3	**1**
MODEL	.1213	.1658	.1337			
R^2		.1002	.0677	.1435		

1-5 order, x not inserted (failed to reach p= .50),
1* sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

SUBJECTS: Support Workers, Males only N= 64.

	Criterion BSI					
	TOT	Dep	Anx	Som	Hos	Inp
MC	3	2	2	x	2	1
PSFR	**1**	**1**	**1***	1	x	x
PSFM	2	x	x	x	**1***	2
VOL	x	x	x	x	x	x
SEX	(not relevant)					
MODEL	.1632	.1923	.2008			
R^2		.1151	.0543	.0296		

1-4 order, x not inserted (failed to reach p= .50),
1* sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

Table 27
Reanalysis of MRs:
As in Table 26, but with PSS-FM Dropped.
For each of the three sets of mortuary worker subjects, there are 9 MR analyses summarized (3 IOE, 6 BSI)

SUBJECTS: Mortuary Workers, Males & Females,
Experienced (DEADBOD) + Inexperienced N= 356.

	Criterion								
	IOE			BSI					
	TOT	Int	Avd	TOT	Dep	Anx	Som	Hos	Inp
MFQ	**1***	**1***	**1***	**1***	**1***	**1***	**1***	**2***	**1***
MC	**2**	**2***	2	**2***	**2***	**2***	**2***	**1***	**2***
PSFR	4	5	4	**3***	**3***	**3**	**3**	**4**	**3***
VOL	5	4	x	**4**	**4**	**4**	5	**3**	x
SEX	3	3	3	5	5	**5**	4	x	4
DEDBO	x	x	x	x	x	x	x	x	x
MODEL	.2594		.2061		.3080		.2165		.1755
R^2		.2437		.3584		.3164		.2269	

Note: Relationship of PSS-FR was positive with IOE and its subscales; negative with BSI and its dimensions. 1-7 order, x not inserted (failed to reach p= .50), **1*** sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

Males and Females

SUBJECTS: Mortuary Workers, Males & Females,
Experienced (DEADBOD=yes) only N= 135.

	Criterion								
	IOE			BSI					
	TOT	Int	Avd	TOT	Dep	Anx	Som	Hos	Inp
MFQ	**1***	**1***	**1***	**2***	**2***	**3**	**1***	**4**	**1***
MC	2	2	2	**1***	**1***	**1***	**2**	**1***	**2***
PSFR	x	x	x	**3**	**3**	**2***	3	3	**3**
VOL	x	x	4	5	x	5	x	**2**	4
SEX	3	3	3	4	x	4	4	x	5
DEDBO (not relevant)									
MODEL	.2285		.1887		.2955		.2594		.2907
R^2		.2337		.3719		.2795		.2282	

Note: Relationship of PSS-FR was positive with IOE and its subscales; negative with BSI and its dimensions. 1-6 order, x not inserted (failed to reach p= .50), **1*** sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

SUBJECTS: Mortuary Workers, Males & Females,
Inexperienced (DEADBOD= no) N= 221.

	Criterion								
	IOE			BSI					
	TOT	Int	Avd	TOT	Dep	Anx	Som	Hos	Inp
MFQ	**1***	**1***	**1***	**1***	**1***	**1***	**1***	**1***	**1***
MC	**2**	**2***	2	**2***	**3**	**2***	**2**	**2***	3
PSFR	5	5	4	**3**	**2***	4	3	**3**	2
VOL	4	3	x	**4**	**4**	**3**	4	4	x
SEX	3	4	3	6	5	5	x	x	x
DEADBO (not relevant)									
MODEL	.2741		.2173		.3511		.2072		.1241
R^2		.2621		.3634		.3511		.2338	

Note: Relationship of PSS-FR was positive with IOE and its subscales; negative with BSI and its dimensions. 1-6 order, x not inserted (failed to reach p= .50), **1*** sig. at p< .001, **2** sig. at p< .05, 3 p< .50.

Table 28: Reanalysis of MRs using Heirarchical Model

Predictors VOL, SEX, and DEADBOD (experience) were forced in at Step 0. Only SIGNIFICANT results shown.

Subjects: Mortuary Workers, Males & Females N= 356

		IOE Total			IOE Int			IOE Avd		
		Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL		.0016			.0023			.0063		
SEX		.0260			.0555					
DEDBO				.0514			.0428	.0150		.0447
MFQ	1.	.0001	.1813		.0001	.1670		.0001	.1488	
MC	2.	.0007	.0248	.2575	.0001	.0324	.2422	.0175	.0129	
PSFR	3.									
PSFM	4.							3. .0375	.0098	.2162

		BSI GSI			BSI Dep			BSI Anx		
		Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL		.0001			.0001			.0001		
SEX										
DEDBO				.0588			.0581			.0694
MFQ	1.	.0001	.1746		.0001	.1325		.0001	.1610	
MC	2.	.0001	.0832		.0001	.0594		.0001	.0632	
PSFR	3.	.0001	.0416		.0001	.0379		.0012	.0211	.3146
PSFM	4.	.0190	.0101	.3683	.0014	.0206	.3084			

		BSI Som			BSI Hos			BSI Inter		
		Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL		.0059			.0001					
SEX										
DEDBO				.0275			.0448			.0076
MFQ	1.	.0001	.1292		2. .0001	.1101		.0001	.0979	
MC	2.	.0001	.0359		1. .0001	.0600		.0001	.0437	
PSFR	3.	.0023	.0212	.2138	.0177	.0126	.2274	.0005	.0287	
PSFM	4.							.0144	.0140	.1919

Note: Boldface numbers (**1.**, **2.**, **3.**, **4.**) indicate order of inclusion. Exceptions to the usual pattern are indicated within the table.

Subjects: Mortuary Workers, M & F, <u>Experienced</u> ONLY N= 135

		IOE Total			IOE Int			IOE Avd		
		Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL										
SEX				.0125			.0088			.0154
MFQ	1.	.0001	.2062	.2187	.0001	.2160	.2248	.0001	.1541	.1695
MC	2.									
PSFR	3.									
PSFM	4.									

		BSI GSI			BSI Dep			BSI Anx		
		Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL										
SEX				.0228			.0104			.0251
MFQ	3.	.0012	.0547	.3556	2. .0001	.0928		3. .0296	.0275	.2675
MC	1.	.0001	.1672		1. .0001	.1499		1. .0001	.1321	
PSFR	2.	.0001	.1109		3. .0061	.0424		2. .0003	.0828	
PSFM					.0249	.0272	.3227			

		BSI Som			BSI Hos			BSI Inter		
		Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL					.0072					
SEX				.0249			.0550			.0008
MFQ	1.	.0001	.1490					.0001	.1650	
MC	2.	.0045	.0499		1. .0001	.1345		.0002	.0870	
PSFR	3.	.0141	.0356	.2594	2. .0393	.0261	.2156	.0095	.0381	.2910
PSFM	4.									

Subjects: Mortuary Workers, M & F, <u>Inexperienced</u> ONLY N= 221

		IOE Total			IOE Int			IOE Avd		
		Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL		.0014			.0003			.0178		
SEX				.0613			.0716			.0383
MFQ	1.	.0001	.1697		.0001	.1386		.0001	.1503	
MC	2.	.0023	.0325	.2635	.0002	.0477	.2579	.0487	.0145	.2032
PSFR	3.									
PSFM	4.									

		BSI GSI			BSI Dep			BSI Anx		
		Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL		.0001			.0001			.0001		
SEX				.0867			.0923			.0993
MFQ	1.	.0001	.1726		.0001	.1160		.0001	.1830	
MC	2.	.0001	.0703		.0003	.0467		.0001	.0547	
PSFR	3.	.0009	.0336	.3633	.0012	.0355		.0323	.0140	.3511
PSFM	4.				.0238	.0168	.3073			

		BSI Som			BSI Hos			BSI Inter		
		Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL		.0020			.0043					
SEX				.0454			.0370			.0150
MFQ	1.	.0001	.1212		.0001	.1065		.0001	.0696	
MC	2.	.0168	.0218	.1883	.0001	.0771				
PSFR	3.				.0490	.0140	.2346			
PSFM	4.							2. .0110	.0270	.1116

Subjects: Support Workers, Males & Females N= 80

	BSI GSI			BSI Dep			BSI Anx		
	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL									
SEX			.0073			.0123			.0261
MFQ				2. .0259	.0588	.1455			
MC	1..0248	.0641					1. .0316	.0578	
PSFR	2..0462	.0482	.1196	1. .0151	.0744		2. .0263	.0588	.1427
PSFM									

	BSI Som			BSI Hos			BSI Inter		
	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2	Sig. of F	Incr R^2	Model R^2
VOL									
SEX			.0405			.0102	.0474		.0502
MFQ									
MC				1. .0074	.0897	.0999	1. .0086	.0830	.1332
PSFR									
PSFM									

Table 29

Within-Subjects ANOVA Summary

DV: IOE Total

2-Group Categorization as Exposure Factor

EFFECT	Reduced Model (no factor interactions)	Full Model (w/ factor interactions)
Change in IOE	.0002	.001
	>> Overall increase, T1 to T2 <<	
Chng x Prior Exper (DEADBOD)	.036	.015
	>> Small increase for experienced, large incr. for inexper. <<	
	>>Males not quite significant<<	
Chng x Volunteer	NS	NS
Chng x Exper x Vol	----------	NS
Chng x Exposure (2-Group)	**NS**	**NS**
Chng x Exp x Expos	----------	NS
Chng x Vol x Expos	----------	NS
Chng x Exp x Vol x Expos	----------	NS

>> Females all NS <<

DV: BSI- GSI

2-Group Categorization as Exposure Factor

EFFECT	Reduced Model (no factor interactions)	Full Model (w/ factor interactions)
Change in BSI-GSI	NS	NS
Chng x Prior Exper (DEADBOD)	NS	NS
Chng x Volunteer	NS	NS
Chng x Exper x Vol	----------	NS
Chng x Exposure (2-Group)	**NS**	**NS**
Chng x Exp x Expos	----------	NS
Chng x Vol x Expos	----------	NS
Chng x Exp x Vol x Expos	----------	.026 >> Complex <<

>> Females all NS <<

DV: IOE Total

4-Group Categorization as Exposure Factor

EFFECT	Reduced Model (no factor interactions)	Full Model (w/ factor interactions)
Change in IOE	.0003	.0004
	>> Overall increase T1 to T2 <<	
	>>Males MORE sig.<<	
Chng x Prior Exper (DEADBOD)	.041	.006
	>> Small increase for experienced, large for inexperienced <<	
	>Males NS<	
Chng x Volunteer	NS	NS
Chng x Exper x Vol	----------	NS
Chng x Exposure (4-Group)	**.032***	**.046**
	>>Males NS<<	
Chng x Exp x Expos	----------	NS
		>Males .041<
Chng x Vol x Expos	----------	NS
Chng x Exp x Vol x Expos	----------	NS

*Means:

		Group	IOE Change	
most exp.	1		8.86 - -	
	2		3.23 -	sig. by t-test
	3		4.37	
least exp.	4		.70 -	

DV: BSI-GSI

4-Group Categorization as Exposure Factor

EFFECT	Reduced Model (no factor interactions)	Full Model (w/ factor interactions)
Change in BSI-GSI	NS	.033 >Very small incr. T1 to T2 <<
Chng x Prior Exper (DEADBOD)	NS	.014 >Tiny decrease for exper, small incr. for inexp.
Chng x Volunteer	NS	NS
Chng x Exper x Vol	----------	.030 >Incr. for inexp. vols, decrease for exper non-vols. <
Chng x Exposure (4-Group)	**NS**	**.0001** >Steady incr. w/ greater expos.<
Chng x Exp x Expos	----------	.005 >Inexper: as above; Exp: fluctuates<
Chng x Vol x Expos	----------	.029 >Vol: as above, Non-Vol: only Grp 1 increased<
Chng x Exp x Vol x Expos	----------	.001 > Complex <

>> Females all NS <<

Table 30: Postwar and Change Scores, Marlowe-Crowne as Covariate With Dichotomous Measure of Exposure.

Analysis of Covariance: IOE Postwar Scores, Between Subjects.

Source	df	SS*	F	p
Marlowe-Crowne (covariate)	1	1000.4	4.38	*.037*
Experience	1	101.6	0.45	.505
Exposure (dichotomous)	1	332.3	1.46	.229
$MC_{(cov)}$ x Experience	1	20.6	0.09	.764
$MC_{(cov)}$ x Exposure	1	151.5	0.66	.416
Experience x Exposure	1	3.0	0.01	.909
$MC_{(cov)}$ x Exper x Exposure	1	29.1	0.13	.721
Error	277	63226.9		

*SAS Type III SS. Since all df=1, SS=MS. Probabilities at conventional significance levels are in *italics*.

Analysis of Covariance: Change in IOE Scores, Postwar minus Prewar, Within Subjects.

Source	df	SS*	F	p
Change	1	0.4	0.00	.954
Change x MC (covariate)	1	127.6	1.15	.284
Change x Experience	1	127.0	1.15	.285
Change x Exposure (dichot)	1	132.6	1.20	.274
Change x $MC_{(cov)}$ x Experience	1	19.7	0.18	.674
Change x $MC_{(cov)}$ x Exposure	1	58.0	0.52	.470
Change x Experience x Expos.	1	22.8	0.21	.651
Change x $MC_{(cov)}$ x Exp.xExpos.	1	3.4	0.03	.861
Error	277	30675.9		

*SAS Type III SS. Since all df=1, SS=MS. Probabilities at conventional significance levels are in *italics*.

Analysis of Covariance: BSI-GSI Postwar Scores, Between Subjects.

Source	df	SS*	F	p
Marlowe-Crowne (covariate)	1	3.96	17.13	*.0001*
Experience	1	0.04	0.19	.667
Exposure (dichotomous)	1	0.62	2.70	.101
MC(cov) x Experience	1	0.00	0.02	.884
MC(cov) x Exposure	1	0.47	2.05	.153
Experience x Exposure	1	0.64	2.79	.096
MC(cov) x Exper x Exposure	1	0.64	2.77	.097
Error	281	64.94		

*SAS Type III SS. Since all df=1, SS=MS. Probabilities at conventional significance levels are in *italics*.

Analysis of Covariance: Change in BSI-GSI Scores, Postwar minus Prewar, Within Subjects.

Source	df	SS*	F	p
Change	1	0.09	0.99	.321
Change x MC (covariate)	1	0.12	1.33	.250
Change x Experience	1	0.02	0.18	.673
Change x Exposure (dichot)	1	0.28	2.94	.087
Change x MC(cov) x Experience	1	0.01	0.14	.712
Change x MC(cov) x Exposure	1	0.25	2.69	.102
Change x Experience x Expos.	1	0.58	6.20	*.013*
Change x MC(cov) x Expx Expos.	1	0.44	4.67	*.032*
Error	281	26.34		

*SAS Type III SS. Since all df=1, SS=MS. Probabilities at conventional significance levels are in *italics*.

Tables With 4-Group Measure of Exposure

Analysis of Covariance: IOE Postwar Scores, Between Subjects.

Source	df	SS*	F	p
Marlowe-Crowne (covariate)	1	853.3	3.76	.054
Experience	1	619.6	2.73	.100
Exposure (4-groups)	3	235.9	0.35	.792
$MC_{(cov)}$ x Experience	1	141.7	0.62	.430
$MC_{(cov)}$ x Exposure	3	174.2	0.26	.857
Experience x Exposure	3	1689.2	2.48	.062
$MC_{(cov)}$ x Experience x Exposure	3	1688.1	2.48	.061
Error	268	60857.0		

*SAS Type III SS. Probabilities at conventional significance levels are in *italics*.

Table
Analysis of Covariance: Change in IOE Scores, Postwar minus Prewar, Within Subjects.

Source	df	SS*	F	p
Change	1	1.8	0.02	.897
Change x MC (covariate)	1	82.2	0.76	.384
Change x Experience	1	295.4	2.73	.100
Change x Exposure (4-group)	3	162.4	0.50	.683
Change x $MC_{(cov)}$ x Experience	1	129.3	1.19	.276
Change x $MC_{(cov)}$ x Exposure	3	140.3	0.43	.731
Change x Experience x Expos.	3	453.0	1.39	.245
Change x $MC_{(cov)}$ x Exp x Expos	3	512.1	1.58	.196
Error	268	29041.6		

*SAS Type III SS. Probabilities at conventional significance levels are in *italics*.

Analysis of Covariance: BSI-GSI Postwar Scores, Between Subjects.

Source	df	SS*	F	p
Marlowe-Crowne (covariate)	1	3.03	12.89	*.0004*
Experience	1	0.34	0.15	.701
Exposure (4-group)	3	0.86	1.22	.302
$MC_{(cov)}$ x Experience	1	0.02	0.09	.762
$MC_{(cov)}$ x Exposure	3	0.71	1.02	.386
Experience x Exposure	3	0.61	0.87	.458
$MC_{(cov)}$ x Experience x Exposure	3	0.68	0.96	.410
Error	272	63.83		

*SAS Type III SS. Probabilities at conventional significance levels are in *italics*.

Analysis of Covariance: Change in BSI-GSI Scores, Postwar minus Prewar, Within Subjects.

Source	df	SS*	F	p
Change	1	0.07	0.74	.391
Change x MC (covariate)	1	0.11	1.22	.270
Change x Experience	1	0.05	0.54	.464
Change x Exposure (4-group)	3	0.27	0.96	.414
Change x $MC_{(cov)}$ x Experience	1	0.05	0.58	.446
Change x $MC_{(cov)}$ x Exposure	3	0.27	0.97	.407
Change x Experience x Expos.	3	0.80	2.86	*.037*
Change x $MC_{(cov)}$ x Exp x Expos	3	0.73	2.58	.054
Error	272	25.50		

*SAS Type III SS. Probabilities at conventional significance levels are in *italics*.

Figure 1. Effect of Prior Experience and Dichotomous Measure of Exposure at Dover, on BSI-GSI Change Scores.

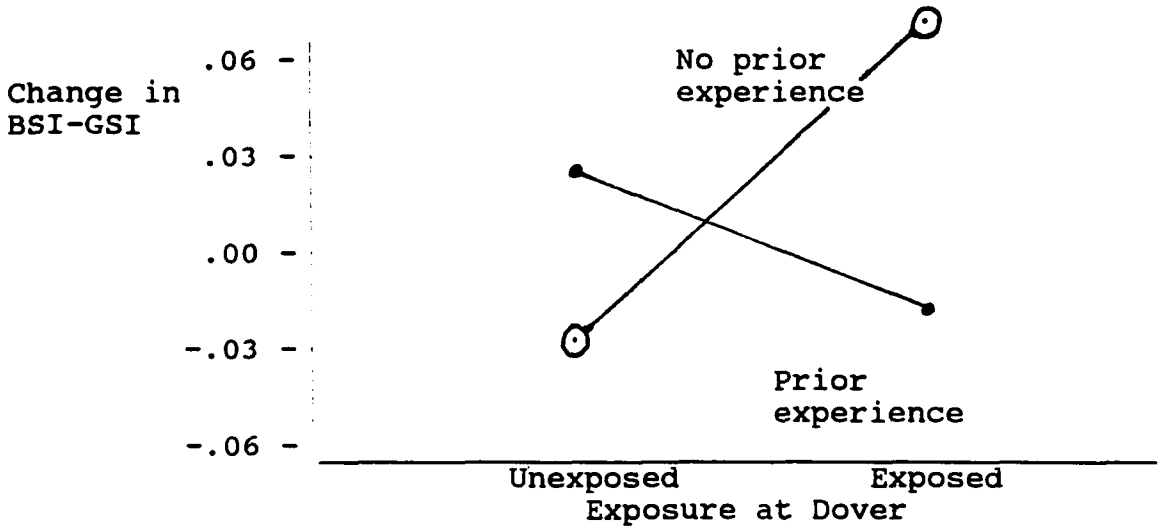

Figure 2. Effect of Prior Experience and Dichotomous Measure of Exposure at Dover, on BSI-GSI Change Scores Adjusted for Marlowe-Crowne Scores.

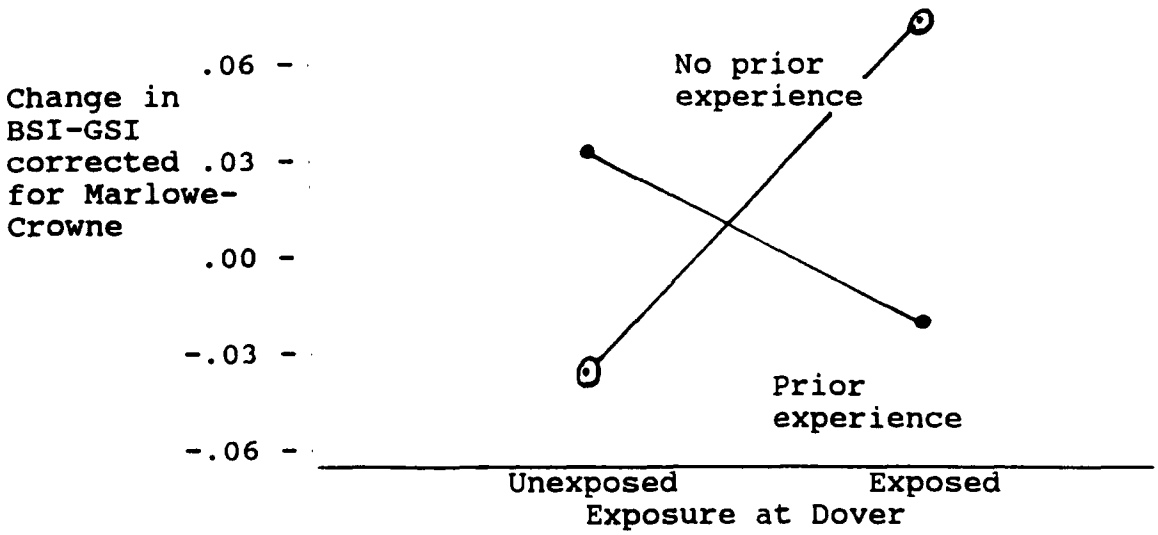

Figure 3. Effect of Prior Experience and Four-Group Measure of Level of Exposure at Dover, on BSI-GSI Change Scores.

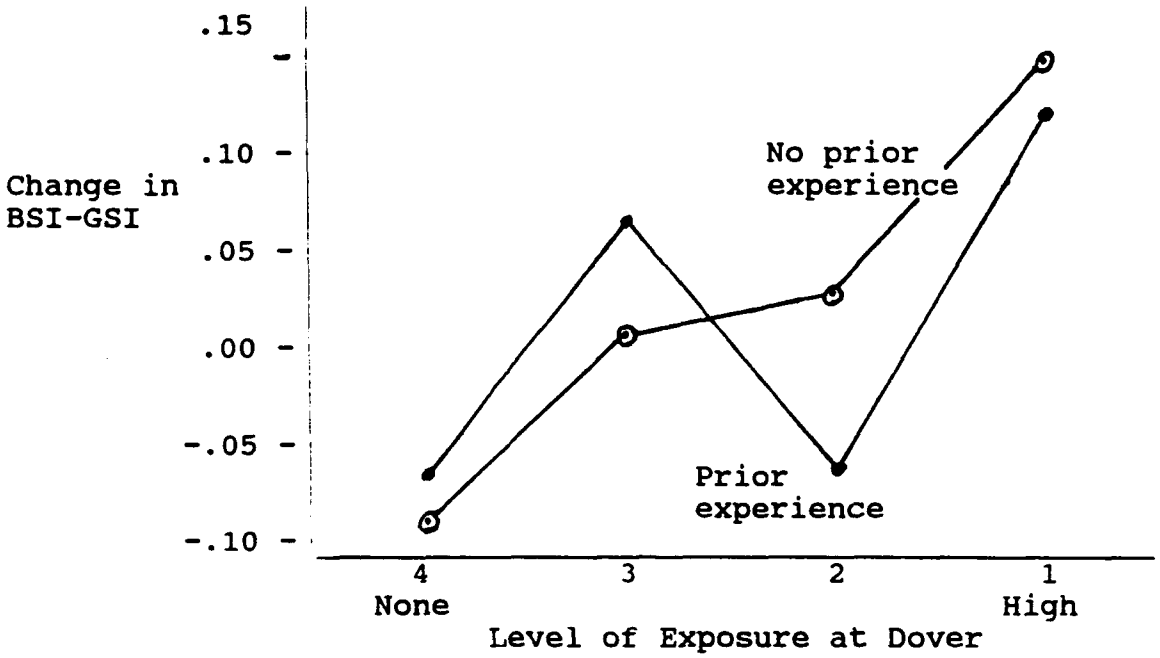

Figure 4. Effect of Prior Experience and Four-Group Measure of Level of Exposure at Dover, on BSI-GSI Change Scores Adjusted for Marlowe-Crowne Scores. (Note: Interaction was not quite significant: p= .054.)

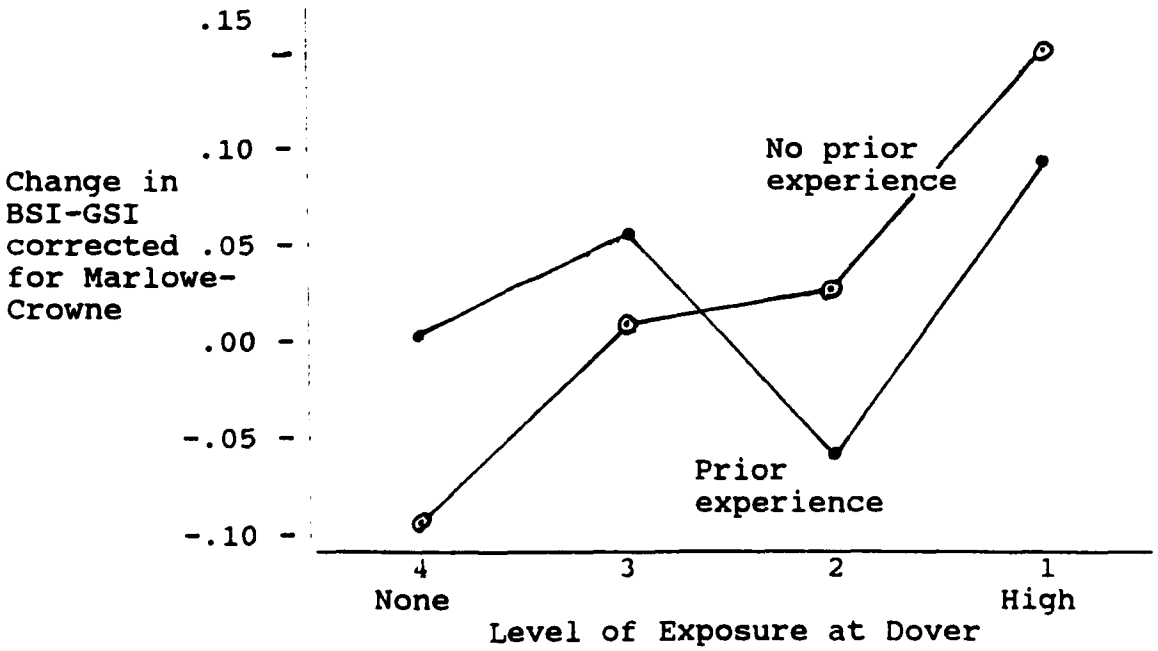

Table 31: Postwar and Change Scores

Covariates: Marlowe-Crowne, Mutilation Questionnaire, Neither, Both

Basic Model: Full ANOVA or ANCOVA model with all interactions.

IVs: Prior Experience (DEADBOD)
Volunteer Status (VOLUNT)
Exposure at Dover: 2-Group or Dichotomous (ZEXPOSYN)
vs. 4-Group (ZEXPCAT)
Covariate: Marlowe-Crowne (MCSCORE)
vs. Mutilation Quest (MFQSCR) (Others?)
vs. Both MC and MFQ.

Permutations: All in **boldface** run and studied. Permutations of all boldface options yield 32 analyses.

DVs: **IES Total BSI-GSI** Others (Stress...)
DV Time: **Post Change**
Exposure: **2-Group 4-Group**
Covariate: **NONE MCSCORE MFQSCR BOTH** Others (PSS-D? ...)

Variants on Basic Model: Selected combinations of above run.

DVs: Subscales of IES, BSI run without covariate.
Subscales of IES, BSI run with BOTH covariates.
Handling Stress run without covariate.
IVs Added: SEX included in place of VOL, no covariate and MCSCORE covariate.

Summary of Analyses
ANOVA/ANCOVA of Dover Mortuary Post and Pre-Post Change Data

DV: IES Total
EXPOSURE: 2-GROUP

DV Time:	**POST**	**CHANGE**
Covariate:		
NONE	EXPER[3] (No higher) VOL[1] (nonV higher) EXPOS[m] (Ex higher)	CHNG[2] (incr) EXPER[1] (larger incr for inEXPER)
MCSCORE	MC[1] (r=-.125) VOL[1] EXPER[3]	EXPER[1]
MFQSCR	MFQ[3] (r=.398) EXPER[1]	CHNG[2] EXPER[1]
BOTH	MFQ[3] EXPER[1]	EXPER[1]

[m]= marginal (p<.07)
[1]= p<.05
[2]= p<.01
[3]= p<.001.

DV: BSI-GSI
EXPOSURE: 2-GROUP

DV Time:	**POST**	**CHANGE**
Covariate:		
NONE	EXPER[m] (inE higher) VOL[1] (nonV higher) EXPERxVOLxEXPOS[1]	EXPERxVOLxEXPOS[1] Fig. 1
MCSCORE	MC[3] (r=-.275) VOL[1] EXPER[1] EXPERxEXPOS[1] VOLxEXPERxEXPOS[1]	VOLxEXPERxEXPOS[1]
MFQSCR	MFQ[3] (r=.333) MFQxVOL[m] (nonV: higher) MFQxEXPERxVOLxEXPOS[1]	VOLxEXPERxEXPOS[1]
BOTH	MC[3] MFQ[3]	EXPERxVOLxEXPOS[1]

[m]= marginal (p<.07)
[1]= p<.05
[2]= p<.01
[3]= p<.001.

DV: HANDSTRESS
EXPOSURE: 2-GROUP

DV Time:	**POST**	**CHANGE**
Covariate:		
NONE	EXPER[2] (No: lower) VOLxEXPERxEXPOS[1]	CHNG[3] (decr)

[m]= marginal (p<.07)
[1]= p<.05
[2]= p<.01
[3]= p<.001.

DV: IES Total
EXPOSURE: 4-GROUP

DV Time:	**POST**	**CHANGE**
Covariate:		
NONE	EXPER[3] (No higher) VOL[2] (nonV higher) EXPOS[1] (more E: higher)	CHNG[3] (incr) EXPER[2] (inExp: larger incr) EXPOS[1] (more E: more chng)
MCSCORE	MC[1] VOL[2] EXPER[2] EXPOS[1]	
MFQSCR	MFQ[3] VOL[1] EXPER[3] EXPOS[1]	CHNG[2] EXPER[2] (inExp: greater incr) EXPERxEXPOS[1]
BOTH	MFQ[3] VOL[1] EXPER[3] EXPOS[1]	EXPER[2] EXPERxEXPOS[1]

[m]= marginal (p<.07)
[1]= p<.05
[2]= p<.01
[3]= p<.001.

DV: BSI-GSI
EXPOSURE: 4-GROUP

DV Time:	**POST**	**CHANGE**
Covariate:		
NONE	EXPER[2] (nonE: higher) VOL[3] (nonV:higher) EXPOS[3] (pos rel) EXPERxVOL[2] EXPERxEXPOS[1] VOLxEXPOS[1] EXPERxVOLxEXPOS[3]	CHNG[1] (v.sm. incr) EXPER[1] (E: sm. incr) EXPOS[3] (steady incr w/ Expos) EXPERxVOL[1] EXPERxEXPOS[2] Fig. 2 VOLxEXPOS[1] EXPERxVOLxEXPOS[3]
MCSCORE	MC[3] VOL[3] EXPER[2] EXPOS[3] VOLxEXPER[2] EXPERxEXPOS[m] VOLxEXPOS[1] EXPERxVOLxEXPOS[2]	EXPER[1] EXPOS[3] EXPERxEXPOS[2] VOLxEXPER[1] VOLxEXPOS[1] EXPERxVOLxEXPOS[3]
MFQSCR	MFQ[3] VOL[2] EXPOS[3] VOLxEXPER[1] VOLxEXPOS[2] EXPERxEXPOS[1] EXPERxVOLxEXPOS[3]	CHNG[1] EXPER[2] EXPOS[3] VOLxEXPER[1] VOLxEXPOS[1] EXPERxEXPOS[2] EXPERxVOLxEXPOS[3]
BOTH	MC[3] MFQ[3] EXPOS[3] VOL[2] EXPER[m] VOLxEXPER[1] VOLxEXPOS[2] EXPERxEXPOS[m] EXPERxVOLxEXPOS[2]	EXPER[1] EXPOS[3] VOLxEXPER[1] VOLxEXPOS[1] EXPERxEXPOS[2] EXPERxVOLxEXPOS[3]

[m]= marginal (p<.07)
[1]= p<.05
[2]= p<.01
[3]= p<.001.

DV: HANDSTRESS
EXPOSURE: 4-GROUP

DV Time:	**POST**	**CHANGE**
Covariate:		
NONE	EXPER[2] (N: lower) EXPERxVOLxEXPOS[1]	CHNG[3] (decr)

[m]= marginal (p<.07)
[1]= p<.05
[2]= p<.01
[3]= p<.001.

Table 32: Subscales of IOE and BSI Compared to Full Scales

	Post		Change	
	No Covar	Both	No Covar	Both
Dichotomous Measure of Exposure				
IES:				
Intrusion	weaker	weaker	slightly stronger	same
Avoidance	stronger	same	CHNG much weaker EXPER weaker	same
BSI:				
Somatization	same	same	all n.s.	all n.s.
Obsessive-Comp	EXPER sig others n.s.	same	all n.s.	all n.s.
Interpers. Sens	all n.s.	weaker	all n.s.	all n.s.
Depression	all n.s.	same	VOL[1]	all n.s.
Anxiety	same, & EXPER, EXPOS	same	CHNG[1] 3-way strngr	3-way stronger
Hostility	all n.s.	MC weaker	VOL[1]	similar

[m]= marginal (p<.07)
[1]= p<.05
[2]= p<.01
[3]= p<.001.

4-Group Measure of Exposure

	Post		Change	
	No Covar	Both	No Covar	Both
IES:				
Intrusion	stronger 2 & 3 way	stronger	same	stronger EXPOS[2]
Avoidance	similar	similar	much weaker	weaker
BSI:				
Somatization	weaker	same	EXPOS weaker interacts weaker	weaker
Obsessive-Comp	stronger	VOL,EXPER stronger	much weaker	similar
Interpers. Sens	similar	similar	stronger, VOL[2] no CHNG	VOL[2]
Depression	similar	similar	similar no CHNG	similar
Anxiety	similar	stronger	similar	similar
Hostility	v. weak	v. weak	v. weak	v.weak

[m]= marginal ($p<.07$)
[1]= $p<.05$
[2]= $p<.01$
[3]= $p<.001$.

DISCUSSION

The IOE and Mortuary Workers

The Impact of Event (IOE) Scale (Horowitz et al., 1979) appeared to be the most sensitive indicator of subjective stress for mortuary workers. No doubt this was largely because it is designed to reflect reactions to a specific event, unlike the other scales, which measure more diffuse and general symptoms.

Three general approaches were taken to the analysis of anticipated stress using the IOE, corresponding roughly to: antecedents or predictors of the level of impact of the stressful event; comparison to other concurrent measures of stress; and possible consequences of differing levels of stress on stress-reducing strategies. The analyses reported in the next section make use of data only from the category of subjects referred to as "mortuary workers," that is, subjects who had a reasonable anticipation of encountering human remains in their mortuary duties. This excludes personnel assigned to the support tasks of security or food preparation, as the IOE scores clearly refer to actual exposure to remains.

Predictors of Impact of the Event

As Table 8 shows, IOE scores were not significantly predictable from subjects' age, level of education, and the stress experienced by those who reported having had a "major life event (...birth of a child, ... significant accident...)" in the prior six months. Similarly, total IOE was not related to race ($F(4,386)= 1.52$, n.s.), or marital status ($F(5,385)= 0.48$, n.s.), although there was a moderate relationship to sex ($t(393)= 2.30$, $p< .05$), such that females scored an average of 1/3 s.d. higher than males.

These results provide excellent evidence of discriminant validity. The IOE score appears to be entirely independent of several characteristics which are themselves predictors of anticipated stress in this situation. Even for sex, the relationship was considerably stronger ($t(384)= 3.34$, $p< .001$, 1/2 SD difference between means) between males and females on a simple 7-point scale of anticipated stress.

IOE score also did not correlate significantly with the measure of Perceived Social Support- Friends (see Table 8), but was modestly related to perceived family support, such that the

greater the support, the lower the Impact of Event score. This is consistent with previous findings (e.g., Ganster, Fusilier, & Mayes, 1986) showing that social support acts as a buffer to the harm done by a stressful event.

While the IOE reflects the degree of impact a stressful event has on a person, the Interpersonal Reactivity Index (IRI) is designed to measure four separate aspects of empathy. It is quite consistent with the constructs intended to be tapped by the IRI scales that the Perceived Distress Scale should be the best predictor of the impact of anticipated body handling, with Empathic Concern and Fantasy also closely related, while Perspective Taking should be unrelated to the response to this particular event.

Another trait measure which should be predictive of the impact of anticipated body handling is the Mutilation Questionnaire or MFQ. As Table 8 shows, the MFQ score correlates very highly with the IOE (r=.46). Despite the rather distinct differences in content of the questions, and the difference between hypothetical situations and reports of actual reactions, the MFQ is clearly an excellent predictor of distress in this situation.

The Marlowe-Crowne scale of social desirability is used here as a measure of denial. A higher score indicates greater denial or distortion of reports toward conventional standards. Thus, Table 8 suggests that those with a greater tendency to deny their shortcomings are somewhat less likely to report being affected by the prospect of handling human remains.

Overall, the IOE appears to be an excellent measure of the impact of anticipated body handling duties. It correlates well with several variables to which it logically should be related, and does not correlate with certain demographic characteristics which would be possible confounds. For these reasons, this paper draws heavily on the IOE score as a measure of the stress produced by deployment to the mortuary.

Concurrent Measures of Stress

First it may be noted (see Table 9) that there were very high correlations between the two subcales of Intrusion and Avoidance (r=.71), and between each subscale and the IOE Total (r=.91 and r=.94, respectively). These suggest that in this sample, at least, there was little justification for the presumed discriminant validity of the two subscales. Most of the following report therefore refers only to the IOE Total score.

The IOE demonstrates excellent concurrent validity, in that it correlates with all of the dimensions of the Brief Symptom Inventory (BSI), indicating that those with high IOE scores were

experiencing symptoms of emotional disturbance, particularly Anxiety (r=.52). It also is correlated with a simple self-report of degree of stress experienced the week prior (r=.33), and to a lesser degree with the subject's report of his/her spouse/significant other's degree of stress during the same period (r=.28). It was even more highly related to the specific event to which it was supposed to refer: the correlation between IOE and degree of stress anticipated from body handling was quite high (r=.44) but much lower with another source of stress (being away from family and friends, r=.24). Finally, the IOE scores correlate modestly but significantly with reported number of hours of sleep per night during the prior week (the same time period subjects were to report on on the IOE), such that those with a higher IOE score slept less.

Coping Behaviors

Two categories of coping behaviors had been included in the questionnaire. One assessed the tendency of subjects to turn to alcohol as a way of avoiding or relieving stress. This consisted of two questions, one on the frequency of alcohol consumption during the prior month (median response was every 2 or 3 weeks), the other on number of drinks consumed at a time (median: 2 drinks). Of course, these may well be underreported. As Table 10 shows, neither was related to IOE score.

The second category consisted of 11 7-point scales headed: "How helpful to you are the following activities in reducing stress?" The two most popular were Gym/Exercise and Socializing with Friends. Only the first correlated modestly with IOE such that the greater the rated helpfulness, the lower the IOE score. A sum of responses to all 11 items was not related to IOE, and neither were rationally-constructed scales intended to reflect the dimensions of active-passive and social-alone activities.

The attempt to use the IOE to predict coping behaviors has not been rewarded so far, though it should be noted that only two rather narrow avenues have been explored. Now that the results of the post-test have become available, not only will they allow a direct comparison between the anticipated impact of mortuary duty and the impact actually experienced (since the IOE was repeated on the post-duty questionnaire), but will allow the use of the pre-test IOE scores as predictors of reported stress and responses to stress, controlling for level of actual exposure to the bodies.

Spouse/Significant Other

Subjects had reported on whether or not their spouse/significant other (if any) had expressed any concerns about their working in the mortuary, and had rated (on a 7-point scale) the degree to

stress they believed he/she had experienced the prior week. The responses of Mortuary Workers were analysed in detail.

There were some 234 married or divorced and remarried Mortuary Workers, but only 4 reported living with a significant other.[5] About 1/3 (32%) of the subjects who responded to the first question reported that their spouse or significant other (SSO) had expressed concerns. The mean level of stress of SSO reported by subjects was 4.6 (SD= 1.9), or slightly above "moderate."

Not surprisingly, subjects' report of SSO concern and stress was related to their own. For example, IOE scores were significantly higher for those who answered the first question "yes" (M= 21.2 vs. 13.5, $t_{(160)}$= 4.52, p< .0001), although this difference was not significant for workers who had had prior experience working with dead bodies. As reported in Table 9, IOE score correlated highly with report of SSO stress (r= .28, p< .0001), nearly as highly as with the subject's own stress (r= .33).

As with the workers themselves (see below), the issue arose as to whether a person who has previously experienced a stressful duty is "innoculated," and develops effective strategies to deal with it, or is "sensitized," so that previous aversive reactions are reactivated. The former seems to be more supportable, as reported SSO reactions were consistently lower for those with prior experience. For example, among those who had previously worked with dead bodies, 21.0% reported that their SSO was concerned; among those who had not had that experience, 39.8% reported concern ($\chi_{(1, N=300)}$= 11.82, p< .001).

Analyses of Variance

Plan of Analysis

The plan of analysis was to use as predictive factors simple, categorical variables reflecting demographics and background. This was information which might be available to those making decisions about assignment of personnel to such duties in the future.

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[5]Since 201 subjects responded to the first question and 171 to the second, it is evident that 12% to 21% of the responses referred to persons with whom the subject was not living: either a boy/girlfriend or spouse from whom the subject was separated or divorced.

The main focus was to be on Mortuary Workers, who were expected to experience special stresses. The Support Workers, who were subject to stresses due to deployment but presumably little or no unusual stress from being stationed at a mortuary, were of secondary interest.

It was expected that higher stress scores would be found in Mortuary Workers, non-volunteers, females, and those with no prior experience in this type of stressful duty (an adaptation or innoculation effect, rather than a sensitizing one).

Discussion of Results

Although overall Impact of Event (IOE) scores did not differ significantly between duty groups, exploratory ANOVAs showed that when Duty was entered along with Volunteering, the main effect of Duty was significant (see Appendix Table D, "Full Model"). It became clear that the IOE scale, which referred specifically to exposure to Desert Storm casualties, was inappropriate for use with the Support Workers, who would have no such exposure. Thus, the IOE score was used as the dependent variable in analyses only with the Mortuary group. Similarly, the Experience variable (previous work with dead bodies, chosen as being most relevent to mortuary duties) was seen to be inappropriate for the Support group.

The first ANOVAs examined IOE scores of Mortuary Workers as predicted by factors of Volunteer Status, Sex, and Experience. Table 12 shows cell and marginal means, and Table 13 presents results of analyses. In the first, with both males and females, only the main effect of Experience was significant, such that those without experience in working with bodies expressed more intrusive thoughts and avoidant behaviors than those with experience. This was consistent with the proposed innoculation hypothesis (although it must be noted that this may be the result of self-selection: those with prior experience who were relatively unaffected by it may have been more likely to volunteer or accept such an assignment). Neither Volunteer Status nor Sex, nor any of the interactions, reached significance.

It was noted that the relatively small N of females led to very small cell Ns for females and a large disparity between cell sizes in this analysis (see Table 12). To examine effects without this bias, the analysis was re-run for each sex separately. As Table 13 shows, for males, both the main effect of Volunteer Status and Experience were significant in the predicted directions. For females, no effects were significant. However, it should be noted that the effect size for Volunteer Status was the same for females as males, and the effect size for Experience was about twice as large for females (based on

unadjusted means) as males. Thus the conclusion that there is a stronger relationship between these factors and stress in males is not warrented; it is evident that the different results between the separate analyses were due to the different Ns.

The Brief Symptom Inventory (BSI) Global Severity Index was intended to measure the general stress level of both Mortuary and Support Workers. Tables 14 and 15 show results of the same analysis models as above, but using BSI score as dependent variable. In these analyses, Volunteer Status proved to be significant in both the overall and males-only models, while no other effect reached significance. The Volunteer effect was in the predicted direction, rather strong (approximately 1/2 SD in unadjusted means), and shared by both males and females though again the difference in N for the sexes caused a difference in significance.

For Support Workers, means and ANOVA are shown in Table 16. Neither Volunteer Status nor Sex, nor their interaction, reached significance, and in fact effect sizes were quite small.

The final analysis combines the two duty groups, with BSI scores as dependent variable, and Duty, Volunteer Status, and Sex as factors. A significant advantage of this approach is that the N of females is now large enough to allow a strong test of the Sex factor and its interactions with other factors. As Table 17 shows, the main effect of Duty was significant, such that Mortuary Workers showed higher levels of symptoms as predicted, though effect size was minimal (1/10 SD by unadjusted means).

The main effect of Volunteer Status was also significant in the predicted direction. As a comparison of the means shows, this effect was due entirely to the Mortuary Workers; the direction of effect was very slightly reversed for Support Workers. The Duty x Volunteer Status interaction just failed to reach significance, however. Neither Sex nor any other interaction was significant.

Summary

As expected, Duty (being a Mortuary Worker), Volunteer Status (being a non-volunteer), and Experience (not having had experience working with dead bodies) all were significant in at least some analyses. Unexpectedly, Sex had no effect whatsoever, and did not interact with other factors.

The BSI was intended to assess general stress level, while the IOE was selected as a specific measure of the stress of body handling. Indeed, the two different scales yielded quite different patterns of results, and these differences confirmed the intended distinction. Experience in working with bodies was

an important factor in Impact of Event scores, while volunteering affected mainly the BSI scores.

Exploratory Analyses

During the analyses described above, questions of factor and ANOVA model selection arose. Sex was selected partly because of its confounding with Duty and bivariate relationship with IOE score (see Tables 3 and 4, comments), and partly because of its intrinsic interest. Other demographic characteristics (age, race, etc.) were both inherently less interesting and unrelated to other variables (see Table 4 comments).

Of the three experience questions, prior work with dead bodies was the first choice. Responses to the question on prior participation in a mass casualty/disaster situation were too disproportionate, and the question on having seen someone who had died by violence was ambiguous since it could include merely attending a funeral. Volunteer Status was also an obvious choice on theoretical and intuitive grounds. Although responses to it were somewhat ambiguous (see Footnote 2), the ambiguity would tend to lower the power of tests of its effect (making tests more conservative) rather than biasing them in any obvious way.

The full ANOVA model was also the choice of the present author on the grounds that this research was partly exploratory and any significant interactions would be worth uncovering. Some comparisons among possible models are presented in Appendix D. (However, it should be noted that the use of Experience and IOE score in these analyses is questionable since some of the subjects were Support Workers.)

Multiple Regression Analyses

First Phase

IOE: As is so often true, the scale (IOE Total) is best predicted by a simple and straightforward version of the same thing (see Table 18): in this case, those who were aware of strong intrusive thoughts and avoidant behaviors quite sensibly anticipated a high level of stress at handling dead bodies. A bit more variance is accounted for by being a non-volunteer; nothing else matters much.

BSI: Note that in the preliminary regression using BSI as the criterion (Table 19), the <u>direction</u> of effects for PARTIC and VIOLENT are opposite those using IOE as the criterion. Although variance accounted for goes up somewhat more slowly as variables are added, compared to IOE as criterion, the top four predictors

are the same using the BSI global score. Stress due to separation from family and friends becomes more important. As with the above analysis, being sent to the mortuary without having volunteered is, not surprisingly, associated with increased distress. Interestingly, the former innoculation/sensitization issue appears here in a new form in the reversal of direction of effect. It suggests that prior experience (except for actually working with dead bodies-- this may be due to the inclusion of a few professional morticians) may have a slight sensitizing effect on preoccupation with the task, but slightly reduce general symptomatology. The significance of this is minimal, but might be worth keeping in mind during the interpretation of later results.

The overall impression is of a rather uncomplicated relationship among the important variables, all measured before the work at the mortuary began. It is worthwhile to note that, as in the ANOVAs, sex seems to have had no effect, thus simplifying the analyses and discussion, as well as being an interesting effect in its own right.

Second Phase

Use of Total IOE score: Using IOE Total instead of its component subscales reduced the variance accounted for. With IOE_INT and IOE_AVD forced in at step 0 (described in the paragraph following Table 21c) the R^2 after that step was .2565 (equiv. r=.51). As shown above, when IOE Total was forced in, the comparable R^2 was .2297 (r=.48). In fact, using IOE Total resulted in a lower R^2 than forcing in IOE_INT alone (see Table 21c): .2409 (r=.49).

Thus, using IOE Total instead of its component parts slightly reduces the predictive power of the set of predictors. This can occur because, when the intrusion and avoidance items are entered as distinct subscales, the subscales are optimally (and differently) weighted. By forcing them into the same total score, they are in effect equally weighted, which reduces the influence of the better-predicting intrusion items.

Reanalysis of Multiple Regression

Beginning at this point in the analyses and continuing to the end of the project, analyses were very dense and numerous. Therefore most tables to be discussed below are summaries of eight to 54 different, related analyses. For mortuary workers, a series of multiple regression analyses was undertaken with a revised set of predictors. Predictors used were: Mutilation Fear Questionnaire (MFQ), Marlowe-Crowne Scale (MC), Perceived Social Support-Friends and -Family Scales (PSSFR and PSSFM), volunteer status (VOL), gender (SEX), and prior experience in working with bodies (DEADBOD).

The first page of Table 26 shows the results of regressions with IOE and BSI scales and subscales as criteria, for all mortuary workers combined. As noted in Table 9, IOE subscale scores were quite highly correlated (r= .71). It is therefore somewhat surprising that the pattern of results for IOE-Int and IOE-Avd shown in Table 26 are as different as they are. Clearly, avoidant behaviors are less closely related to social desirability responses, and more related to perceived support from one's family, than are intrusive thoughts. BSI dimensions were also rather highly intercorrelated (r= .44 to .81) and the pattern of results for them seems fairly consistent, especially for the two best predictors. The rest of Table 26 breaks down the subject pool by experience group for all subjects. and for males only, and shows results of MRs on support workers for BSI criteria.

The question arose at this point of the overlap between PSS-FR and PSS-FM scores. Consequently, three sets of analyses were re-run (see Table 27) with PSS-FM dropped. Results did not change dramatically.

Hierarchical Multiple Regressions

It was of interest to examine the ability of the test scores to predict criteria above and beyond the variance accounted for by the objective variables. Table 28 summarizes the results of 33 multiple regressions in which the predictors VOL, SEX, and DEADBOD were forced in in a hierarchical fashion, in effect using the three as covariates. The three generally accounted for 4-7% of variance, with the MFQ, MC, PSS-FR, and PSS-FM adding significantly more predictive power.

Prewar-Postwar Change Analyses

The post-war questionnaire (see Appendix E) was answered by 457 persons. It included several questions intended to reveal whether or not persons assigned to the mortuary had been exposed to remains, and to what degree. These included a question on duties performed, some of which ("body handler," e.g. would have exposed them to remains, while others ("computer operator in administration area," for example) would have involved no exposure for the subject. Based on these reports, 261 were judged to have been exposed to remains. See Appendix F for some details on this. The simple dichotomous measure of exposure on the basis of duty presented some difficulties, however. Most importantly, 1/3 of the supposedly unexposed subjects reported that they had "observ[ed] the bodies being removed from transfer cases." In the end, it was decided to divide each of the two coarse categories on the bases indicated below. Most of the

subsequent analyses were done both with the dichotomous and the 4-group measure of exposure.

Comparison of Dichotomous and 4-Group Measures of Exposure:

Dichotomous Measure	4-Group Measure
	Clearly Exposed (3) N= 66
Exposed (1) N= 210	Exposed by Duty (4) N= 144
Unexposed (2) N= 124	Not Exposed by Duty (5) N=82
	Pure Unexposed (6) N= 42

Explanation of levels of exposure:
Dichotomous Measure: (1) Those who answered "Yes" to Present Duty Questions 1-10 or 12, indicating duties which should have exposed them to bodies. (2) Those who did not answer "Yes" to the above.
4-Group Measure: (3) Answered "Yes" to Present Duty Question 3 (Body Handler), AND indicated they had worked with 1 or more bodies. (4) "Yes" to other Qs 1-10 or 12, OR Q3 but worked with 0 bodies or response missing. (5) Not exposed on the basis of duty but indicated they had observed bodies being removed from transfer cases. (6) No indication of any exposure to bodies whatsoever.

Within-Subjects ANOVA

Most analyses of pre- to post-war changes were performed by means of within-subject ANOVA or ANCOVA. Table 29 compares preliminary analyses in which the models either did or did not include interactions among factors. Table 30 reports analyses of covariance (using MC score as covariate) for IOE Total and BSI-GSI scores, and the dichotomous and 4-group measures of exposure. Apart from the covariate, few significant results were found.

One pattern of interest which did appear was a significant interaction effect on Change in BSI-GSI scores between Experience and Exposure, as measured by either the dichotomous or 4-group measures. Figure 1 illustrates the effect presented in the fourth section of Table 30 (page 63 bottom), next to last line, and Figure 2 illustrates the last line. As can be seen, the

strongest increase in BSI-GSI scores occurred in those with no prior experience who were exposed to remains, while those with no prior experience who did not work with bodies showed a reduction in levels of distress. These can easily be interpreted as resulting from inexperienced workers' not having pre-established strategies for dealing with the stress, and relief at not having to deal with bodies, respectively.

Figures 3 and 4 illustrate the equivalent significant and near-significant interactions using the 4-group measure of exposure (eighth section of Table 30, page 65). The general interpretation of the pattern in Figure 3 follows that mentioned above, although the reversal of direction of effect with experienced workers as exposure increases is curious.

Table 31 summarizes 36 ANOVA/ANCOVAs in which the effects of prior experience, volunteer status, and exposure (dichotomous or 4-group measure) on IES Total, BSI-GSI and a simple report of stress (HANDSTRESS) were investigated, using as covariates Marlowe-Crowne scores, Mutilation Questionnaire scores, both, or neither. Results are rich and complex, and suggest that the addition of volunteer status as a factor and the two covariates add considerably to the predictibility of stress. Time unfortunately did not permit analysis of post-war and change scores by multiple regression, but this would be an obvious and no doubt productive next step.

Table 32 expands on the information provided in Table 31 by summarizing 64 analyses in which the subscales of the IOE were substituted for IOE Total, and each of six dimensions were substituted for BSI-GSI. It is clear that these subscales do add considerably to the results. Future analyses should probably make use of multivariate analyses of covariance, using the 4-group measure of exposure.

Conclusion

This project explored the psychological stresses felt by workers in a uniquely difficult situation: an Armed Services mortuary during wartime. The causes of anticipated and actual stress under such conditions are varied, and to some degree idiosyncratic and difficult to measure. Nonetheless, it has proved to be possible to account in large degree for the level of stress felt by the workers. This holds out the promise that with further analysis of the present remarkably rich data set, it may be possible to suggest some criteria for excluding those who would be adversely affected. As pointed out in the Background section of this report, job stress is recognized as costly to both the worker and employer. When the employer is the U. S. Army, with many very stressful duties and a life-time

responsibility for the health of its workers, it becomes particularly important to learn all we can about job stress.

References

Crowne, D.P., & Marlowe, D. (1960). A new scale of social desirability independant of psychopathology. Journal of Consulting Psychology, 24, 34-354.

Derogatis, L.R. & Melisaratos, N. (1983). The Brief Symptom Inventory: An introductory report. Psychological Medicine, 13,595-605.

Ganster, D.C., Fusilier, M.R., & Mayes, B.T. (1986). Role of social support in the experience of stress at work. Journal of Applied Psychology, 71, 102-110.

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of event scale: A measure of subjective stress. Psychosomatic Medicine, 41, 209-218.

Procidano, M.E., & Heller, K. (1983). Measures of perceived social support from friends and family: Three validation studies. American Journal of Community Psychology, 11, 1-23.

Appendix A

Overview of Work Performed

General Familiarization with Prior Work in the Field of Body Handling: Studied the literature, including a close reading of some 24 papers and reports. Reviewed the surveys themselves.

Specific Background on Psychological Scales: Examined scales from a psychometric point of view. Read about 8 articles on the scales.

Preliminary Computer Work: Learned about new version of SAS in two-day course. Substantial work had been done by the USUHS researchers (517 lines of SAS programming to perform data input and manipulation); this was analyzed and checked. Found 14 errors (2 serious, 4 which significantly wasted processing time, 8 minor) and proposed corrections. Wrote 924 lines of new SAS programming to: adapt USUHS programs to own disk space, correct erroneous data, score one of the scales, model the DSM-IIIR PTSD diagnosis, create new variables, modify output, and incorporate values for assigned duties into the data set. The latter task required a substantial amount of non-computer work and several dozen lines of utility programming.

Transcription of Survey Comments: Together with LTC McCarroll of WRAIR, read the approximately 1300 surveys and transcribed representative free responses. Compiled 16-page report.

Hypothesis Generating: Alone and in some dozens of consultations with LTC McCarroll and Drs. Ursano and Fullerton of USUHS, developed strategies for hypothesis testing and formulated hypotheses.

Hypothesis Testing: Wrote dozens of SAS statistical procedure commands, going through approximately 120 generations of the basic statistical program. Summaries of analyses are presented in the text.

Reporting: Prepared several informal and draft formal reports of activities and findings.

Appendix B

Pre-War Questionnaire

MORTUARY QUESTIONNAIRE

Please return to:

Robert J. Ursano, M.D.
Col, USAF, MC, FS (Ret)
Department of Psychiatry
Uniformed Services University of the Health Sciences
4301 Jones Bridge Road
Bethesda, Maryland 20814-4799

Time 1
Pre

MORTUARY QUESTIONNAIRE

INSTRUCTIONS

This survey is designed to provide information about your health at this time and your experience of working in the Dover Air Force Base mortuary. The information from this survey will be used to better understand psychological and behavioral responses to mortuary work and other traumatic events.

There are no right or wrong answers to the questions. Just answer the questions the way you feel about them. The important thing is TO ANSWER ALL QUESTIONS COMPLETELY. Most questions can be answered by circling a number corresponding to a ready-made answer or by writing in a brief description.

The information you provide will only be seen by the research team and staff. Your individual answers will be combined with those of the other participants for reporting results. You are requested to provide your full name in the appropriate place on the answer sheet. We hope you will participate with us over time to better understand this important area.

VOLUNTEER AGREEMENT

1. NATURE OF THE STUDY. The purpose of this research is to assess the psychological and behavioral responses to traumatic events over time. Results from this study will help individuals, military units, and communities better respond to and cope with trauma.

2. BENEFIT OF THE STUDY. You will have no direct benefit from this study. Information gathered in this study will help determine positive and negative consequences of traumatic events over time to help minimize psychosocial disruption in military units and communities experiencing such events.

3. RISKS, INCONVENIENCES, AND DISCOMFORTS. Taking these surveys involves no known risks, inconveniences or discomforts.

4. CONFIDENTIALITY OF RESEARCH RESULTS. All information about you and your answers obtained from this questionnaire will be treated as confidential information and protected by the Privacy Act Statement of 1974. This information will be available only to the staff of the Department of Psychiatry, Uniformed Services University of the Health Sciences.

5. SAFEGUARDS. Taking these surveys involves no known health risks which require safeguards. Results that are reported will be done in such a way that your answers given here cannot be associated with your name or any other identifying information.

6. ALTERNATIVES TO PARTICIPATION IN THIS STUDY. You have the right to withdraw consent to participate in this study at any time. If you decline to participate or leave the study, this will in no way count against you, and you will incur no loss of benefits to which you are entitled.

7. COST TO YOU FROM PARTICIPATING. The only cost to participating in this study is the time it takes to fill out the questionnaires.

8. VOLUNTEER STATEMENT. I hereby volunteer to participate in this research being conducted by the Department of Psychiatry, Uniformed Services University of the Health Sciences, Bethesda, Maryland. Should you have any question about this research project, contact: Robert J. Ursano, M.D., Col, USAF, MC, FS (Ret), Professor, Acting Chairman, Department of Psychiatry, USUHS, 4301 Jones Bridge Road, Bethesda, Maryland 20814-4799.

PARTICIPANT'S SIGNATURE DATE

ROBERT J. URSANO, M.D. DATE
(Principal Investigator's Signature)

JAMES E. MCCARROLL, Ph.D. DATE
(Principal Investigator's Signature)

CAROL S. FULLERTON, Ph.D. DATE
(Investigator's Signature)

Version 2.04
2 January 1991
(Mortuary: Time 1)

Subject Number:_____ (1-3)
Project Code:_____ (4-7)

PART I: BACKGROUND INFORMATION

Please answer the questions below by filling in the blanks or circling the number of the response that best applies.

B 1. Name: _____

B 2. Today's Date: (month/day/year) ___ ___/___ ___/___ ___ (8-13)

B 3. Service: _____ Military Unit: _____ Rank: _____ (14-19)

B 4. Last 5 digits of your Social Security Number: XXX-X __ - __ __ __ __ (20-24)

B 5. Age: _____ years (25-26)

B 6. Sex:

1. Male (27)
2. Female

B 7. Marital status:

1. Single (never married) (28)
2. Single and living with a significant other
3. Married (only once)
4. Separated or divorced and not remarried
5. Divorced and remarried/divorced and living with a significant other
6. Other

B 8. Do you have children?

1. Yes; number of children: _____ (29)
2. No (30-31)

B 9. Occupation:

1. With your military unit _____ (32-33)
2. AFSC/MOS/NEC _____ (34-35)

B 10. Highest level of education you have completed:

1. Less than grade 12 (36)
2. High School
3. Some College
4. Bachelor's Degree
5. Master's Degree
6. Doctorate Degree (M.D., D.D.S. or Ph.D.)

B 11. Racial/Ethnic Background:

1. White (37)
2. Black
3. Oriental
4. Hispanic
5. Other _____

B 12. WORK ADDRESS: _____ _____ _____

CURRENT HOME ADDRESS: _____ _____ _____

PERMANENT HOME ADDRESS: (where you could be reached in ten years) _____ _____

B 13. Have you ever participated in a mass casualty/disaster event before?

1. Yes (38)
2. No

If yes, please describe your previous participation and events.
Include: when, where, what happened and your role:

(39-40B)

B 14. Have you ever seen anyone who died by violent means?

1. Yes
2. No (41)

If yes, please describe:

(42-43B)

B 15. Have you ever worked with dead bodies before this?

1. Yes (44)
2. No

If yes, please describe previous experience:

(45-46B)

B 16. Did you have any training for this duty?

1. Yes
2. No (47)

If yes, please describe:

(48-49B)

PART II: PRESENT DUTY

M 1. How did you first learn of this mortuary assignment? What was your reaction?
Please describe:

(50-51B)

M 2. Did you volunteer for this assignment?

1. Yes
2. No

Please describe: (52)

(53-54B)

M 3. What have you been told your duties will be? Please describe:

(55-56B)

M 4. Did your spouse/significant other express any concerns about your working in the mortuary?

1. Yes
2. No
3. NA (no spouse/significant other) (57)

Please describe:

(58-59B)
(60-61B)

PART III: PRESENT PERSONAL EXPERIENCE

The following questions are about your activities and habits. Please fill in *or* circle *the number of the answer that best applies.*

P 1. Approximately how many hours of sleep did you average per night during the past week?

_____ *hours* (62-63)

P 2. Have you obtained any medical care during the past 6 months?

1. Annual physical ..... 1. *Yes* 2. *No* (64)
2. For physical problem(s) ..... 1. *Yes* 2. *No* (65)
3. For emotional or family problem(s) ..... 1. *Yes* 2. *No* (66)
4. I have felt in need of medical care but have not obtained any ..... 1. *Yes* 2. *No* (67)

If you answered yes to any above, please describe the nature of the problem:

(68-69B)

P 3. How often in the past month did you drink alcoholic beverages?
(Drinks include beers, glasses of wine, or mixed drinks.)

1. *Never*
2. *Less than once every 2 - 3 months*
3. *Once every 2 or 3 months*
4. *About once a month*
5. *About once every 2 or 3 weeks*
6. *Once a week*
7. *2 or 3 Times a week*
8. *4 or 5 Times a week*
9. *Almost everyday*
10. *Everyday* (70-71)

P 4. In the past month how many alcoholic drinks did you usually consume at one time?

1. *I never drink alcoholic beverages*
2. *1 Drink*
3. *2 Drinks*
4. *3 Drinks*
5. *4 Drinks*
6. *5 Drinks*
7. *6 Drinks*
8. *7 Drinks*
9. *8 Drinks*
10. *9 Drinks*
11. *More than 9 drinks* (72-73)

P 5. How helpful to you are the following activities in reducing stress?
(circle the number that best applies for each item below)

1	2	3	4	5	6	7	8
NOT AT ALL HELPFUL			MODERATELY HELPFUL			EXTREMELY HELPFUL	NOT APPLICABLE

		Not at all Helpful			*Moderately Helpful*			*Extremely Helpful*	*Not Applicable*	
1.	Gym/Exercise	1	2	3	4	5	6	7	8	(74)
2.	Movies	1	2	3	4	5	6	7	8	(75)
3.	Eating	1	2	3	4	5	6	7	8	(76)
4.	Phone Calls	1	2	3	4	5	6	7	8	(77)
5.	Reading	1	2	3	4	5	6	7	8	(78)
6.	Time Alone	1	2	3	4	5	6	7	8	(79)
7.	Library	1	2	3	4	5	6	7	8	(80)
8.	Socializing with Friends	1	2	3	4	5	6	7	8	(81)
9.	Reading Mail	1	2	3	4	5	6	7	8	(82)
10.	Writing Mail	1	2	3	4	5	6	7	8	(83)
11.	Alcohol	1	2	3	4	5	6	7	8	(84)
12.	Other:_____	1	2	3	4	5	6	7	8	(85-86)

P 6. Using the scale provided, rate the degree of STRESS you believe each of the individuals listed below experienced during the week prior to your leaving for Dover AFB.

1	2	3	4	5	6	7	8
NONE			MODERATE			A GREAT DEAL	NOT APPLICABLE

		None			*Moderate*			*A Great Deal*	*Not Applicable*	
1.	You, yourself	1	2	3	4	5	6	7	8	(87)
2.	Your spouse/significant other	1	2	3	4	5	6	7	8	(88)
3.	Your children	1	2	3	4	5	6	7	8	(89)
4.	Your supervisors	1	2	3	4	5	6	7	8	(90)
5.	Your coworkers	1	2	3	4	5	6	7	8	(91)

P 7. What do you **anticipate** will cause you the **most stress** on this assignment?
Describe:

(92-93B)

P 8. Please rate how stressful you **anticipate** each of the following will be:
(circle the number that best applies for each item below)

1	2	3	4	5	6	7	8
NOT AT ALL STRESSFUL			MODERATELY STRESSFUL			EXTREMELY STRESSFUL	NOT APPLICABLE

	Not at all Stressful			*Moderately Stressful*		*Extremely Stressful*		*Not Applicable*	
1. Handling dead bodies	1	2	3	4	5	6	7	8	(94)
2. Being away from your home duty station	1	2	3	4	5	6	7	8	(95)
3. Being away from your family and friends	1	2	3	4	5	6	7	8	(96)
4. Other _____	1	2	3	4	5	6	7	8	(97-98B)

P 9. Have you experienced any **major life events** other than the war events (such as: *birth of a child, a personal illness, a significant accident, marriage, death or illness of a family member, divorce, separation, etc)* in the last six months? **DO NOT INCLUDE THE CURRENT WAR EVENTS.**

1. Yes - Specify event(s): _____ (99)
2. No (100-102B)

If so, rate the amount of overall stress you experienced due to these event(s):

1	2	3	4	5	6	7
NONE			MODERATE			A GREAT DEAL

(103)

(104-108B)

IOE-P

Below is a list of comments made by people about stressful life events. Please circle *each item, indicating how frequently these comments were true for you the* **week before** *your arrival at the Dover mortuary.*

NOT AT ALL	RARELY	SOMETIMES	OFTEN
0	1	2	3

G 1.	I thought about the Desert Shield casualties when I didn't mean to	0	1	2	3	(109)
G 2.	I avoided letting myself get upset when I thought about the casualties or was reminded of them	0	1	2	3	(110)
G 3.	I tried to remove thoughts about the casualties from my mind	0	1	2	3	(111)
G 4.	I had trouble falling asleep or staying asleep	0	1	2	3	(112)
G 5.	I had waves of strong feelings about the casualties	0	1	2	3	(113)
G 6.	I had dreams about death and dead bodies	0	1	2	3	(114)
G 7.	I felt as if the war hadn't happened or wasn't real	0	1	2	3	(115)
G 8.	I tried not to talk about death and dead bodies	0	1	2	3	(116)

	NOT AT ALL	RARELY	SOMETIMES	OFTEN
	0	1	2	3

G	9.	Pictures of the casualties popped into my mind	0	1	2	3	(117)
G	10.	I stayed away from reminders of the war casualties	0	1	2	3	(118)
G	11.	Other things kept making me think about the dead	0	1	2	3	(119)
G	12.	I was aware that I had a lot of feelings but didn't deal with them	0	1	2	3	(120)
G	13.	I tried not to think about the casualties	0	1	2	3	(121)
G	14.	Any reminder brought on feelings about the dead	0	1	2	3	(122)
G	15.	My feelings about the casualties were kind of numb	0	1	2	3	(123)
I	16.	No matter how much I knew I did, I felt I had not done enough	0	1	2	3	(124)
I	17.	I was irritable	0	1	2	3	(125)
I	18.	I spent a great deal of time at work	0	1	2	3	(126)
I	19.	I spent time with my peers and friends	0	1	2	3	(127)
I	20.	I felt very energetic	0	1	2	3	(128)
I	21.	I talked with my spouse/significant other about the casualties	0	1	2	3	(129)
I	22.	I felt very tired	0	1	2	3	(130)
I	23.	I felt critical of others	0	1	2	3	(131)
I	24.	I felt lonely or blue	0	1	2	3	(132)
I	25.	I couldn't sleep	0	1	2	3	(133)
I	26.	I drank alcoholic beverages	0	1	2	3	(134)
I	27.	I had thoughts of death and dead bodies	0	1	2	3	(135)
I	28.	My spouse/significant other talked to me about the mortuary	0	1	2	3	(136)
I	29.	I felt restless	0	1	2	3	(137)
I	30.	I felt tense or keyed up	0	1	2	3	(138)

PSS-FRIENDS

Q 1. How many close friends do you have? (People you feel at ease with and can talk to about private matters and can call on for help).

_____ (number) (139-140)

The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with **friends**. *For each statement, there are three possible answers:* **YES, NO, DON'T KNOW.** *Please* **circle** *the answer that best describes your experience.*

			YES	NO	DON'T KNOW	
C	1.	My friends give me the moral support I need	1. *Yes*	2. *No*	3. *DK*	(141)
C	2.	Most other people are closer to their friends than I am	1. *Yes*	2. *No*	3. *DK*	(142)
C	3.	My friends enjoy hearing about what I think	1. *Yes*	2. *No*	3. *DK*	(143)
C	4.	Certain friends come to me when they have problems or need advice	1. *Yes*	2. *No*	3. *DK*	(144)
C	5.	I rely on my friends for emotional support	1. *Yes*	2. *No*	3. *DK*	(145)

C	6. If I felt that one or more of my friends were upset with me, I'd just keep it to myself	1. *Yes*	2. *No*	3. *DK*	(146)
C	7. I feel that I'm on the fringe in my circle of friends	1. *Yes*	2. *No*	3. *DK*	(147)
C	8. There is a friend I could go to if I were just feeling down, without feeling funny about it later	1. *Yes*	2. *No*	3. *DK*	(148)
C	9. My friends and I are very open about what we think about things	1. *Yes*	2. *No*	3. *DK*	(149)
C	10. My friends are sensitive to my personal needs	1. *Yes*	2. *No*	3. *DK*	(150)
C	11. My friends come to me for emotional support	1. *Yes*	2. *No*	3. *DK*	(151)
C	12. My friends are good at helping me solve problems	1. *Yes*	2. *No*	3. *DK*	(152)
C	13. I have a deep sharing relationship with a number of friends	1. *Yes*	2. *No*	3. *DK*	(153)
C	14. My friends get good ideas from me about how to do things or make things.	1. *Yes*	2. *No*	3. *DK*	(154)
C	15. When I confide in friends, it makes me feel uncomfortable	1. *Yes*	2. *No*	3. *DK*	(155)
C	16. My friends seek me out for companionship	1. *Yes*	2. *No*	3. *DK*	(156)
C	17. I think that my friends feel that I'm good at helping them solve problems	1. *Yes*	2. *No*	3. *DK*	(157)
C	18. I don't have a relationship with a friend that is as intimate as other people's relationships with friends	1. *Yes*	2. *No*	3. *DK*	(158)
C	19. I've recently gotten a good idea about how to do something from a friend	1. *Yes*	2. *No*	3. *DK*	(159)
C	20. I wish my friends were much different	1. *Yes*	2. *No*	3. *DK*	(160)

PSS-FAMILY

The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with their **families**. *For each statement there are three possible answers:* **YES, NO, DON'T KNOW**. *Please* **circle** *the answer you choose for each item.*

		YES	NO	DON'T KNOW	
F	1. My family gives me the moral support I need	1. *Yes*	2. *No*	3. *DK*	(161)
F	2. I get good ideas about how to do things or make things from my family	1. *Yes*	2. *No*	3. *DK*	(162)
F	3. Most other people are closer to their family than I am	1. *Yes*	2. *No*	3. *DK*	(163)
F	4. When I confide in members of my family who are closest to me, I get the idea that it makes them uncomfortable	1. *Yes*	2. *No*	3. *DK*	(164)
F	5. My family enjoys hearing about what I think	1. *Yes*	2. *No*	3. *DK*	(165)
F	6. Members of my family share many of my interests	1. *Yes*	2. *No*	3. *DK*	(166)
F	7. Certain members of my family come to me when they have problems or need advice	1. *Yes*	2. *No*	3. *DK*	(167)
F	8. I rely on my family for emotional support	1. *Yes*	2. *No*	3. *DK*	(168)
F	9. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later	1. *Yes*	2. *No*	3. *DK*	(169)
F	10. My family and I are very open about what we think about things	1. *Yes*	2. *No*	3. *DK*	(170)
F	11. My family is sensitive to my personal needs	1. *Yes*	2. *No*	3. *DK*	(171)
F	12. Members of my family come to me for emotional support	1. *Yes*	2. *No*	3. *DK*	(172)
F	13. Members of my family are good at helping me solve problems	1. *Yes*	2. *No*	3. *DK*	(173)

F	14. I have a deep sharing relationship with a number of members of my family	1. *Yes*	2. *No*	3. *DK*	(174)
F	15. Members of my family get good ideas about how to do things or make things from me	1. *Yes*	2. *No*	3. *DK*	(175)
F	16. When I confide in members of my family, it makes me feel uncomfortable	1. *Yes*	2. *No*	3. *DK*	(176)
F	17. Members of my family seek me out for companionship	1. *Yes*	2. *No*	3. *DK*	(177)
F	18. I think that my family feels that I'm good at helping them solve problems	1. *Yes*	2. *No*	3. *DK*	(178)
F	19. I don't have a relationship with a member of my family that is as close as other people's relationships with family members	1. *Yes*	2. *No*	3. *DK*	(179)
F	20. I wish my family were much different	1. *Yes*	2. *No*	3. *DK*	(180)

(181-184B)

BSYM

Below is a list of problems and complaints that people sometimes have. Please read each one carefully. Using the scale below, please circle *the number to the right that best describes how much discomfort that problem has caused you* **DURING THE PAST WEEK INCLUDING TODAY.** *Circle only one number for each problem and do not skip any items.*

NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
0	1	2	3	4

S	1.	Nervousness or shakiness inside	0	1	2	3	4	(185)
S	2.	Repeated unpleasant thoughts that won't leave your mind	0	1	2	3	4	(186)
S	3.	Faintness or dizziness	0	1	2	3	4	(187)
S	4.	Loss of sexual interest or pleasure	0	1	2	3	4	(188)
S	5.	The idea that someone else can control your thoughts	0	1	2	3	4	(189)
S	6.	Feeling others are to blame for most of your troubles	0	1	2	3	4	(190)
S	7.	Trouble remembering things	0	1	2	3	4	(191)
S	8.	Feeling easily annoyed or irritated	0	1	2	3	4	(192)
S	9.	Pains in heart or chest	0	1	2	3	4	(193)
S	10.	Feeling afraid in open spaces or streets	0	1	2	3	4	(194)
S	11.	Feeling low in energy or slowed down	0	1	2	3	4	(195)
S	12.	Thoughts of ending your life	0	1	2	3	4	(196)
S	13.	Feeling that most people cannot be trusted	0	1	2	3	4	(197)
S	14.	Poor appetite	0	1	2	3	4	(198)
S	15.	Crying easily	0	1	2	3	4	(199)
S	16.	Suddenly scared for no reason	0	1	2	3	4	(200)
S	17.	Temper outbursts that you could not control	0	1	2	3	4	(201)
S	18.	Feeling lonely even when you are with people	0	1	2	3	4	(202)
S	19.	Feeling blocked in getting things done	0	1	2	3	4	(203)
S	20.	Feeling lonely	0	1	2	3	4	(204)
S	21.	Feeling blue	0	1	2	3	4	(205)
S	22.	Worrying too much about things	0	1	2	3	4	(206)
S	23.	Feeling no interest in things	0	1	2	3	4	(207)

	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
	0	1	2	3	4

S	24.	Feeling fearful	0	1	2	3	4	(208)
S	25.	Your feelings being easily hurt	0	1	2	3	4	(209)
S	26.	Feeling others do not understand you or are unsympathetic	0	1	2	3	4	(210)
S	27.	Feeling that people are unfriendly or dislike you	0	1	2	3	4	(211)
S	28.	Feeling inferior to others	0	1	2	3	4	(212)
S	29.	Nausea or upset stomach	0	1	2	3	4	(213)
S	30.	Feeling that you are watched or talked about by others	0	1	2	3	4	(214)
S	31.	Trouble falling asleep	0	1	2	3	4	(215)
S	32.	Having to check and double-check what you do	0	1	2	3	4	(216)
S	33.	Difficulty making decisions	0	1	2	3	4	(217)
S	34.	Feeling afraid to travel on buses, subways, or trains	0	1	2	3	4	(218)
S	35.	Trouble getting your breath	0	1	2	3	4	(219)
S	36.	Hot or cold spells	0	1	2	3	4	(220)
S	37.	Having to avoid certain things, places, or activities because they frighten you	0	1	2	3	4	(221)
S	38.	Your mind going blank	0	1	2	3	4	(222)
S	39.	Numbness or tingling in parts of your body	0	1	2	3	4	(223)
S	40.	The idea that you should be punished for your sins	0	1	2	3	4	(224)
S	41.	Feeling hopeless about the future	0	1	2	3	4	(225)
S	42.	Trouble concentrating	0	1	2	3	4	(226)
S	43.	Feeling weak in parts of your body	0	1	2	3	4	(227)
S	44.	Feeling tense or keyed up	0	1	2	3	4	(228)
S	45.	Thoughts of death or dying	0	1	2	3	4	(229)
S	46.	Having urges to beat, injure, or harm someone else	0	1	2	3	4	(230)
S	47.	Sleep that is restless or disturbed	0	1	2	3	4	(231)
S	48.	Having urges to break or smash things	0	1	2	3	4	(232)
S	49.	Feeling very self-conscious with others	0	1	2	3	4	(233)
S	50.	Feeling uneasy in crowds, such as shopping or at a movie	0	1	2	3	4	(234)
S	51.	Never feeling close to another person	0	1	2	3	4	(235)
S	52.	Spells of terror or panic	0	1	2	3	4	(236)
S	53.	Getting into frequent arguments	0	1	2	3	4	(237)
S	54.	Feeling nervous when you are left alone	0	1	2	3	4	(238)
S	55.	Others not giving you proper credit for your achievements	0	1	2	3	4	(239)
S	56.	Feeling so restless you couldn't sit still	0	1	2	3	4	(240)
S	57.	Feelings of worthlessness	0	1	2	3	4	(241)
S	58.	Feeling that people will take advantage of you if you let them	0	1	2	3	4	(242)
S	59.	Thoughts and images of a frightening nature	0	1	2	3	4	(243)
S	60.	Feelings of guilt	0	1	2	3	4	(244)
S	61.	The idea that something is wrong with your mind	0	1	2	3	4	(245)
S	62.	Repeated, unpleasant dreams or nightmares	0	1	2	3	4	(246)
S	63.	Feelings of reliving something very unpleasant and traumatic	0	1	2	3	4	(247)
S	64.	Avoiding certain things, places, or activities because they remind you of something unpleasant and traumatic	0	1	2	3	4	(248)

	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
	0	1	2	3	4

S	65.	Feeling hyperalert	0	1	2	3	4	(249)
S	66.	Feeling easily tired	0	1	2	3	4	(250)
S	67.	Less interested in activities once important to you	0	1	2	3	4	(251)
S	68.	Feeling detached or estranged from others	0	1	2	3	4	(252)
S	69.	Less upset or angry about things which once caused you to be upset or angry	0	1	2	3	4	(253)
S	70.	Trying to avoid certain thoughts and feelings because they remind you of something unpleasant or traumatic	0	1	2	3	4	(254)
S	71.	Feeling distressed because something reminds you of an unpleasant or traumatic event	0	1	2	3	4	(255)
S	72.	Less happy or pleased about things that once caused you to be happy or pleased	0	1	2	3	4	(256)
S	73.	Drinking more alcoholic beverages	0	1	2	3	4	(257)
S	74.	Feeling easily startled	0	1	2	3	4	(258)

IRI

The following statements inquire about your thoughts and feelings in a variety of situations. Using the scale below, please circle *the number to the right that indicates how well each item describes you.*

	DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL
	1	2	3	4	5

R	1.	I daydream and fantasize, with some regularity, about things that might happen to me	1	2	3	4	5	(259)
R	2.	I often have tender, concerned feelings for people less fortunate than me	1	2	3	4	5	(260)
R	3.	I sometimes find it difficult to see things from the "other guy's" point of view	1	2	3	4	5	(261)
R	4.	Sometimes I don't feel very sorry for other people when they are having problems	1	2	3	4	5	(262)
R	5.	I really get involved with the feelings of the characters in a novel	1	2	3	4	5	(263)
R	6.	In emergency situations, I feel apprehensive and ill-at-ease	1	2	3	4	5	(264)
R	7.	I am usually objective when I watch a movie or play, and I don't often get completely caught up in it	1	2	3	4	5	(265)
R	8.	I try to look at everybody's side of a disagreement before I make a decision	1	2	3	4	5	(266)
R	9.	When I see someone being taken advantage of, I feel kind of protective towards them	1	2	3	4	5	(267)
R	10.	I sometimes feel helpless when I am in the middle of a very emotional situation	1	2	3	4	5	(268)
R	11.	I sometimes try to understand my friends better by imagining how things look from their perspective	1	2	3	4	5	(269)

		1	2	3	4	5	
		DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL	
R 12.	Becoming extremely involved in a good book or movie is somewhat rare for me	1	2	3	4	5	(270)
R 13.	When I see someone get hurt, I tend to remain calm	1	2	3	4	5	(271)
R 14.	Other people's misfortunes do not usually disturb me a great deal	1	2	3	4	5	(272)
R 15.	If I'm sure I'm right about something, I don't waste much time listening to other people's arguments	1	2	3	4	5	(273)
R 16.	After seeing a play or movie, I have felt as though I were one of the characters	1	2	3	4	5	(274)
R 17.	Being in tense emotional situations scares me	1	2	3	4	5	(275)
R 18.	When I see someone being treated unfairly, I sometimes don't feel very much pity for them	1	2	3	4	5	(276)
R 19.	I am usually pretty effective in dealing with emergencies	1	2	3	4	5	(277)
R 20.	I am often quite touched by things that I see happen	1	2	3	4	5	(278)
R 21.	I believe that there are two sides to every question and I try to look at them both	1	2	3	4	5	(279)
R 22.	I would describe myself as a pretty soft-hearted person	1	2	3	4	5	(280)
R 23.	When I watch a good movie, I can very easily put myself in the place of a leading character	1	2	3	4	5	(281)
R 24.	I tend to lose control during emergencies	1	2	3	4	5	(282)
R 25.	When I'm upset at someone, I usually try to "put myself in his shoes" for a while	1	2	3	4	5	(283)
R 26.	When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me	1	2	3	4	5	(284)
R 27.	When I see someone who badly needs help in an emergency, I go to pieces	1	2	3	4	5	(285)
R 28.	Before criticizing somebody, I try to imagine how I would feel if I were in their place	1	2	3	4	5	(286)

MFQ

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is **True** *or* **False** *as it pertains to you personally.* **Circle 1.** *True if the item describes you.* **Circle 2.** *False if the item does not describe you.*

U 1.	I could not remove the hook from a fish that was caught	1. *True*	2. *False*	(287)
U 2.	I would feel some revulsion looking at a preserved brain in a bottle	1. *True*	2. *False*	(288)
U 3.	If a badly injured person appears on TV, I turn my head away	1. *True*	2. *False*	(289)
U 4.	I dislike looking at pictures of accidents or injuries in magazines	1. *True*	2. *False*	(290)
U 5.	I do not mind visiting a hospital and seeing ill or injured persons	1. *True*	2. *False*	(291)
U 6.	Medical odors make me tense and uncomfortable	1. *True*	2. *False*	(292)
U 7.	I would not go hunting because I could not stand the sight of a dead animal	1. *True*	2. *False*	(293)

U 8. Watching a butcher at work would make me anxious ..... 1. *True* 2. *False* (294)
U 9. A career as a doctor or nurse is very attractive to me ..... 1. *True* 2. *False* (295)
U 10. I would feel faint if I saw someone with a wound in the eye ..... 1. *True* 2. *False* (296)
U 11. Watching people use sharp power tools makes me nervous ..... 1. *True* 2. *False* (297)
U 12. The prospect of getting an injection or seeing someone else get one bothers me quite a bit ..... 1. *True* 2. *False* (298)

U 13. I feel sick or faint at the sight of blood ..... 1. *True* 2. *False* (299)
U 14. I enjoy reading articles about modern medical techniques ..... 1. *True* 2. *False* (300)
U 15. Injuries, accidents, blood, etc., bother me more than anything else ..... 1. *True* 2. *False* (301)
U 16. Under no circumstances would I accept an invitation to watch a surgical operation ..... 1. *True* 2. *False* (302)
U 17. When I see an accident I feel tense ..... 1. *True* 2. *False* (303)

U 18. It would not bother me to see a bad cut as long as it had been cleaned and stitched ..... 1. *True* 2. *False* (304)
U 19. Using very sharp knives makes me nervous ..... 1. *True* 2. *False* (305)
U 20. Not only do cuts and wounds upset me, but the sight of people with amputated limbs, large scars, or plastic surgery also bothers me ..... 1. *True* 2. *False* (306)
U 21. If instruments were available, it would be interesting to see the action of the internal organs in a living body ..... 1. *True* 2. *False* (307)
U 22. I am frightened at the idea of someone drawing a blood sample from me ..... 1. *True* 2. *False* (308)

U 23. I don't believe anyone could help a person with a bloody wound without feeling at least a little upset ..... 1. *True* 2. *False* (309)
U 24. I am terrified by the idea of having surgery ..... 1. *True* 2. *False* (310)
U 25. I am frightened by the thought that I might some day have to help a person badly hurt in a car wreck ..... 1. *True* 2. *False* (311)
U 26. I shudder when I think of accidentally cutting myself ..... 1. *True* 2. *False* (312)
U 27. The sight of dried blood is repulsive ..... 1. *True* 2. *False* (313)
U 28. Blood and gore upset me no more than the average person ..... 1. *True* 2. *False* (314)
U 29. The sight of an open would nauseates me ..... 1. *True* 2. *False* (315)
U 30. I could never swab out a wound ..... 1. *True* 2. *False* (316)

DNL

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is **True** *or* **False** *as it pertains to you personally.* **Circle 1.** *True if the item describes you.* **Circle 2.** *False if the item does not describe you.*

T 1. Before voting I thoroughly investigate the qualifications of all the candidates ..... 1. *True* 2. *False* (317)
T 2. I never hesitate to go out of my way to help someone in trouble ..... 1. *True* 2. *False* (318)
T 3. It is sometimes hard for me to go on with my work if I am not encouraged ..... 1. *True* 2. *False* (319)
T 4. I have never intensely disliked anyone ..... 1. *True* 2. *False* (320)
T 5. On occasion I have had doubts about my ability to succeed in life ..... 1. *True* 2. *False* (321)

T 6. I sometimes feel resentful when I do not get my way ..... 1. *True* 2. *False* (322)
T 7. I am always careful about my manner of dress ..... 1. *True* 2. *False* (323)
T 8. My table manners at home are as good as when I eat out in a restaurant ..... 1. *True* 2. *False* (324)
T 9. If I could get into a movie without paying for it and be sure I was not seen, I would probably do it ..... 1. *True* 2. *False* (325)

T 10. On a few occasions, I have given up doing something because I thought too little of my ability ..... 1. *True* 2. *False* (326)
T 11. I like to gossip at times ..... 1. *True* 2. *False* (327)
T 12. There have been times when I felt like rebelling against people in authority even though I knew they were right ..... 1. *True* 2. *False* (328)
T 13. No matter who I'm talking to, I'm always a good listener ..... 1. *True* 2. *False* (329)
T 14. I can remember "playing sick" to get out of something ..... 1. *True* 2. *False* (330)
T 15. There have been occasions when I took advantage of someone ..... 1. *True* 2. *False* (331)

T 16. I'm always willing to admit it when I make a mistake ..... 1. *True* 2. *False* (332)
T 17. I always try to practice what I preach ..... 1. *True* 2. *False* (333)
T 18. I don't find it particularly difficult to get along with loud-mouthed, obnoxious people ..... 1. *True* 2. *False* (334)
T 19. I sometimes try to get even, rather than forgive and forget ..... 1. *True* 2. *False* (335)
T 20. When I don't know something I don't at all mind admitting it ..... 1. *True* 2. *False* (336)

T 21. I am always courteous, even to people who are disagreeable ..... 1. *True* 2. *False* (337)
T 22. At times I have really insisted on having things my own way ..... 1. *True* 2. *False* (338)
T 23. There have been occasions when I felt like smashing things ..... 1. *True* 2. *False* (339)
T 24. I would never think of letting someone else be punished for my wrongdoings ..... 1. *True* 2 *False* (340)
T 25. I never resent being asked to return a favor ..... 1. *True* 2. *False* (341)

T 26. I have never been irked when people have expressed ideas very different from my own ..... 1. *True* 2. *False* (342)
T 27. I never make a long trip without checking the safety of my car ..... 1. *True* 2. *False* (343)
T 28. There have been times when I was quite jealous of the good fortune of others ..... 1. *True* 2. *False* (344)
T 29. I have almost never felt the urge to tell someone off ..... 1. *True* 2. *False* (345)
T 30. I am sometimes irritated by people who ask favors of me ..... 1. *True* 2. *False* (346)
T 31. I have never felt that I was punished without cause ..... 1. *True* 2. *False* (347)
T 32. I sometimes think when people have a misfortune they only got what they deserved ..... 1. *True* 2. *False* (348)
T 33. I have never deliberately said something that hurt someone's feelings ..... 1. *True* 2. *False* (349)

IF YOU HAVE ANY ADDITIONAL THOUGHTS OR COMMENTS ABOUT YOUR REACTIONS TO WORKING IN THE MORTUARY, PLEASE USE THE SPACE BELOW AND THE BACK OF THIS PAGE. _____ (350)

(351-352B)

Appendix C

Comparisons of Different Strategies of Analyses of Variance

Table [illegible]
Comparison between Various ANOVA Models

Note: Duty: Mortuary workers vs. support workers.
Experience: Reported previously handled dead bodies.

For IOE Score, including Volunteering

Full Model	p	No 3- or 4-Way Interactions	p
Duty	.04	Duty	.06
Volunteer	.43	Volunteer	.19
Duty x Volunteer	.66	Duty x Volunteer	.27
Sex	.94	Sex	.34
Duty x Sex	.55	Duty x Sex	.76
Volunteer x Sex	.68	Volunteer x Sex	.73
Experience	.34	Experience	.33
Duty x Experience	.24	Duty x Experience	.27
Volunteer x Experience	.12	Volunteer x Experience	.19
Sex x Experience	.88	Sex x Experience	.99
(plus 4 3-way & 1 4-way)		(no higher interactions)	

For IOE Score, without Volunteering

Full Model	p	Reduced Model	p
Duty	.20	Duty	.20
Sex	.17	Sex	.17
Duty x Sex	.71	Duty x Sex	.71
Experience	.51	Experience	.51
Duty x Experience	.48		
Sex x Experience	.80		
Duty x Sex x Experience	.76	Duty x Sex x Experience	.91

For BSI-GSI, including Volunteering

Full Model	p	No 3- or 4-Way Interactions	p
Duty	.03	Duty	.05
Volunteer	.43	Volunteer	.10
Duty x Volunteer	.02	Duty x Volunteer	.0053
Sex	.76	Sex	.69
Duty x Sex	.70	Duty x Sex	.91
Volunteer x Sex	.73	Volunteer x Sex	.69
Experience	.20	Experience	.40
Duty x Experience	.60	Duty x Experience	.95
Volunteer x Experience	.15	Volunteer x Experience	.17
Sex x Experience	.48	Sex x Experience	.95
(plus 4 3-way & 1 4-way)		(no higher interactions)	

For BSI-GSI, without Volunteering

Full Model	p	Reduced Model	p
Duty	.20	Duty	.20
Sex	.87	Sex	.87
Duty x Sex	.79	Duty x Sex	.79
Experience	.34	Experience	.34
Duty x Experience	.67		
Sex x Experience	.51		
Duty x Sex x Experience	.62	Duty x Sex x Experience	.92

Appendix D

Transcriptions of Comments from Questionnaires

Note: This includes only comments transcribed by the subcontractor. They represent a sampling of the thousands of comments read.

file: DCWORK3

First set of Dover Mort. Comments.

Question B-13

- "VN 1968 Tet offensive triage. "
- "Body escort during VN 1969."
- "NCOIC lab, Ft. Bragg NC - Golden Nights plane crash, Special Forces demolition accident."
- "1967-68 VN Medic"
- "Flood relief - USAR assistance Wilkes Barre PA area 1970's coordinated unit disaster relief activities and projects."
- "Korea Pork Chop Hill. Helped load dead remains on truck for transport to GRO."
- "Ft. Riley KS"
- "Arlington Cem. Survivor assistance NCO Escort family of deceased (VN)"
- "1970 VN KIAs and wounded from hostile fire, evacuation and first aid"
- "Nov 1978- Processing remains from Jonestown Guyana -Dover AFB Body handler---Frankfort Ge Mort- Stark incident."

Q B13 ABOVE Macro: alt-p

Question B-14

- "VN"
- "VN, auto"
- "Combat casualties RVN"
- "Many shootings - stabbings from my neighborhood I grew up in -- Car accidents."
- "Truck accident in my front yard, man burned to death."
- "Nam - friends in fire fight."
- "VN (Graves registration 4th Div.)"
- "Have seen people shot and killed"
- "Combat, in Korea and VN"
- "My youngest brother died in a motorcycle tractor trailer accident"
- "Several auto accidents when I was driving a wrecker with my father while in high school---During Tet 1968 in Saigon."
- "Active member Vol. Fire Dept. & Rescue--Auto accidents and self-inflicted gunshot wounds."
- "1968 VN 1985 murder in bar 1990 shooting on street in Atlantic City."

Q B14 ABOVE Macro: alt-d

Question B-15

- "1.VN 2. UFGH, PA 3. FT. Monmouth, NJ, Medical assignment in all three areas."
- "Body escort - Funeral details."
- "Assisting pathologist with autopsies"
- "Funeral home - prior to joining military."
- "Last 23 years"
- "VFW Post -- "Honor Guard" casket watch and pall bearer."

Q B15 ABOVE Macro: alt-w

Question B-16

- "Special forces medical training 14 months."
- "As minister - also escort once before"
- "(No-Maybe) Escorted my assistant home upon his death. " - "Drill & Ceremonies"
- "Oakland Army Base -- Escort duty VN"

- "Initial orientation and briefings since activation, saw Army film-escort."
- "very little"

Q B16 ABOVE macro:alt-t

Question M1a and M1b

- "Duty assignment"
- "No special reaction"
- "Notified by reserve center, St. Louis MO."
- "No reaction"
- "Phone call - I was told"
- "No reaction."
- "At first declined escort duty but accepted within short time."
- "Surprised but willing to serve"
- "Disappointed"
- "Happy!!"
- "Did not know of Mortuary arrangements till reporting for processing."
- "Somebody has to do it."
- "Thur [sic] other people 1b. It will be a new experence for me. To learn from it and how to control myself in

this assignment. I hope to gain some concern in this experience."

- "None"
- "Disappointed the Army did not assign me in my career field -- also pleased I would be activated."
- "Depressing, but willing to do what I can do to help."
- "Sad."
- "Ready to go."
- "Surprised and shocked."
- "No big deal."
- "Surprise and interest."
- "Pleased to be rcalled. "
- "Some shock as to the duty, However am going to do the best I can."

Q M1 ABOVE Macro: alt-1

Question M-2

- "Volunteered for active duty - any supporting role to Persian Gulf."
- "Volunteered for recall"
- "To be able to help in some way with OPN Desert Storm and a change of pace"
- "agreed to in-process."

Q M2 ABOVE Macro: alt-v

Question M-3

- "Escort remains to NOK"
- "Escort Duty"
- "Escort the dead home"
- "Yes, pick up, accompany and turn over remains at destination."
- "Very little!"
- "I would be cadre coordinating between different elements."

Q M3 ABOVE Macro: alt-b

Question M-4

- "(N/A) Does not know present duty nor will she be told."
- "(No) Expressed pride for duty assigned"
- "She thinks it sucks."
- "She just wondered if I could handle the emotions."
- "My whole family knows how I feel and are behind me 100%."
- "At first did not understand. But after I explained it I think she is proud."
- "She thought I could be better utilized back in an IDHS or C&C computer job."

Q M4 ABOVE Macro: alt-s

Question P-2

- "High blood pressure neck surgery dental work extensive."
- "Get headaches when upset Have problems with infection of the right ear."
- "The not knowing for the last month and then being called to process last week and then sent home to wait to find out if we would be called was very stressful. When I came to process last week I was ready to do what was needed. It has been hard to go home and then return."

Q P2 ABOVE Macro: alt-m

Question P-7

- "Not sure"
- "Not knowing what to expect when delivering a casuality."
- "Being away from home, as I am going through a divorce, have a house for sale and youngest daughter in college."
- "The first incounter, alwase the thought of the family"
- "getting started."
- "Family separation and separation from my business interests and clients."
- "Hope air flights are on time."
- "Bring home my kid brother"
- "Not being able to spend much time with my lady."
- "Two many officers-trying to run things and not giving information to personnel who need to know. Two many retirees who should have stayed home, who are not giving NCOs who know the job [] do it."
- "Not being able to assist when needed."
- "Possible hostile contact w/ family when returning body of loved one."
- "Diff in time zones -- Those familys who are red/white/blue for military service."
- "Being properly trained/informed and completion of all

required forms."
- "...probably my first meeting with a family of a deceased vet."

Q P7 ABOVE Macro: alt-a

Question P-8 (4.:other)

- "Escort duty."

Q P8 ABOVE Macro: alt-o

Question P-9 (1.:event)

- "Father deads - Birth of my 2 sons."
- "Retired from active duty and looking for a civilian job."
- "Child birth (3) Divorce (2)"
- "Divorce"
- "Death of father."
- "Previous divorce; births of my children."
- "Death of two infants in immediate family."
- "Death of son."
- "separation."
- "divorce two brothers dead."
- "Marriage/divorce/marriage Death of family member."
- "Birth of a child"
- "father dead."
- "Birth of my daughter 1982 Death of a younger brother in an accident in 1987."
- "My father-in-law is in the last stages of cancer."
- "Birth of granddaughter (happy) and 1 due in May."
- "wife 6 mos pregnant, problem pregnancy."

Q P9 ABOVE Macro: alt-y

END COMMENTS

- "I consider along with my wife of 34 years, my escort duty as being the most honorable contribution that I could bestow on a fallen fellow soldier and am proud to fullfill this mission with honor and dignity. "

- "This is a good tool to use to get information on people

feeling about dealing with the remains, of their love one's. I feel that this questionnaire is a vital assest to get their feelings about what is about to happen. By this questionnaire you can get a better out-look on a person weakness/strong points before it happen. More over, this will give you a better picture of a person disagreeable/agreeable on this traumatic event. This would be my comments - in my opinion, the bottom line would be a "WELL DONE" questionnaire."

- "Regarding Escort Duty Meade. I'm the only only officer residing in the Escort billet. I am often lonely. "

- "I believe one must be able to detach one's self from the task at hand or situation. This is not neessarily a "cold" person but rather a scientific person. There is much to be learned from an autopsy once you learn. The body will tell you much after death if you know what to look for."

- "I can handle and deliver closed caskets but I don't feel I could handle a body. I don't want to view bodies in the mortuary. Just give me the closed casket."

- "I believe one must be able to detatch his or her self from the situation, to do the scientific job at hand."

Q END ABOVE Macro: alt-e

/dcc/ rercp

file dcpedep

Fort Dix Mortuary Questionnaire Comments: PE Depot. finished

Question B-13

Q B13 ABOVE Macro: alt-p

Question B-14

- "Soldier crushed by APC (113) at Ft. Erwin NTC."
- "Combat photographer in VN 1967 and helicopter crash in 1980 in Dallas Tex."
- "My son was murdered. 2nd husband committed suicide."

Q B14 ABOVE Macro: alt-d

Question B-15

Q B15 ABOVE Macro: alt-w

Question B-16

Q B16 ABOVE macro:alt-t

Question M1a and M1b

- "I didn't understand why a 71h from the West Coast be sent all the way to the East Coast."
- "Concern over type of duty, especially if needed to serve as escort officer w/ bereaving families."
- "Tried to keep open mind about job."
- "Morbid."
- "Pissed off. Doesn't pertain to any of my job skills. Didn't know what it was until I got here. Received orders when I got here."

Q M1 ABOVE Macro: alt-1

Question M-2

Q M2 ABOVE Macro: alt-v

Question M-3

- "I will be shipping PE to the next of kin (packing and labeling)."

Q M3 ABOVE Macro: alt-b

Question M-4

- "She was not informed of the detail [sic] nature of my responsibilities."
- "My significant other broke up with me. It was either leave the service or lose him. He would not even discuss my mortuary duty and we split up before I left. Did not spend the holidays with me either."
- "My spouse does not agree that effects should be gone through and checked for suitability prior to being sent on."

Q M4 ABOVE Macro: alt-s

Question P-2

- "Family counseling, my wife and I were having trouble communicating."

Q P2 ABOVE Macro: alt-m

Question P-7

- "Time away from wife, children and parents."
- "This job doesn't really bother me."
- "I cannot answer the unknown."
- "Financial."
- "Maybe finding PE from someone I might know."
- "The unpredictable schedule."
- "Sorrow, feelings."
- "The long hours."

- "Lack of support from home."
- "Deciding what goes home and what doesn't."
- "Seeing the pictures of children of deceased."

Q P7 ABOVE Macro: alt-a

Question P-8 (4.:other)

- "Unhealthy diet."

Q P8 ABOVE Macro: alt-o

Question P-9 (1.:event)

- "Found out my father was sexually abusive to my sister."
- "Started working with wife full time, moved office and house to new locations."
- "None of your business."

Q P9 ABOVE Macro: alt-y

END COMMENTS

- "Sometimes I feel depressed with the thoughts that the gear that we are processing once belonged to someone that won't be using it again. Ever."
- "They should let the people know in advance what they're job is going to be Not left out in the dark."

Q END ABOVE Macro: alt-e

ACL/DCPOST

Post mortuary questionnaires

Macros: use alt-1 thru -5, with numbers found on blue keypad.

P1. Briefly describe your first responses to the mortuary and the dead bodies.

- "My job."

- "Not pleasant, but has to be done."

- "Not to look when the bag was first opened. Unbelievable!"

- "It didn't phase me because I am a hospital corpsman and I have been through similar experiences."

- "Was not affected in the way I expected."

- "I look at it as the person was no longer there. It was only a shell of a body."

- "No response, have been working in field since 1976."

- "Somber place to be in. They brought back some feelings left over from the Phillipine earthquake except that the reality of life in reference to war was one of regret. There must be a better way, was my underlying feeling."

- "The remains were somewhat shocking to look at, at first."

- "Ill feeling, lost appetite."

- "Unorganized. Bodies didn't really bother me."

- 'Surprise."

- "Unreal. Almost like being on a movie set."

- "Did not know what to expect. Intense feeling on seeing the first autopsy. The smell was the worst part of it."

- "I was amazed at the number of people participating in the process."

- "No significant response except that no one should have to die the way they did."

- "Didn't bother me."

- "Complicated place. They were actually dead."

- "Not much reaction. I eased myself into the experience by starting with whole bodies, then looking at dismembered and

burned bodies."

- "I visualized them as non-human. I pretended they were mannequins."

- "I only saw one body and it wasn't that bad of an experience, but he was only shot and not mutilated in any way."

- "Thought that it was sick."

- "It's very cold and impersonal. Very much like a packing plant. Upset me very much that so many non-workers were allowed to just stand around and watch."

- "...The non-viewables because their families will never see" them.

- "They looked sick."

- "Shock, because I didn't really think people could die."

- "Messed up bodies everywhere. Was it worth it."

- "Holy crap! I felt a lot of mixed emotions. Mostly a very cold feeling. A little hesitant to handle bodies."

- "War is a waste of life."

- "Did not expect to see so much damage to the bodies from the bombs and ammunition...""

- "The bodies were more like movie props than humans."

- "Horror."

- "As a professional funeral director, I had no major reaction; however the extreme charred and mutilated conditions of the bodies was somewhat disconcerting at first."

- "It's not just a job, it's an adventure."

- [Escort]" "I was initially surprised at the youngness of the body handlers and with the care and sincereness they gave to their work.

- "Fuck this-- I wanted to go."

- "I thought being nude was impersonal."

- "All the hype prior to the actual event was more stressful than the actual event."@P1

P2. Briefly describe your first responses to the caskets and the packets describing the escort duties, if applicable.

- "My job."

- "A very warm feeling -- the care that was taken to get these loved ones home with honors."

- "I didn't appreciate all the officers and senior NCO's on 2Feb91 viewing the first casualties of war at 1301. It reminded me of a zoo review and it was very disrespectful." [Note: this was in response to Q P2, though seems a non-sequitur.]

- "Just more paperwork."

- "Interest in the system.

- "I had to walk out upon viewing the corpses."

- "Nice caskets-- no cutting corners here!"

- [Escort] "Felt some sadness for 25 year old 1LT in casket. Most of body is not there. Event is serious."@P2

P3. Did you encounter any problems in doing your mortuary work and/or escort duties?

- "I lost concentration anytime the bodies came through."

- "At times I wondered why I was doing this."

- "As time progressed I found myself not wanting to go to work. I didn't want to see my fellow soldiers like that.

- "[Respondent was male.] "When one of the females came through. Later that night I saw a video of her alive and all I could see was how she looked deceased."

- "I couldn't take it."

- "Unable to concentrate on the work due to re-occurring thoughts of the bodies, how they died, and the reactions of their families."

- "I wasn't prepared for what I was about to see, and each case was different.

- [Escort] "Soldier was not in the right uniform."

- "Short temper."

- [Male respondent] "To work with the female remains."

- [Escort] "Moderate hostility from parents."

- [Escort] "Upon inspecting remains I found awards were improperly displayed and inappropiate."

- "You cut the clothes off dead burned mutilated men and women, you tell me."

- "Went to ER. Thought I was having a heart attack. Turned out to be stress."

P4. What did you do that helped you while working in the mortuary

- "Run three to five miles per day."

- "Talking with others."

- "Jokes."

- "Played music and coffee breaks."

- "Kept looking away."

- "I talked and visited with a sister that lives in Dover."

- "Nothing."

- "Nothing. There were no recreation facilities."

- "Talked it out with superiors."

- "Worked out at the gym."

- "Talk to the people working and the chaplain."

- "Separating my feeling and just thought of it as a job."

- "I made a decision not to treat the bodies as merely tissue. I tried not to lose sight that these bodies once contained the spirit of a man."

- "Changed jobs."

- "Got drunk."

- "Pray.

- "Kept a journal. Writing down my feelings and observations helped. Then I destroyed it so I wouldn't keep going over it all

the time."

- "Joked about it. Talked to dead bodies."

- "Hunted Indian artifacts during off time."

- "Good tight Marine team."

- "Sex."

- "Avoided watching CNN."

- "Made constant positive plans of things I wished to do after work."

- "Orange oil in mask, fresh air at back door.@P4

P5. What caused you the most stress on this assignment? Describe.

- "Trying to get in the gate."

- "Irregular hours."

- "The after effect. Thinking about it while alone in my room."

- "Nasty attitudes of certain Master Chiefs (E-9's)."

- "Burned bodies."

- "Just the overall carnage and odor."

- "The news, seeing the faces and being able to put face with body."

- "Kept thinking about the bodies."

- "Fatigue."

- "Disorganization. Nobody knew what was going on."

- "No stress."

- "The screw-ups in Command and Control. No leadership or guidence from those in charge."

- "Some of the remains' conditions."

- "Body after body. The state in which the remains came in. The pain they must have gone through. The pain their families had to go through."

- "Not being able to help out at home."

- "The management of an unorganized collection of super overachievers in a strange quasi-military situation."

- "Seeing in the news and then the remains at the mortuary -- Maj. X.

- "Taking these tests and Mass confession. Lack of leadership."

- "Working with people that did not blong there and were handling things unprofessionally and in bad taste. Tell outsiders of things they had seen while working there. Something I feel should not be done."

- "Seeing what could actually happen to a human body."

- "When we wee getting 20-30 bodies a day."

- "[Escort] "Waiting for next event."

- "...The bystanders. The people we call freaks."

- "Gore."

- "Standing on the hard ground."

- "Sitting in room doing nothing."

- "Opening the body bags."

- "Turning of the body for the autopsy was the worst-- He had only skull fragments, stomach was out in view and rotting."

- "Dealing with idiots."

- "People in pieces."

- "Problems at home."

- "Looking at pictures that belonged to the deceased."

- "Handling detached hands and/or fingers."

- "Walking around in the dark in the mortuary when no one was there."

- [PE Depot] "Long hours worked. Handling blood soaked/stained personal effects. Seeing pictures of loved ones."

- [Escort] "Public apathy to the fallen men and womn.@P5

P6. Please rate how stressful each of the following were: other.

- "Barracks."
- "Supervisor."
- "No fishing."
- [Escort] "Fear of failure."

"P20. Did you have any other feelings of involvement with the dead bodies (or the families) you worked with?

P21. Would you work in the mortuary (or as an escort) again?

P22. Do you have any friends or relatives who were casualties of the war?

P23. Do you feel that anything positive has come out of your mortuary and/or escort experience?

COMMENTS AT END

Appendix E

Post-War Questionnaire

MORTUARY QUESTIONNAIRE

POST

NOTES

Please return to:

Robert J. Ursano, M.D.
Col, USAF, MC, FS (Ret)
Department of Psychiatry
Uniformed Services University of the Health Sciences
4301 Jones Bridge Road
Bethesda, Maryland 20814-4799

Time 2
Post

VOLUNTEER AGREEMENT

1. NATURE OF THE STUDY. The purpose of this research is to assess the psychological and behavioral responses to traumatic events over time. Results from this study will help individuals, military units, and communities better respond to and cope with trauma.

2. BENEFIT OF THE STUDY. You will have no direct benefit from this study. Information gathered in this study will help determine positive and negative consequences of traumatic events over time to help minimize psychosocial disruption in military units and communities experiencing such events.

3. RISKS, INCONVENIENCES, AND DISCOMFORTS. Taking these surveys involves no known risks, inconveniences or discomforts.

4. CONFIDENTIALITY OF RESEARCH RESULTS. All information about you and your answers obtained from this questionnaire will be treated as confidential information and protected by the Privacy Act Statement of 1974. This information will be available only to the staff of the Department of Psychiatry, Uniformed Services University of the Health Sciences.

5. SAFEGUARDS. Taking these surveys involves no known health risks which require safeguards. Results that are reported will be done in such a way that your answers given here cannot be associated with your name or any other identifying information.

6. ALTERNATIVES TO PARTICIPATION IN THIS STUDY. You have the right to withdraw consent to participate in this study at any time. If you decline to participate or leave the study, this will in no way count against you, and you will incur no loss of benefits to which you are entitled.

7. COST TO YOU FROM PARTICIPATING. The only cost to participating in this study is the time it takes to fill out the questionnaires.

8. VOLUNTEER STATEMENT. I hereby volunteer to participate in this research being conducted by the Department of Psychiatry, Uniformed Services University of the Health Sciences, Bethesda, Maryland. Should you have any question about this research project, contact: Robert J. Ursano, M.D., Col, USAF, MC, FS (Ret), Professor, Acting Chairman, Department of Psychiatry, USUHS, 4301 Jones Bridge Road, Bethesda, Maryland 20814-4799.

PARTICIPANT'S SIGNATURE DATE

ROBERT J. URSANO, M.D. DATE
(Principal Investigator's Signature)

JAMES E. MCCARROLL, Ph.D. DATE
(Principal Investigator's Signature)

CAROL S. FULLERTON, Ph.D. DATE
(Investigator's Signature)

MORTUARY QUESTIONNAIRE

INSTRUCTIONS

This survey is designed to provide information about your health at this time and your experience of working in the Dover Air Force Base mortuary. The information from this survey will be used to better understand psychological and behavioral responses to mortuary work and other traumatic events.

There are no right or wrong answers to the questions. Just answer the questions the way you feel about them. The important thing is **TO ANSWER ALL QUESTIONS COMPLETELY**. Most questions can be answered by circling a number corresponding to a ready-made answer or by writing in a brief description.

The information you provide will only be seen by the research team and staff. Your individual answers will be combined with those of the other participants for reporting results. You are requested to provide your full name in the appropriate place on the answer sheet. We hope you will participate with us over time to better understand this important area.

Version 3.04
27 February 1991
(Mortuary Post: Time 2)

Subject Number: _____ (1-3)
Project Code: _____ (4-7)
PROJCOT2

PART I: BACKGROUND INFORMATION

Please answer the questions below by filling in the blanks or circling the number of the response that best applies.

B 1. Name: _____

B 2. Last 5 digits of your Social Security Number: XXX-X __ - __ __ __ __ (8-12) SSNT2

B 3. Today's Date: (month/day/year) __ __ / __ __ / __ __ DATET2 (13-18)

B 4. **WORK ADDRESS:** _____ **CURRENT HOME ADDRESS:** _____

PERMANENT HOME ADDRESS: _____
(where you could be reached in ten years) _____

PART II: PRESENT DUTY

M 1. Indicate what you did in the mortuary using the items below.
Circle: 1. *Yes* if you participated in the activity. **Circle:** 2. *No* if you did not

79 MOVBOD	1.	Moving bodies prior to their arrival at the mortuary	1. *Yes*	2. *No*	[illegible]
TAKBOD	2.	Taking bodies out of transfer cases	1. *Yes*	2. *No*	[illegible]
BODYHAND	3.	Body Handler ... use NUMBODYS	1. *Yes*	2. *No*	21
		If yes, how many bodies did you work with: ~~NUMBOD~~ [illegible] -			22 23
DENT	4.	Dental Assistant	1. *Yes*	2. *No*	24
DENTX	5.	Dental X-Ray	1. *Yes*	2. *No*	25
BODX	6.	Full Body X-Ray	1. *Yes*	2. *No*	[illegible]
AUTOP	7.	Autopsy Room	1. *Yes*	2. *No*	[illegible]
EMBALM	8.	Embalming	1. *Yes*	2. *No*	[illegible]
CASKET	9.	Casketing	1. *Yes*	2. *No*	29
PERSFX	10.	Personal Effects	1. *Yes*	2. *No*	30
ADMIN	11.	Computer Station in Admin/Entry	1. *Yes*	2. *No*	31
PROCESS	12.	Computer Station in Casualty Processing Area	1. *Yes*	2. *No*	[illegible]
BODYESC	13.	Body Escort	1. *Yes*	2. *No*	[illegible]
OTHEOUT	14.	Other (specify): _____ (all [illegible])			[illegible]

Circled – contributes to ZBODYEXP

99 = 0

M 2. Total number of days you worked in the mortuary and/or performed escort duty:

TOTMORT _____ days in mortuary (35-36)

TOTESC _____ days as escort (37-38)

M 3. Total number of days you worked **in a row** in the mortuary *(without at least a half day off)*:

NUMDAYS _____ days (39-40)

M 4. Average number of **days of break** between escorting bodies *(if applicable)*:

BREAK _____ days (41-42)

M 5. Average **length of the shifts** you worked in the mortuary:

AVGLNGTH _____ hours (43-44)

M 6. Average **length of time** each escort duty took *(if applicable)*:

ESCLNGTH _____ days (45-46)

M 7. Length of the **longest shift** you worked in the mortuary:

LENGTH _____ hours (47-48)

M 8. Length of the **longest escort duty** you performed *(if applicable)*:

LONGESC _____ days (49-50)

M 9. Indicate below all events in which you participated.
Circle: 1. *Yes* if you participated. **Circle:** 2. *No* if you did not.

9 = .

				Not Applicable	
1. Inbriefing	INBR	1. *Yes*	2. *No*	3. NA	(51)
2. Initial "Walk-Through"/orientation to the mortuary	WTRK	1. *Yes*	2. *No*	3. NA	(52)
3. Observation of the bodies being removed from transfer cases	OBSERVE	1. *Yes*	2. *No*	3. NA	(53)
4. Outbriefing	OUTBR	1. *Yes*	2. *No*	3. NA	(54)
5. Other debriefings or counseling sessions	OTHBR	1. *Yes*	2. *No*	3. NA	(55)

PART III: PRESENT PERSONAL EXPERIENCE

P 1. Briefly describe your first responses to the mortuary and the dead bodies:

FIRTRESP

(56-57B)

(All training)

P 2. Briefly describe your first responses to the caskets and the packets describing escort duty *(if applicable)*:

(58-59B)

9 = e

P 3. Did you encounter any **problems** in doing your mortuary work and/or escort duties?

1. Yes PROB (60)
2. No

If yes, please describe:

(61-62B)

P 4. What did you do that **helped** you while working in the mortuary and/or on escort duty?

(63-64B)

P 5. What caused you the **most stress** on this assignment? Describe:

MOSTRES2 (65-66B)

P 6. Please rate how stressful each of the following were:
(circle the number that best applies for each item below)

1	2	3	4	5	6	7	8
NOT AT ALL STRESSFUL			MODERATELY STRESSFUL			EXTREMELY STRESSFUL	NOT APPLICABLE

		Not at all Stressful		*Moderately Stressful*			*Extremely Stressful*		*Not Applicable*	
HANDSTRZ	1. Handling dead bodies	1	2	3	4	5	6	7	8	(67)
ESCSTR	2. Escorting bodies	1	2	3	4	5	6	7	8	(68)
HOMSTRT2	3. Being away from your home duty station	1	2	3	4	5	6	7	8	(69)
FAMSTRT2	4. Being away from your family and friends	1	2	3	4	5	6	7	8	(70)
OTHSTRT2	5. Other _____	1	2	3	4	5	6	7	8	(71)

During the day(s) you worked in the mortuary (or escorted bodies), different people may have been a source of **support** *for you. Please rate the* **degree of support** *provided to you by using the following scale.* **Circle** *the number that best applies for each item.*

1	2	3	4	5
VERY UN-SUPPORTIVE	FAIRLY UN-SUPPORTIVE	NEUTRAL	FAIRLY SUPPORTIVE	VERY SUPPORTIVE

			Very UN-Supportive				*Very Supportive*	
P	7.	Spouse/Significant Other/Family SSOSUP	1	2	3	4	5	(72)
P	8.	Friends FRSUP	1	2	3	4	5	(73)
P	9.	Coworkers at Dover DOVCOW	1	2	3	4	5	(74)
P	10.	Supervisors at Dover DOVSUP	1	2	3	4	5	(75)
P	11.	Coworkers, Supervisors at your usual job COWSUP	1	2	3	4	5	(76)
P	12.	Other: _____ OTHSUP	1	2	3	4	5	(77-78)

S = •

Thinking of the bodies, rate your **PRESENT** *feelings using the following statements about yourself.*

1	2	3	4		
NOT AT ALL	SOMEWHAT	MODERATELY	VERY MUCH	NOT APPLICABLE	

I FEEL:

S MADE •

P	13. It could have been me ..... BEENME	1	2	3	4	N/A	(79)
P	14. It could have been a close friend or relative.. BE.FRND.	1	2	3	4	N/A	(80)
P	15. It could have been my spouse ..... BE.SPOU.	1	2	3	4	N/A	(81)
P	16. It could have been my son ..... BE.SON	1	2	3	4	N/A	(82)
P	17. It could have been my father..... BE.FATH.	1	2	3	4	N/A	(83)
P	18. Very sad when I looked at one of the casualties.... SAD.	1	2	3	4	N/A	(84)
P	19. Very angry when I looked at one of the casualties..... ANGRY	1	2	3	4	N/A	(85)

P 20. Did you have any other feelings of involvement with the dead bodies (or the families) you worked with?

1. Yes OTHFEEL
2. No

(86)

If yes, please describe:

(87-88B)

P 21. Would you work in the mortuary (or as an escort) again?

1. Yes VOLAGN
2. No

(89)

Please explain your answer:

(90-91B)

P 22. Do you have any friends or relatives who were casualties of the war?

1. Yes CAS.FRNDS
2. No

(92)

If yes, describe who, what happened, and your response:

(93-94B)

P 23. Do you feel that anything **positive** has come out of your mortuary and/or escort experience?

1. Yes POS
2. No

(95)

Please explain your answer:

(96-97B)

IOE-P

Below is a list of comments made by people after stressful life events. Please **circle** *each item below, indicating how frequently these comments were true for you* **during the past week.**

NOT AT ALL	RARELY	SOMETIMES	OFTEN
0	1	2	3

G	1.	I thought about the Desert Shield casualties when I didn't mean to	0	1	2	3	(98)
G	2.	I avoided letting myself get upset when I thought about the casualties or was reminded of them	0	1	2	3	(99)
G	3.	I tried to remove thoughts about the casualties from my memory	0	1	2	3	(100)
G	4.	I had trouble falling asleep or staying asleep	0	1	2	3	(101)
G	5.	I had waves of strong feelings about the casualties	0	1	2	3	(102)
G	6.	I had dreams about death and dead bodies	0	1	2	3	(103)
G	7.	I felt as if the war hadn't happened or wasn't real	0	1	2	3	(104)
G	8.	I tried not to talk about death and dead bodies	0	1	2	3	(105)
G	9.	Pictures of the casualties popped into my mind	0	1	2	3	(106)
G	10.	I stayed away from reminders of the war casualties	0	1	2	3	(107)
G	11.	Other things kept making me think about the dead	0	1	2	3	(108)
G	12.	I was aware that I still had a lot of feelings but didn't deal with them	0	1	2	3	(109)
G	13.	I tried not to think about the casualties	0	1	2	3	(110)
G	14.	Any reminder brought on feelings about the dead	0	1	2	3	(111)
G	15.	My feelings about the casualties were kind of numb	0	1	2	3	(112)
I	16.	No matter how much I knew I did, I felt I had not done enough	0	1	2	3	(113)
I	17.	I was irritable	0	1	2	3	(114)
I	18.	I spent a great deal of time at work	0	1	2	3	(115)
I	19.	I spent time with my peers and friends	0	1	2	3	(116)
I	20.	I felt very energetic	0	1	2	3	(117)
I	21.	I talked with my spouse/significant other about the casualties	0	1	2	3	(118)
I	22.	I felt very tired	0	1	2	3	(119)
I	23.	I felt critical of others	0	1	2	3	(120)
I	24.	I felt lonely or blue	0	1	2	3	(121)
I	25.	I couldn't sleep	0	1	2	3	(122)
I	26.	I drank alcoholic beverages	0	1	2	3	(123)
I	27.	I had thoughts of death and dead bodies	0	1	2	3	(124)
I	28.	My spouse/significant other talked to me about the mortuary	0	1	2	3	(125)
I	29.	I felt restless	0	1	2	3	(126)
I	30.	I felt tense or keyed up	0	1	2	3	(127)

(128-132B)

BODY NUM
NUMBOD greater than 00. [illegible]

700 = some, a few
750 = a lot, half
800 = most, all

[illegible]

LEVEL OF FATIGUE

Mark **only one** "X" for each of the ten items listed below. Think carefully about how you feel **RIGHT NOW**. Consider whether you currently feel "**BETTER THAN**", "**SAME AS**", or "**WORSE THAN**" each statement below. Then place an "X" on the line under the column you have selected.

	STATEMENT	BETTER THAN	SAME AS	WORSE THAN	
F	1. Very Lively	____	____	____	(133)
F	2. Extremely Tired	____	____	____	(134)
F	3. Quite Fresh	____	____	____	(135)
F	4. Slightly Pooped	____	____	____	(136)
F	5. Extremely Peppy	____	____	____	(137)
F	6. Somewhat Fresh	____	____	____	(138)
F	7. Petered Out	____	____	____	(139)
F	8. Very Refreshed	____	____	____	(140)
F	9. Fairly Well Pooped	____	____	____	(141)
F	10. Ready to Drop	____	____	____	(142)

PSS-DURING

The statements which follow refer to feelings and experiences which may have occurred **DURING YOUR WORK IN THE MORTUARY** in relation to others. For each statement there are three possible answers: **YES, NO, DON'T KNOW**. Please circle the answer you choose for each item as it relates to your interactions **DURING YOUR MORTUARY WORK.**

		YES	NO	DON'T KNOW	
U	1. Others gave me the moral support I needed.	1. *Yes*	2. *No*	3. *DK*	(143)
U	2. Most other people were closer to each other than I was	1. *Yes*	2. *No*	3. *DK*	(144)
U	3. Others appreciated hearing about what I thought.	1. *Yes*	2. *No*	3. *DK*	(145)
U	4. Certain individuals came to me when they had problems or needed advice.	1. *Yes*	2. *No*	3. *DK*	(146)
U	5. I relied on others for emotional support.	1. *Yes*	2. *No*	3. *DK*	(147)
U	6. If I felt that others were upset with me, I kept it to myself.	1. *Yes*	2. *No*	3. *DK*	(148)
U	7. I felt that I was on the fringe on the group.	1. *Yes*	2. *No*	3. *DK*	(149)
U	8. There was an individual here who I felt I could go to if I were just feeling down, without feeling funny about it later.	1. *Yes*	2. *No*	3. *DK*	(150)
U	9. The participants were very open about what they thought about things.	1. *Yes*	2. *No*	3. *DK*	(151)
U	10. Others were sensitive to my personal needs.	1. *Yes*	2. *No*	3. *DK*	(152)
U	11. Others came to me for emotional support.	1. *Yes*	2. *No*	3. *DK*	(153)
U	12. Others were good at helping me solve problems.	1. *Yes*	2. *No*	3. *DK*	(154)
U	13. I had a sharing relationship with a number of individuals here.	1. *Yes*	2. *No*	3. *DK*	(155)
U	14. Others got good ideas about how to do things from me.	1. *Yes*	2. *No*	3. *DK*	(156)
U	15. When I confided in others here, it made me feel uncomfortable.	1. *Yes*	2. *No*	3. *DK*	(157)
U	16. Others sought me out for companionship.	1. *Yes*	2. *No*	3. *DK*	(158)
U	17. I think others felt that I was good at helping them solve problems.	1. *Yes*	2. *No*	3. *DK*	(159)

U 18. I didn't have a relationship with an individual here that was as close as other people's relationships with individuals here. ..... 1. *Yes* 2. *No* 3. *DK* (160)

U 19. I've gotten a good idea about how to do something from individuals here. ..... 1. *Yes* 2. *No* 3. *DK* (161)

U 20. I wished that the other participants here were much different. ..... 1. *Yes* 2. *No* 3. *DK* (162)

BSYM

Below is a list of problems and complaints that people sometimes have. Please read each one carefully. Using the scale below, please **circle** *the number to the right that best describes how much discomfort that problem has caused you* **DURING THE PAST WEEK INCLUDING TODAY.** *Circle only one number for each problem and do not skip any items.*

	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
	0	1	2	3	4

S	1.	Nervousness or shakiness inside	0	1	2	3	4	(163)
S	2.	Repeated unpleasant thoughts that won't leave your mind	0	1	2	3	4	(164)
S	3.	Faintness or dizziness	0	1	2	3	4	(165)
S	4.	Loss of sexual interest or pleasure	0	1	2	3	4	(166)
S	5.	The idea that someone else can control your thoughts	0	1	2	3	4	(167)
S	6.	Feeling others are to blame for most of your troubles	0	1	2	3	4	(168)
S	7.	Trouble remembering things	0	1	2	3	4	(169)
S	8.	Feeling easily annoyed or irritated	0	1	2	3	4	(170)
S	9.	Pains in heart or chest	0	1	2	3	4	(171)
S	10.	Feeling afraid in open spaces or streets	0	1	2	3	4	(172)
S	11.	Feeling low in energy or slowed down	0	1	2	3	4	(173)
S	12.	Thoughts of ending your life	0	1	2	3	4	(174)
S	13.	Feeling that most people cannot be trusted	0	1	2	3	4	(175)
S	14.	Poor appetite	0	1	2	3	4	(176)
S	15.	Crying easily	0	1	2	3	4	(177)
S	16.	Suddenly scared for no reason	0	1	2	3	4	(178)
S	17.	Temper outbursts that you could not control	0	1	2	3	4	(179)
S	18.	Feeling lonely even when you are with people	0	1	2	3	4	(180)
S	19.	Feeling blocked in getting things done	0	1	2	3	4	(181)
S	20.	Feeling lonely	0	1	2	3	4	(182)
S	21.	Feeling blue	0	1	2	3	4	(183)
S	22.	Worrying too much about things	0	1	2	3	4	(184)
S	23.	Feeling no interest in things	0	1	2	3	4	(185)
S	24.	Feeling fearful	0	1	2	3	4	(186)
S	25.	Your feelings being easily hurt	0	1	2	3	4	(187)
S	26.	Feeling others do not understand you or are unsympathetic	0	1	2	3	4	(188)
S	27.	Feeling that people are unfriendly or dislike you	0	1	2	3	4	(189)
S	28.	Feeling inferior to others	0	1	2	3	4	(190)
S	29.	Nausea or upset stomach	0	1	2	3	4	(191)
S	30.	Feeling that you are watched or talked about by others	0	1	2	3	4	(192)

		NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY	
		0	1	2	3	4	
S	31. Trouble falling asleep	0	1	2	3	4	(193)
S	32. Having to check and double-check what you do	0	1	2	3	4	(194)
S	33. Difficulty making decisions	0	1	2	3	4	(195)
S	34. Feeling afraid to travel on buses, subways, or trains	0	1	2	3	4	(196)
S	35. Trouble getting your breath	0	1	2	3	4	(197)
S	36. Hot or cold spells	0	1	2	3	4	(198)
S	37. Having to avoid certain things, places, or activities because they frighten you	0	1	2	3	4	(199)
S	38. Your mind going blank	0	1	2	3	4	(200)
S	39. Numbness or tingling in parts of your body	0	1	2	3	4	(201)
S	40. The idea that you should be punished for your sins	0	1	2	3	4	(202)
S	41. Feeling hopeless about the future	0	1	2	3	4	(203)
S	42. Trouble concentrating	0	1	2	3	4	(204)
S	43. Feeling weak in parts of your body	0	1	2	3	4	(205)
S	44. Feeling tense or keyed up	0	1	2	3	4	(206)
S	45. Thoughts of death or dying	0	1	2	3	4	(207)
S	46. Having urges to beat, injure, or harm someone else	0	1	2	3	4	(208)
S	47. Sleep that is restless or disturbed	0	1	2	3	4	(209)
S	48. Having urges to break or smash things	0	1	2	3	4	(210)
S	49. Feeling very self-conscious with others	0	1	2	3	4	(211)
S	50. Feeling uneasy in crowds, such as shopping or at a movie	0	1	2	3	4	(212)
S	51. Never feeling close to another person	0	1	2	3	4	(213)
S	52. Spells of terror or panic	0	1	2	3	4	(214)
S	53. Getting into frequent arguments	0	1	2	3	4	(215)
S	54. Feeling nervous when you are left alone	0	1	2	3	4	(216)
S	55. Others not giving you proper credit for your achievements	0	1	2	3	4	(217)
S	56. Feeling so restless you couldn't sit still	0	1	2	3	4	(218)
S	57. Feelings of worthlessness	0	1	2	3	4	(219)
S	58. Feeling that people will take advantage of you if you let them	0	1	2	3	4	(220)
S	59. Thoughts and images of a frightening nature	0	1	2	3	4	(221)
S	60. Feelings of guilt	0	1	2	3	4	(222)
S	61. The idea that something is wrong with your mind	0	1	2	3	4	(223)
S	62. Repeated, unpleasant dreams or nightmares	0	1	2	3	4	(224)
S	63. Feelings of reliving something very unpleasant and traumatic	0	1	2	3	4	(225)
S	64. Avoiding certain things, places, or activities because they remind you of something unpleasant and traumatic	0	1	2	3	4	(226)
S	65. Feeling hyperalert	0	1	2	3	4	(227)
S	66. Feeling easily tired	0	1	2	3	4	(228)
S	67. Less interested in activities once important to you	0	1	2	3	4	(229)
S	68. Feeling detached or estranged from others	0	1	2	3	4	(230)
S	69. Less upset or angry about things which once caused you to be upset or angry	0	1	2	3	4	(231)

	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
	0	1	2	3	4

S	70.	Trying to avoid certain thoughts and feelings because they remind you of something unpleasant or traumatic	0	1	2	3	4	(232)
S	71.	Feeling distressed because something reminds you of an unpleasant or traumatic event	0	1	2	3	4	(233)
S	72.	Less happy or pleased about things that once caused you to be happy or pleased	0	1	2	3	4	(234)
S	73.	Drinking more alcoholic beverages	0	1	2	3	4	(235)
S	74.	Feeling easily startled	0	1	2	3	4	(236)

IF YOU HAVE ANY ADDITIONAL THOUGHTS YOU WOULD LIKE TO OFFER OR COMMENTS ABOUT YOUR REACTIONS TO THE MORTUARY WORK, PLEASE USE THE SPACE BELOW _____ (237)

(238-239B)

Appendix F

Results on Actual Exposure

To: Robert Ursano Copy to Ed
From: Allan
Re: Dover Mortuary
Date: 19 May 1992

You had wondered what the overlap was between duties actually performed; that is, how many people checked both "Moving bodies prior to their arrival" and "Taking bodies out of transfer cases" for example (Answer: 72). On pg. 2 is a grid (created from a correlation matrix of variables with values of only 1 or .) showing how many subjects answered "Yes" to each combination of 2 questions.

Note: The main diagonal shows the N of subjects answering "Yes" to each question. The total N of subjects who completed this (Post-war) questionnaire was 457. I don't have a number on those who answered "Yes" to at least one of the 13 items; but excluding QUESTs 11 & 13, the figure is 261 (these are the subjects we assume were exposed to bodies).

If this needs clarification or you would have a use for a neater table, please let me know.

This table: ZBODYEXP is a count of how many items subjects answered "Yes" to in this questionnaire section on duties actually performed (excluding Quests. 11 & 13).

ZBODYEXP	Frequency	Percent	Cumulative Frequency	Cumulative Percent	
0	421	61.7	421	61.7	NO "YES" ITEMS
		(I see now this	includes	225* who had "Pre" only data)	
1	85	12.5	506	74.2	1 "YES" ITEM ETC.
2	55	8.1	561	82.3	
3	48	7.0	609	89.3	
4	26	3.8	635	93.1	
5	24	3.5	659	96.6	
6	13	1.9	672	98.5	
7	5	0.7	677	99.3	
8	5	0.7	682	100.0	

* 225 instead of 226 because of correction of 1 S w/ wrong SUBNUM

Comments on Table below:
I am impressed mainly by the high degree of overlap and the lack of a clear pattern. This suggests to me either that there was a remarkable amount of rotation or that many people on this grid moved bodies from station to station and responded "Yes" if they had ever delivered/picked up remains at that station.

	QUEST 1 MOV PRIOR	QUEST 2 TAK OUT	QUEST 3 BOD HAND	QUEST 4 DENT ASST	QUEST 5 DENT XRAY	QUEST 6 BOD XRAY	QUEST 7 AUTOPSY
UEST 1	89	72	67	8	5	21	31
UEST 2	72	101	88	8	7	25	35
UEST 3	67	88	100	7	6	22	31
UEST 4	8	8	7	26	20	10	12
UEST 5	5	7	6	20	37	18	14
QUEST 6	21	25	22	10	18	54	24
QUEST 7	31	35	31	12	14	24	71
QUEST 8	7	9	6	5	10	13	32
QUEST 9	6	8	7	5	10	11	27
QUEST 10	15	24	25	6	14	19	28
QUEST 11	9	8	10	6	14	15	20
QUEST 12	11	11	11	4	10	13	21
QUEST 13	10	9	10	1	5	5	8

	QUEST 8 EMBALM	QUEST 9 CASKET	QUEST 10 PERS EFF	QUEST 11 COMP ADMN	QUEST 12 COMP CASU	QUEST 13 ESCORT
QUEST 1						
	7	6	15	9	11	10
QUEST 2						
	9	8	24	8	11	9
QUEST 3						
	6	7	25	10	11	10
QUEST 4						
	5	5	6	6	4	1
QUEST 5						
	10	10	14	14	10	5
QUEST 6						
	13	11	19	15	13	5
QUEST 7						
	32	27	28	20	21	8
QUEST 8						
	43	35	20	23	23	1
QUEST 9						
	35	41	17	20	20	2
QUEST 10						
	20	17	84	25	21	9
QUEST 11						
	23	20	25	79	51	3
QUEST 12						
	23	20	21	51	70	3
QUEST 13						
	1	2	9	3	3	61

'o: Bob (similar to Ed)
'rom: Allan
'ate: 23 May 1992
:e: Dover Mortuary "post" data

;ince Ed will be gone thru Wednesday & I'll be off on Thurs., I thought you ıight want to have an opportunity to comment on descriptive stats. (I'll be ıorking all weekend if you get this & have a chance to respond.)

:he subject pool at this point is not likely to change. It consists of the ;35 subjects who took the "post" questionnaire and were stationed at Dover (no Ft. Dix or Meade). We are now ignoring the a priori distinction between ıortuary and Support Workers in favor of ZEXPOSYN -- whether or not Ss :esponded "Yes" to any of the M1 "Present Duty" items except 11 or 13 (all #14 =.). (But see potential problem below.)

Ve also have a more continuous variable HANQUANT -- this is the number of ›odies worked with ONLY for those who responded positively to item 3 (Body Handler).

;elow are selected outputs with comments following each.
This file is divided up into chunks of 65 lines each for printing.

ALL subjects at DOVER, POST Q respondents only, all duties left in. No Ft. Di
TABLE OF ZDUTYALL BY ZEXPOSYN

ZDUTYALL(DUTY CATEGORIES)

Frequency Percent Row Pct Col Pct	ZEXPOSYN 1= YES	2= NO	Total
NO DUTY INFO	27 . . .	11 . . .	. .
SUPPORT WKRS	14 4.71 21.88 7.65	50 16.84 78.13 43.86	64 21.55
MORT. WKRS	169 56.90 72.53 92.35	64 21.55 27.47 56.14	233 78.45
Total	183 61.62	114 38.38	297 100.00

Frequency Missing = 38

>>>>>>> A good split between those exposed and those not.
>>>>>>> The a priori classification of Support Workers was not very predictive of those who were not exposed, tho it still could have been valid as a measure of ANTICIPATED exposure.

BODIES ONLY FOR HANDLERS

HANQUANT	Frequency	Percent	Cumulative Frequency	Cumulative Percent
.	246	.	.	.
0	23	25.8	23	25.8
1	1	1.1	24	27.0
2	4	4.5	28	31.5
4	4	4.5	32	36.0
5	3	3.4	35	39.3
6	1	1.1	36	40.4
10	3	3.4	39	43.8
12	2	2.2	41	46.1
14	1	1.1	42	47.2
15	2	2.2	44	49.4
20	5	5.6	49	55.1
23	2	2.2	51	57.3
25	2	2.2	53	59.6
28	1	1.1	54	60.7
30	2	2.2	56	62.9
38	1	1.1	57	64.0
40	2	2.2	59	66.3
45	1	1.1	60	67.4
49	1	1.1	61	68.5
50	5	5.6	66	74.2
60	2	2.2	68	76.4
70	3	3.4	71	79.8
75	1	1.1	72	80.9
80	1	1.1	73	82.0
98	1	1.1	74	83.1
100	6	6.7	80	89.9
125	2	2.2	82	92.1
130	1	1.1	83	93.3
150	4	4.5	87	97.8
200	2	2.2	89	100.0

Frequency Missing = 246

>>>>>>> Very highly skewed -- we'll have to deal with this.

TABLE OF ZEXPOSYN BY SEX
ZEXPOSYN SEX(B6=SEX)

Frequency Percent RoW Pct Col Pct	.	Male 1	Female 2	Total
1= YES	19	164	27	191
	.	54.49	8.97	63.46
	.	85.86	14.14	
	.	65.08	55.10	
2= NO	15	88	22	110
	.	29.24	7.31	36.54
	.	80.00	20.00	
	.	34.92	44.90	
Total	.	252	49	301
	.	83.72	16.28	100.00

Frequency Missing = 34

TABLE OF ZEXPOSYN BY VOLUNT

ZEXPOSYN VOLUNT(M2=VOLUNTEER FOR ASSIGNMENT)

Frequency Percent Row Pct Col Pct	.	1= YES	2= NO	Total
1= YES	21	139	50	189
	.	46.49	16.72	63.21
	.	73.54	26.46	
	.	73.16	45.87	
2= NO	15	51	59	110
	.	17.06	19.73	36.79
	.	46.36	53.64	
	.	26.84	54.13	
Total	.	190	109	299
	.	63.55	36.45	100.00

Frequency Missing = 36

TABLE OF ZEXPOSYN BY DEADBOD

ZEXPOSYN DEADBOD(B15=WORKED WITH DEAD BODIES)
BEFORE coming to Dover

Frequency Percent Row Pct Col Pct	.	1= YES	2= NO	Total
1= YES	21	74	115	189
	.	24.75	38.46	63.21
	.	39.15	60.85	
	.	71.15	58.97	
2= NO	15	30	80	110
	.	10.03	26.76	36.79
	.	27.27	72.73	
	.	28.85	41.03	
Total	.	104	195	299
	.	34.78	65.22	100.00

Frequency Missing = 36

>>>>>> Surprisingly little effect of these a priori variables.

more
more
more

TABLE OF ZEXPOSYN BY OBSERVE

ZEXPOSYN

OBSERVE(M6= OBSERVED BODIES REMOVED FROM CASES)

Frequency Percent Row Pct Col Pct	.	1= YES	2= NO	Total
1= YES	0	185	25	210
	.	55.39	7.49	62.87
	.	88.10	11.90	
	.	69.29	37.31	
2= NO	1	82	42	124
	.	24.55	12.57	37.13
	.	66.13	33.87	
	.	30.71	62.69	
Total	.	267	67	334
	.	79.94	20.06	100.00

Frequency Missing = 1

>>>>>> Here's the potential problem with the ZEXPOSYN classification variable. 2/3 of the supposedly unexposed Ss responded "Yes" to M(-3, indicating that they had "observ[ed] the bodies being removed from transfer cases." How should we handle this? For the time being I'll proceed as if it's OK.

Appendix G

Dover Mortuary Data Set

Dover Mortuary Data Set
as of 6 May 1992

Description Modelled on Wisconsin Data Set

Number of Variables

Original Pre-Merged Data Sets

DATA SET	*# of variables*	*# of subjects*
MORT1.DAT	304 (+1 created)	634
MORT2.DAT	202 (+2 created)	457
Total:		683

Data Set After the Merge

DATA SET	*# of variables*	*# of subjects*
COMBDATA;1	506 (+3 created -2 overwritten)	683

The final number of variables which are present in the merge comes from the two individual data sets as follows:

MORT1.DAT=304
MORT2.DAT=202
(+3 created -2 overwritten)

The final number of subjects comes from:

```
                    Pre: N= 634
-------------------------------------------------------:
+   Pre only  :            Pre and Post                :Post+
+   N= 226    :            N= 408                      :only+  Total
+             :                                        :N=49+  N=683
-------------:-------------------------------------
                          Post: N= 457
```

Layout of the Dover Data Set Merge:

Name= COMBDATA;1

IN= included within COMBDATA;1
OUT= not included in the merged data set, but part of one of the individual data sets

Note: Variables listed are the start and stop variables

	Individual Data Sets		Merged Data Set
MORT1.DAT	SUBNUM		SUBNUM
		in 304 var.	
	BLANK4		BLANK4
preprocessing	I	out 1 var.	
MORT2.DAT	SUBNUM	out 1 var.	
	PROJCOT1		PROJCOT1
		in 201	
	BLANK2		BLANKT2
preprocessing	I	in 1 var.	I
	NUMBODYS	in 1 var.	NUMBODYS

Description Designed for Dover Mortuary Data Set

Overview

The combined Dover Mortuary "Pre-exposure" and "Post-exposure" data set is processed as follows. Raw data from "Pre" and "Post" data files are pre-processed separately in the first two programs shown below. The pre-processing is kept separate at this stage because many variables were given the same name in the two sets. Pre-processing (reading data, locating errors, labeling) was already set up using these names, and to change them at input might introduce many errors. The two data sets ("Pre" and "Post") are merged in COMBBIG.SAS. Most of the data processing occurs here. This produces the final SAS dataset used for routine statistical analyses in COMBSTAT.SAS.

Stream of Processing

[.PRESAS]PRERAWIN.SAS
- Reads raw data
- Recodes specific errors
- Recodes N/A etc. to MISSING
- Labels
- Sorts by SUBNUM
- Outputs data set PRERAWDA

POSTOPCO.SAS
- Includes [.POSTSAS]POSTOPIN.SAS
- + Reads raw data
- + Recodes specific errors
- + Recodes N/A etc. to MISSING
- + Labels
- Renames duplicated variables
- Sorts by SUBNUM
- Outputs data set POSTOPDA

COMBBIG.SAS
- Merges above two data sets
- Includes [.PRESAS]MODINCLU.SAS
- + Includes [Fullerton's directory]IOE1.MOD
- + Includes [Fullerton's directory]PSSFR.MOD
- + Includes [Fullerton's directory]PSSFM.MOD
- + Includes [Fullerton's directory]BSI-IU.MOD
- + Includes [Fullerton's directory]IRI.MOD
- + Includes [.PRESAS]MFQ.MOD

+ Includes [Fullerton's directory]MC.MOD
Includes [.PRESAS]ADD_DUTY.SAS (Specifies duty category for each S, creates variables to sort into groups.)
Includes [.PRESAS]MISCPTSD.SAS (Misc. data manipulations (grouping by marital status, etc.), PTSD diagnosis.)
More misc. manipulations, e.g., grouping stress-reducing activities, determination if BSI "case", exposure to bodies (Post).
Includes [Fullerton's directory]IOE1T2.MOD
Includes [Fullerton's directory]BSIIUT2.MOD
Includes [Fullerton's directory]PSSD.MOD
Includes [.POSTSAS]POSTFORM.MOD (Formats. Superfluous since formats not carried through into SAS datasets. To be removed.)
Outputs data set COMBDATA

COMBSTAT.SAS
Includes [.POSTSAS]COMBTOP.SAS (Reads dataset COMBDATA; titles. To reduce clutter in working Statistics program.)
Selects subject group (e.g., Support Workers only) & title.
Options for print width, sorting, etc.
Procedures

Variable Names and Sources

Program	Variable Names	n	Source (except for .MODs)
PRERAWIN.SAS			
	SUBNUM to BLANK4	304	Raw PRE data
	I	1	Array counter
POSTOPIN.SAS			
	SUBNUM (overwrites SUBNUM)	1	(used in MERGE)
	PROJCOT1 to BLANK2[T2]	201	Raw POST data, many variables renamed
	I (overwrites I above)	1	Array counter
	NUMBODYS	1	Newly created combination of NUMBOD + BODYNUM
IOE1.MOD			
	IOEMIS to IOEAVD	4	
PSSFR.MOD			
	PSFRMIS, PSFRSCOR	2	
PSSFM.MOD			
	PSFMMIS, PSFMSCOR	2	

BSI-IU.MOD		
NMSOM to BSIISU	81	
IRI.MOD		
IRIMIS to IRIPDS	6	
MFQ.MOD		
MFQMIS, MFQSCR	2	
MC.MOD		
MCMIS, MCSCORE	2	
ADD_DUTY.SAS		
ZDUTY to ZDUTYHAN	3	Created to hold duty, groups
MISCPTSD.SAS		
ZALONEYN to ZAGESPLIT	8	Created groupings
COMBBIG.SAS		
ZHANDANT to ZBODYEXP	13	Created groupings
IOE1T2.MOD		
IOEMIST2 to IOEAVDT2	4	
BSIIUT2.MOD		
BSISCRT2 to BSIIUT2	81	
PSSD.MOD		
PSDMIS, PSDSC	2	
TOTAL	719	
	-2	Overwritten variables
TOTAL IN DATASET	717	

COMBSTAT.SAS
various as needed