AIR FORCE HEALTH STUDY

An Epidemiologic Investigation of
Health Effects in Air Force Personnel
Following Exposure to Herbicides

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APPENDIX J-1.

Dependent Variable-Covariate Associations for the Dermatologic Assessment

This appendix contains results of tests of association between each dependent variable and candidate covariates for the adjusted analysis of each dependent variable. Pearson's chi-square test (continuity-adjusted for 2×2 tables) is used for significance testing of the associations between the dependent variable and the candidate covariate. When a candidate covariate is continuous in nature (for example, age), the covariate is discretized prior to the analysis of the discrete dependent variable.

Table J-1-1.
Dependent Variable-Covariate Associations for the Dermatologic Assessment

Dependent Variable	Level	Age			Occupation			
		Born ≥1942	Born <1942	p-Value	Officer	Enlisted Flyer	Enlisted Groundcrew	p-Value
Occurrence of Acne (Lifetime)	Yes	(n=956) 81.7%	(n=1,277) 89.0%	<0.001	(n=869) 86.8%	(n=365) 86.8%	(n=999) 84.7%	0.365
Acne Relative to Time of Duty in SEA								
Pre- & Post-SEA and Post-SEA vs. Pre-SEA and None	Pre- & Post-SEA and Post-SEA	(n=956) 81.1%	(n=1,277) 88.8%	<0.001	(n=869) 86.4%	(n=365) 86.3%	(n=999) 84.4%	0.410
Location of Acne (Pre- & Post-SEA and Post-SEA)	Temples/ Eyes/ Ears	(n=773) 38.7%	(n=1,133) 51.1%	<0.001	(n=670) 48.3%	(n=283) 46.0%	(n=736) 44.0%	0.135
Other Abnormalities	Yes	(n=956) 74.0%	(n=1,275) 89.2%	<0.001	(n=868) 84.6%	(n=364) 85.7%	(n=999) 79.9%	0.007
Dermatology Index	Abnormal	(n=956) 46.1%	(n=1,276) 43.6%	0.246	(n=869) 39.1%	(n=364) 49.5%	(n=999) 47.7%	<0.001

Table J-1-1. (Continued)
Dependent Variable-Covariate Associations for the Dermatologic Assessment

Dependent Variable	Level	Race			Presence of Pre-SEA Acne		
		Black	Non-Black	p-Value	No	Yes	p-Value
Occurrence of Acne (Lifetime)	Yes	(n=131) 72.5%	(n=2,102) 86.0%	0.612	--	--	--
Acne Relative to Time of Duty in SEA							
Pre- & Post-SEA and Post-SEA vs. Pre-SEA and None	Pre- & Post- and Post-SEA	(n=131) 83.2%	(n=2,102) 85.6%	0.524	(n=2,008) 84.3%	(n=225) 96.4%	<0.001
Location of Acne (Pre- & Post-SEA and Post-SEA)	Temples/ Eyes/ Ears	(n=109) 25.7%	(n=1,797) 47.3%	<0.001	--	--	--
Other Abnormalities	Yes	(n=131) 72.5%	(n=2,100) 83.3%	0.002	(n=2,006) 83.5%	(n=225) 74.7%	0.001
Dermatology Index	Abnormal	(n=131) 64.1%	(n=2,101) 43.5%	<0.001	(n=2,007) 43.0%	(n=225) 59.1%	<0.001

--: Covariate not applicable for dependent variable.

Note: Temples/Eyes/Ears = Temples, eyes, ears, temples and eyes, temples and ears, eyes and ears, or temples, eyes, and ears.

APPENDIX J-2.

Interaction Tables for the Dermatologic Assessment

This appendix contains results of exposure analyses of interactions between covariates and group or dioxin. Results are presented for separate strata of the covariate and include sample sizes, percent abnormal, relative risks, confidence intervals, and p-values. Chapter 7, Statistical Methods, provides further details on the analytical approaches used in the interaction analyses. The covariate involved in the interaction and a reference to the analysis table in Chapter 14 are given in the heading of each subtable. A summary of the interactions described in this appendix follows.

Appendix J-2 Table	Chapter 14 Table	Dependent Variable	Model	Covariate
J-2-1	14-6	Acne Relative to Time of Duty in SEA (Pre- & Post-SEA vs. Pre-SEA)	1	Age, Occupation
J-2-2	14-11	Other Abnormalities	2	Presence of Pre-SEA Acne
J-2-3	14-12	Dermatology Index	1 3	Age Age

Table J-2-1.
Interaction Table for Acne Relative to Time of Duty in SEA
(Pre- and Post-SEA vs. Pre-SEA)

a) MODEL 1: RANCH HANDS VS. COMPARISONS — ADJUSTED (Group-by-Age: Table 14-6)						
Stratum	**Occupational Category**	**Group**	**n**	**Percent Pre- & Post-SEA**	**Adj. Relative Risk (95% C.I.)**	**p-Value**
Born ≥ 1942	***All***	***Ranch Hand***	***56***	***92.9***	--	--
		Comparison	***84***	***97.6***		
Born < 1942	***All***	***Ranch Hand***	***37***	***100.0***	--	--
		Comparison	***48***	***95.8***		
Born ≥ 1942	Officer	Ranch Hand	14	85.7	--	--
		Comparison	20	100.0		
	Enlisted Flyer	Ranch Hand	5	60.0	--	--
		Comparison	10	100.0		
	Enlisted Groundcrew	Ranch Hand	37	100.0	--	--
		Comparison	54	96.3		
Born < 1942	Officer	Ranch Hand	18	100.0	--	--
		Comparison	32	96.9		
	Enlisted Flyer	Ranch Hand	12	100.0	--	--
		Comparison	7	100.0		
	Enlisted Groundcrew	Ranch Hand	7	100.0	--	--
		Comparison	9	88.9		

--: Relative risk, confidence interval, and p-value not presented due to sparse number of participants with pre-SEA acne only.

Table J-2-2.
Interaction Table for Other Abnormalities

a) MODEL 2: RANCH HANDS — INITIAL DIOXIN — ADJUSTED (Initial Dioxin-by-Presence of Pre-SEA Acne: Table 14-11)					
Initial Dioxin Category Summary Statistics				**Analysis Results for Log_2 (Initial Dioxin)**	
Stratum	**Initial Dioxin**	**n**	**Percent Abnormal**	**Adjusted Relative Risk (95% C.I.)[a]**	**p-Value**
No Pre-SEA Acne	Low	159	84.9	0.83 (0.65,1.05)	0.113
	Medium	154	85.7		
	High	157	80.3		
Pre-SEA Acne	Low	15	73.3	2.61 (1.23,5.52)	0.012
	Medium	19	57.9		
	High	16	87.5		

[a] Relative risk for a twofold increase in initial dioxin.

Note: Low = 39-98 ppt; Medium = >98-232 ppt; High = >232 ppt.

Table J-2-3.
Interaction Table for Dermatology Index

Stratum	Occupational Category	Group	n	Percent Abnormal	Adj. Relative Risk (95% C.I.)	p-Value
a) MODEL 1: RANCH HANDS VS. COMPARISONS — ADJUSTED (Group-by-Age: Table 14-12)						
Born ≥ 1942	***All***	***Ranch Hand***	***396***	***48.2***	***1.16 (0.89,1.51)***	***0.269***
		Comparison	***560***	***44.6***		
Born < 1942	***All***	***Ranch Hand***	***556***	***40.6***	***0.80 (0.64,1.01)***	***0.058***
		Comparison	***720***	***45.8***		
Born ≥ 1942	Officer	Ranch Hand	79	43.0	1.22 (0.81,1.83)	0.339
		Comparison	121	38.8		
	Enlisted Flyer	Ranch Hand	38	42.1	0.89 (0.53,1.47)	0.637
		Comparison	59	52.5		
	Enlisted Groundcrew	Ranch Hand	279	50.5	1.19 (0.89,1.58)	0.234
		Comparison	380	45.3		
Born < 1942	Officer	Ranch Hand	288	36.8	0.87 (0.65,1.16)	0.327
		Comparison	381	40.2		
	Enlisted Flyer	Ranch Hand	124	45.2	0.63 (0.41,0.97)	0.034
		Comparison	143	53.8		
	Enlisted Groundcrew	Ranch Hand	144	44.4	0.84 (0.59,1.21)	0.350
		Comparison	196	51.0		

Table J-2-3. (Continued)
Interaction Table for Dermatology Index

b) MODEL 3: RANCH HANDS AND COMPARISONS BY DIOXIN CATEGORY — ADJUSTED
(Dioxin Category-by-Age: Table 14-12)

Stratum	Dioxin Category	n	Percent Abnormal	Adjusted Relative Risk (95% C.I.)	p-Value
Born ≥ 1942	Comparison	454	43.0		
	Background RH	128	50.0	1.60 (1.06,2.41)	0.024
	Low RH	85	50.6	1.32 (0.82,2.11)	0.258
	High RH	154	44.2	0.97 (0.66,1.41)	0.856
	Low plus High RH	239	46.4	1.08 (0.78,1.49)	0.638
Born < 1942	Comparison	608	46.2		
	Background RH	246	45.1	1.08 (0.80,1.47)	0.605
	Low RH	175	35.4	0.61 (0.43,0.87)	0.006
	High RH	106	38.7	0.59 (0.38,0.91)	0.018
	Low plus High RH	281	36.7	0.60 (0.45,0.81)	0.001

Note: Model 3: RH = Ranch Hand.
Comparison: Current Dioxin ≤ 10 ppt.
Background (Ranch Hand): Current Dioxin ≤ 10 ppt.
Low (Ranch Hand): Current Dioxin > 10 ppt, 10 ppt < Initial Dioxin ≤ 143 ppt.
High (Ranch Hand): Current Dioxin > 10 ppt, Initial Dioxin > 143 ppt.

APPENDIX J-3.

Dermatology Analysis Tables
Occupation Removed from Final Model

This appendix contains results of exposure analyses after occupation has been removed from those final dioxin models (Models 2 through 6) that contained occupation. These analyses are performed to investigate the relationship of the dependent variable to dioxin without removing any effects due to occupation. The format of these tables closely parallels the adjusted panels of Chapter 14 tables. A summary of the tables found in this appendix follows.

Appendix J-3 Table	Chapter 14 Table	Dependent Variable
J-3-1	14-3	Occurrence of Acne
J-3-2	14-4	Acne Relative to Time of Duty in SEA (Pre- & Post-SEA and Post-SEA vs. Pre-SEA and None)
J-3-3	14-5	Acne Relative to Time of Duty in SEA (Post-SEA vs. None)
J-3-4	14-8	Location of Acne (Post-SEA)
J-3-5	14-10	Location of Acne (Pre- & Post-SEA and Post-SEA)
J-3-6	14-11	Other Abnormalities
J-3-7	14-12	Dermatology Index

Table J-3-1.
Analysis of Occurrence of Acne
Occupation Removed from Final Model

a) MODEL 2: RANCH HANDS — INITIAL DIOXIN — ADJUSTED			
Analysis Results for Log_2 (Initial Dioxin)[a]			
n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
520	1.03 (0.84,1.26)	0.780	AGE (p=0.002)

[a] Adjusted for percent body fat at the time of duty in SEA, change in percent body fat from the time of duty in SEA to the date of the blood draw for dioxin, and covariates specified under "Covariate Remarks" column.

[b] Relative risk for a twofold increase in initial dioxin.

b) MODELS 4, 5, AND 6: RANCH HANDS — CURRENT DIOXIN — ADJUSTED				
	Analysis Results for Log_2 (Current Dioxin + 1)			
Model[a]	n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
4	894	1.03 (0.90,1.18)	0.672	AGE (p<0.001)
5	894	0.98 (0.92,1.15)	0.649	AGE (p<0.001)
6[c]	894	1.02 (0.90,1.16)	0.750	AGE (p<0.001)

[a] Model 4: Log_2 (lipid-adjusted current dioxin + 1).
Model 5: Log_2 (whole-weight current dioxin + 1).
Model 6: Log_2 (whole-weight current dioxin + 1), adjusted for log_2 total lipids.

[b] Relative risk for a twofold increase in current dioxin.

[c] Adjusted for log_2 total lipids in addition to covariates specified under "Covariate Remarks" column.

Table J-3-2.
Analysis of Acne Relative to Time of Duty in SEA
(Pre- and Post-SEA and Post-SEA vs. Pre-SEA and None)
Occupation Removed from Final Model

a) MODEL 2: RANCH HANDS — INITIAL DIOXIN — ADJUSTED

Analysis Results for Log_2 (Initial Dioxin)[a]

n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
520	1.05 (0.85,1.28)	0.665	AGE ($p<0.001$) PRESEA ($p=0.019$)

[a] Adjusted for percent body fat at the time of duty in SEA, change in percent body fat from the time of duty in SEA to the date of the blood draw for dioxin, and covariates specified under "Covariate Remarks" column.

[b] Relative risk for a twofold increase in initial dioxin.

b) MODEL 3: RANCH HANDS AND COMPARISONS BY DIOXIN CATEGORY — ADJUSTED

Dioxin Category	n	Adj. Relative Risk (95% C.I.)[ab]	p-Value	Covariate Remarks
Comparison	1,063			AGE ($p<0.001$) PRESEA ($p<0.001$)
Background RH	374	1.20 (0.83,1.73)	0.324	
Low RH	260	1.06 (0.70,1.60)	0.773	
High RH	260	1.07 (0.73,1.59)	0.721	
Low plus High RH	520	1.07 (0.78,1.46)	0.674	

[a] Relative risk and confidence interval relative to Comparisons.

[b] Adjusted for percent body fat at the time of duty in SEA, change in percent body fat from the time of duty in SEA to the date of the blood draw for dioxin, and covariates specified under "Covariate Remarks" column.

Note: RH = Ranch Hand.
Comparison: Current Dioxin $\leq$ 10 ppt.
Background (Ranch Hand): Current Dioxin $\leq$ 10 ppt.
Low (Ranch Hand): Current Dioxin $>$ 10 ppt, 10 ppt $<$ Initial Dioxin $\leq$ 143 ppt.
High (Ranch Hand): Current Dioxin $>$ 10 ppt, Initial Dioxin $>$ 143 ppt.

Table J-3-2. (Continued)
Analysis of Acne Relative to Time of Duty in SEA
(Pre- and Post-SEA and Post-SEA vs. Pre-SEA and None)
Occupation Removed from Final Model

c) MODELS 4, 5, AND 6: RANCH HANDS — CURRENT DIOXIN — ADJUSTED				
	Analysis Results for Log_2 (Current Dioxin + 1)			
Model[a]	n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
4	894	1.03 (0.90,1.18)	0.638	AGE ($p<0.001$) PRESEA ($p=0.001$)
5	894	1.03 (0.92,1.16)	0.635	AGE ($p<0.001$) PRESEA ($p=0.001$)
6[c]	894	1.03 (0.91,1.16)	0.693	AGE ($p<0.001$) PRESEA ($p=0.001$)

[a] Model 4: Log_2 (lipid-adjusted current dioxin + 1).
Model 5: Log_2 (whole-weight current dioxin + 1).
Model 6: Log_2 (whole-weight current dioxin + 1), adjusted for log_2 total lipids.

[b] Relative risk for a twofold increase in current dioxin.

[c] Adjusted for log_2 total lipids in addition to covariates specified under "Covariate Remarks" column.

Table J-3-3.
Analysis of Acne Relative to Time of Duty in SEA
(Post-SEA vs. None)
Occupation Removed from Final Model

a) MODEL 2: RANCH HANDS — INITIAL DIOXIN — ADJUSTED			
Analysis Results for Log_2 (Initial Dioxin)[a]			
n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
470	1.03 (0.84,1.27)	0.761	AGE ($p<0.001$)

[a] Adjusted for percent body fat at the time of duty in SEA, change in percent body fat from the time of duty in SEA to the date of the blood draw for dioxin, and covariates specified under "Covariate Remarks" column.

[b] Relative risk for a twofold increase in initial dioxin.

b) MODELS 4, 5, AND 6: RANCH HANDS — CURRENT DIOXIN — ADJUSTED				
	Analysis Results for Log_2 (Current Dioxin + 1)			
Model[a]	n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
4	807	1.04 (0.90,1.19)	0.619	AGE ($p<0.001$)
5	807	1.03 (0.92,1.16)	0.602	AGE ($p<0.001$)
6[c]	807	1.03 (0.90,1.17)	0.686	AGE ($p<0.001$)

[a] Model 4: Log_2 (lipid-adjusted current dioxin + 1).
Model 5: Log_2 (whole-weight current dioxin + 1).
Model 6: Log_2 (whole-weight current dioxin + 1), adjusted for log_2 total lipids.

[b] Relative risk for a twofold increase in current dioxin.

[c] Adjusted for log_2 total lipids in addition to covariates specified under "Covariate Remarks" column.

Table J-3-4.
Analysis of Location of Acne (Post-SEA)
Occupation Removed from Final Model

a) MODELS 5 AND 6: RANCH HANDS — CURRENT DIOXIN — ADJUSTED				
	Analysis Results for Log_2 (Current Dioxin + 1)			
Model[a]	n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
5	692	0.97 (0.88,1.06)	0.469	AGE (p=0.001) RACE (p=0.004)
6[c]	692	0.97 (0.88,1.07)	0.513	AGE (p=0.001) RACE (p=0.005)

[a] Model 5: Log_2 (whole-weight current dioxin + 1).
Model 6: Log_2 (whole-weight current dioxin + 1), adjusted for log_2 total lipids.

[b] Relative risk for a twofold increase in current dioxin.

[c] Adjusted for log_2 total lipids in addition to covariates specified under "Covariate Remarks" column.

Table J-3-5.
Analysis of Location of Acne
(Pre- and Post-SEA and Post-SEA)
Occupation Removed from Final Model

a) MODELS 4, 5, AND 6: RANCH HANDS — CURRENT DIOXIN — ADJUSTED				
	Analysis Results for Log_2 (Current Dioxin + 1)			
Model[a]	n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
4	775	0.99 (0.89,1.09)	0.778	AGE (p=0.001) RACE (p=0.012)
5	775	0.98 (0.90,1.06)	0.596	AGE (p=0.001) RACE (p=0.011)
6[c]	774	0.98 (0.89,1.07)	0.641	AGE (p=0.001) RACE (p=0.013)

[a] Model 4: Log_2 (lipid-adjusted current dioxin + 1).
Model 5: Log_2 (whole-weight current dioxin + 1).
Model 6: Log_2 (whole-weight current dioxin + 1), adjusted for log_2 total lipids.

[b] Relative risk for a twofold increase in current dioxin.

[c] Adjusted for log_2 total lipids in addition to covariates specified under "Covariate Remarks" column.

Table J-3-6.
Analysis of Other Abnormalities
Occupation Removed from Final Model

a) MODEL 2: RANCH HANDS — INITIAL DIOXIN — ADJUSTED

Analysis Results for Log_2 (Initial Dioxin)[a]

n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
520	1.02 (0.84,1.23)**	0.840**	INIT*PRESEA (p=0.041) RACE*PRESEA (p=0.106) AGE*PRESEA (p=0.640)

[a] Adjusted for percent body fat at the time of duty in SEA, change in percent body fat from the time of duty in SEA to the date of the blood draw for dioxin, and covariates specified under "Covariate Remarks" column.

[b] Relative risk for a twofold increase in initial dioxin.

** Log_2 (initial dioxin)-by-covariate interaction ($0.01 < p \leq 0.05$); adjusted relative risk, confidence interval, and p-value derived from model after deletion of this interaction; refer to Appendix Table J-4-1 for further analysis of this interaction.

b) MODEL 3: RANCH HANDS AND COMPARISONS BY DIOXIN CATEGORY — ADJUSTED

Dioxin Category	n	Adj. Relative Risk (95% C.I.)[ab]	p-Value	Covariate Remarks
Comparison	1,061			AGE (p<0.001) RACE (p=0.008) PRESEA (p=0.030)
Background RH	374	1.27 (0.90,1.79)	0.168	
Low RH	260	1.14 (0.77,1.68)	0.515	
High RH	260	1.11 (0.78,1.59)	0.555	
Low plus High RH	520	1.12 (0.85,1.50)	0.420	

[a] Relative risk and confidence interval relative to Comparisons.

[b] Adjusted for percent body fat at the time of duty in SEA, change in percent body fat from the time of duty in SEA to the date of the blood draw for dioxin, and covariates specified under "Covariate Remarks" column.

Note: RH = Ranch Hand.
Comparison: Current Dioxin ≤ 10 ppt.
Background (Ranch Hand): Current Dioxin ≤ 10 ppt.
Low (Ranch Hand): Current Dioxin > 10 ppt, 10 ppt < Initial Dioxin ≤ 143 ppt.
High (Ranch Hand): Current Dioxin > 10 ppt, Initial Dioxin > 143 ppt.

Table J-3-6. (Continued)
Analysis of Other Abnormalities
Occupation Removed from Final Model

c) MODELS 4, 5, AND 6: RANCH HANDS — CURRENT DIOXIN — ADJUSTED				
	Analysis Results for Log_2 (Current Dioxin + 1)			
Model[a]	n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
4	894	0.98 (0.87,1.11)	0.750	AGE ($p<0.001$) PRESEA ($p=0.050$) RACE ($p=0.562$)
5	894	1.00 (0.90,1.11)	0.991	AGE ($p<0.001$) PRESEA ($p=0.051$) RACE ($p=0.572$)
6[c]	894	0.97 (0.86,1.09)	0.580	AGE ($p<0.001$) PRESEA ($p=0.641$) RACE ($p=0.540$)

[a] Model 4: Log_2 (lipid-adjusted current dioxin + 1).
Model 5: Log_2 (whole-weight current dioxin + 1).
Model 6: Log_2 (whole-weight current dioxin + 1), adjusted for log_2 total lipids.

[b] Relative risk for a twofold increase in current dioxin.

[c] Adjusted for log_2 total lipids in addition to covariates specified under "Covariate Remarks" column.

Table J-3-7.
Analysis of Dermatology Index
Occupation Removed from Final Model

a) MODEL 2: RANCH HANDS — INITIAL DIOXIN — ADJUSTED

Analysis Results for Log_2 (Initial Dioxin)[a]

n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
520	1.04 (0.91,1.19)	0.603	RACE (p=0.028) PRESEA (p=0.060)

[a] Adjusted for percent body fat at the time of duty in SEA, change in percent body fat from the time of duty in SEA to the date of the blood draw for dioxin, and covariates specified under "Covariate Remarks" column.

[b] Relative risk for a twofold increase in initial dioxin.

b) MODEL 3: RANCH HANDS AND COMPARISONS BY DIOXIN CATEGORY — ADJUSTED

Dioxin Category	n	Adj. Relative Risk (95% C.I.)[ab]	p-Value	Covariate Remarks
Comparison	1,062			DXCAT*AGE (p=0.009) RACE (p<0.001) PRESEA (p<0.001)
Background RH	374	1.14 (0.90,1.45)**	0.280**	
Low RH	260	0.80 (0.61,1.07)**	0.129**	
High RH	260	0.87 (0.66,1.15)**	0.338**	
Low plus High RH	520	0.84 (0.67,1.04)**	0.107**	

[a] Relative risk and confidence interval relative to Comparisons.

[b] Adjusted for percent body fat at the time of duty in SEA, change in percent body fat from the time of duty in SEA to the date of the blood draw for dioxin, and covariates specified under "Covariate Remarks" column.

** Categorized dioxin-by-covariate interaction ($p \leq 0.01$); adjusted relative risk, confidence interval, and p-value derived from model after deletion of this interaction; refer to Appendix Table J-4-2 for further analysis of this interaction.

Note: RH = Ranch Hand.
Comparison: Current Dioxin ≤ 10 ppt.
Background (Ranch Hand): Current Dioxin ≤ 10 ppt.
Low (Ranch Hand): Current Dioxin > 10 ppt, 10 ppt < Initial Dioxin ≤ 143 ppt.
High (Ranch Hand): Current Dioxin > 10 ppt, Initial Dioxin > 143 ppt.

Table J-3-7. (Continued)
Analysis of Dermatology Index
Occupation Removed from Final Model

c) MODELS 4, 5 AND 6: RANCH HANDS — CURRENT DIOXIN — ADJUSTED				
	Analysis Results for Log_2 (Current Dioxin + 1)			
Model[a]	n	Adj. Relative Risk (95% C.I.)[b]	p-Value	Covariate Remarks
4	894	0.94 (0.85,1.03)	0.158	RACE (p=0.005) PRESEA (p=0.006)
5	894	0.94 (0.87,1.01)	0.102	RACE (p=0.005) PRESEA (p=0.007)
6[c]	894	0.95 (0.87,1.03)	0.221	RACE (p=0.006) PRESEA (p=0.008)

[a] Model 4: Log_2 (lipid-adjusted current dioxin + 1).
Model 5: Log_2 (whole-weight current dioxin + 1).
Model 6: Log_2 (whole-weight current dioxin + 1), adjusted for log_2 total lipids.

[b] Relative risk for a twofold increase in current dioxin.

[c] Adjusted for log_2 total lipids in addition to covariates specified under "Covariate Remarks" column.

APPENDIX J-4.

Interaction Tables for the Dermatologic Assessment Occupation Removed from Final Model

This appendix contains results of exposure analyses of interactions between covariates and dioxin after occupation has been removed from those final dioxin models (Models 2 through 6) that contained occupation. These tables are supplements to tables in Appendix J-3, which are main effects results with occupation removed from the model. Results are presented for separate strata of the covariate and include sample sizes, percent abnormal, relative risks, confidence intervals, and p-values. Chapter 7, Statistical Methods, provides further details on the analytical approaches used in the interaction analyses. The analysis model, covariate involved in the interaction, and a reference to the analysis table in Chapter 14 are given in the heading of each subtable. A summary of the interactions described in this appendix follows.

Appendix J-4 Table	Chapter 14 Table	Appendix J-3 Table	Dependent Variable	Model	Covariate
J-4-1	14-11	J-3-6	Other Abnormalities	2	Presence of Pre-SEA Acne
J-4-2	14-12	J-3-7	Dermatology Index	3	Age

Table J-4-1.
Interaction Table for Other Abnormalities
Occupation Removed from Final Model

a) MODEL 2: RANCH HANDS — INITIAL DIOXIN — ADJUSTED (Initial Dioxin-by-Presence of Pre-SEA Acne: Tables 14-11 and J-3-6)					
Initial Dioxin Category Summary Statistics				**Analysis Results for Log_2 (Initial Dioxin)**	
Stratum	**Initial Dioxin**	**n**	**Percent Abnormal**	**Adjusted Relative Risk (95% C.I.)[a]**	**p-Value**
No Pre-SEA Acne	Low	159	84.9	0.94 (0.77,1.15)	0.556
	Medium	154	85.7		
	High	157	80.3		
Pre-SEA Acne	Low	15	73.3	1.67 (0.95,2.92)	0.072
	Medium	19	57.9		
	High	16	87.5		

[a] Relative risk for a twofold increase in initial dioxin.

Note: Low = 39-98 ppt; Medium = >98-232 ppt; High = >232 ppt.

Table J-4-2.
Interaction Table for Dermatology Index
Occupation Removed from Final Model

a) MODEL 3: RANCH HANDS AND COMPARISONS BY DIOXIN CATEGORY — ADJUSTED
(Dioxin Category-by-Age: Tables 14-12 and J-3-7)

Stratum	Dioxin Category	n	Percent Abnormal	Adjusted Relative Risk (95% C.I.)	p-Value
Born ≥ 1942	Comparison	454	43.0		
	Background RH	128	50.0	1.44 (0.97,2.16)	0.073
	Low RH	85	50.6	1.31 (0.82,2.10)	0.260
	High RH	154	44.2	1.05 (0.72,1.52)	0.817
	Low plus High RH	239	46.4	1.13 (0.82,1.56)	0.442
Born < 1942	Comparison	608	46.2		
	Background RH	246	45.1	1.00 (0.74,1.35)	0.999
	Low RH	175	35.4	0.62 (0.43,0.87)	0.007
	High RH	106	38.7	0.70 (0.45,1.07)	0.098
	Low plus High RH	281	36.7	0.65 (0.48,0.87)	0.003

Note: RH = Ranch Hand.
Comparison: Current Dioxin ≤ 10 ppt.
Background (Ranch Hand): Current Dioxin ≤ 10 ppt.
Low (Ranch Hand): Current Dioxin > 10 ppt, 10 ppt < Initial Dioxin ≤ 143 ppt.
High (Ranch Hand): Current Dioxin > 10 ppt, Initial Dioxin > 143 ppt.

APPENDIX K-1.

Dependent Variable-Covariate Associations for the Cardiovascular Assessment

Appendix K-1-1 contains results of tests of associations between each dependent variable and candidate covariates for the adjusted analysis of each dependent variable. Pearson's chi-square test (continuity-adjusted for 2×2 tables) is used for significance testing of the associations between each discrete dependent variable and the candidate covariate. When a candidate covariate is continuous in nature (e.g., age), the covariate is discretized prior to the analysis of the discrete dependent variable. Pearson's correlation coefficient is used for significance testing of the associations between each continuous dependent variable and a continuous candidate covariate. When a candidate covariate is discrete in nature and the dependent variable is continuous, means (transformed back to the original scale, if necessary) are presented and an analysis of variance is used to investigate the difference between the means.

Associations Between the Cardiovascular Physical Examination Findings and Verified Essential Hypertension, Verified Heart Disease, and Verified Myocardial Infarction

Appendix Table K-1-2 contains the results of associations between the central and peripheral physical examination findings and the verified cardiovascular disease endpoints. Pearson's continuity-adjusted chi-square test is used for significance testing of the associations between each discrete variable and the verified cardiovascular history endpoints. When a physical examination endpoint is continuous in nature (e.g., systolic blood pressure), the means are presented and an analysis of variance is used to investigate the difference between the means.

Table K-1-1.
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Age			Race		
		Born ≥1942	Born <1942	p-Value	Black	Non-Black	p-Value
Essential Hypertension	Yes	(n=942) 30.1%	(n=1,236) 44.7%	<0.001	(n=125) 44.0%	(n=2,053) 38.1%	0.221
Heart Disease (Excluding Essential Hypertension)	Yes	(n=948) 39.7%	(n=1,254) 55.5%	<0.001	(n=126) 49.2%	(n=2,076) 48.8%	0.999
Myocardial Infarction	Yes	(n=948) 2.5%	(n=1,254) 10.0%	<0.001	(n=126) 3.2%	(n=2,076) 7.0%	0.137
Systolic Blood Pressure (continuous)		(n=948)	(n=1,253)		(n=126)	(n=2,075)	
(discrete)	Abnormal	r=0.215 9.8%	19.7%	<0.001 <0.001	$\bar{x}$=123.93 15.9%	$\bar{x}$=121.84 15.4%	0.217 0.993
Heart Sounds	Abnormal	(n=945) 20.0%	(n=1,250) 20.6%	0.788	(n=126) 26.2%	(n=2,069) 20.0%	0.116
Overall Electro-cardiograph (ECG)	Abnormal	(n=947) 12.5%	(n=1,253) 29.7%	<0.001	(n=126) 28.6%	(n=2,074) 21.9%	0.101
ECG: Right Bundle Branch Block (RBBB)	Abnormal	(n=948) 0.7%	(n=1,252) 1.9%	0.032	(n=126) 3.2%	(n=2,074) 1.3%	0.179
ECG: Left Bundle Branch Block (LBBB)	Abnormal	(n=948) 0.3%	(n=1,252) 0.6%	0.449	(n=126) 0.0%	(n=2,074) 0.5%	0.866
ECG: Non-specific ST-and T-Wave Changes	Abnormal	(n=948) 7.7%	(n=1,252) 19.4%	<0.001	(n=126) 23.8%	(n=2,074) 13.8%	0.003
ECG: Bradycardia	Abnormal	(n=948) 3.0%	(n=1,254) 2.5%	0.576	(n=126) 2.4%	(n=2,076) 2.7%	0.999
ECG: Tachycardia	Abnormal	(n=948) 0.2%	(n=1,254) 0.2%	0.999	(n=126) 0.0%	(n=2,076) 0.2%	0.999
ECG: Arrhythmia	Abnormal	(n=948) 2.4%	(n=1,253) 6.2%	<0.001	(n=126) 3.2%	(n=2,075) 4.7%	.0.574
ECG: Evidence of Prior Myocardial Infarction	Abnormal	(n=946) 1.2%	(n=1,250) 5.1%	<0.001	(n=126) 0.8%	(n=2,070) 3.6%	0.157
ECG: Other Diagnoses	Abnormal	(n=948) 0.5%	(n=1,254) 0.8%	0.616	(n=126) 0.8%	(n=2,076) 0.7%	0.999

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Occupation			
		Officer	Enlisted Flyer	Enlisted Groundcrew	p-Value
Essential Hypertension	Yes	(n=843) 38.8%	(n=358) 41.3%	(n=977) 37.1%	0.348
Heart Disease (Excluding Essential Hypertension)	Yes	(n=853) 54.2%	(n=362) 49.7%	(n=987) 44.0%	<0.001
Myocardial Infarction	Yes	(n=853) 6.3%	(n=362) 9.1%	(n=987) 6.4%	0.163
Systolic Blood Pressure		(n=853)	(n=361)	(n=987)	
(continuous)		$\bar{x}$=123.46	$\bar{x}$=122.00	$\bar{x}$=120.65	0.005
(discrete)	Abnormal	17.5%	15.8%	13.6%	0.069
Heart Sounds		(n=852)	(n=360)	(n=983)	
	Abnormal	22.7%	18.1%	19.1%	0.088
Overall Electro-cardiograph (ECG)	Abnormal	(n=852) 24.9%	(n=362) 25.7%	(n=986) 18.8%	0.002
ECG: Right Bundle Branch Block (RBBB)	Abnormal	(n=852) 1.1%	(n=361) 1.9%	(n=987) 1.5%	0.454
ECG: Left Bundle Branch Block (LBBB)	Abnormal	(n=852) 0.9%	(n=361) 0.3%	(n=987) 0.2%	0.067
ECG: Non-specific ST-and T-Wave Changes	Abnormal	(n=852) 14.8%	(n=361) 19.1%	(n=987) 12.3%	0.006
ECG: Bradycardia		(n=853)	(n=362)	(n=987)	
	Abnormal	3.6%	2.2%	2.0%	0.086
ECG: Tachycardia		(n=853)	(n=362)	(n=987)	
	Abnormal	0.2%	0.0%	0.3%	0.582
ECG: Arrhythmia		(n=852)	(n=362)	(n=987)	
	Abnormal	5.2%	5.0%	4.0%	0.431
ECG: Evidence of Prior Myocardial Infarction	Abnormal	(n=849) 4.0%	(n=362) 4.1%	(n=985) 2.6%	0.195
ECG: Other Diagnoses	Abnormal	(n=853) 0.6%	(n=362) 0.8%	(n=987) 0.7%	0.886

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Lifetime Cigarette Smoking History (pack-years) 0	>0-10	>10	p-Value
Essential Hypertension	Yes	(n=600) 38.5%	(n=665) 35.2%	(n=910) 40.9%	0.072
Heart Disease (Excluding Essential Hypertension)	Yes	(n=604) 47.4%	(n=671) 46.3%	(n=924) 51.7%	0.071
Myocardial Infarction	Yes	(n=604) 3.3%	(n=671) 6.1%	(n=924) 9.6%	<0.001
Systolic Blood Pressure (continuous)		(n=604)	(n=671) r=0.001	(n=923)	0.999
(discrete)	Abnormal	16.9%	13.9%	15.7%	0.317
Heart Sounds	Abnormal	(n=604) 25.3%	(n=668) 19.2%	(n=920) 17.8%	0.001
Overall Electrocardiograph (ECG)	Abnormal	(n=603) 21.2%	(n=671) 18.0%	(n=923) 26.0%	0.001
ECG: Right Bundle Branch Block (RBBB)	Abnormal	(n=603) 1.2%	(n=671) 1.0%	(n=923) 1.8%	0.340
ECG: Left Bundle Branch Block (LBBB)	Abnormal	(n=603) 0.7%	(n=671) 0.6%	(n=923) 0.3%	0.602
ECG: Non-specific ST- and T-Wave Changes	Abnormal	(n=603) 13.3%	(n=671) 10.6%	(n=923) 17.9%	<0.001
ECG: Bradycardia	Abnormal	(n=604) 3.0%	(n=671) 2.8%	(n=924) 2.4%	0.747
ECG: Tachycardia	Abnormal	(n=604) 0.2%	(n=671) 0.3%	(n=924) 0.2%	0.881
ECG: Arrhythmia	Abnormal	(n=603) 4.6%	(n=671) 4.2%	(n=924) 4.9%	0.804
ECG: Evidence of Prior Myocardial Infarction	Abnormal	(n=601) 1.7%	(n=671) 2.7%	(n=921) 5.1%	0.001
ECG: Other Diagnoses	Abnormal	(n=604) 0.8%	(n=671) 0.0%	(n=924) 1.1%	0.030

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Current Cigarette Smoking (cigarettes/day) 0-Never Smoked	0-Former Smoker	>0-20	>20	p-Value
Essential Hypertension	Yes	--	--	--	--	--
Heart Disease (Excluding Essential Hypertension)	Yes	--	--	--	--	--
Myocardial Infarction	Yes	--	--	--	--	--
Systolic Blood Pressure (continuous)		(n=604)	(n=1,042)	(n=342)	(n=211)	
			r=-0.122			<0.001
(discrete)	Abnormal	16.9%	17.2%	11.4%	9.5%	0.004
Heart Sounds		(n=604)	(n=1,038)	(n=340)	(n=211)	
	Abnormal	25.3%	19.7%	17.4%	13.3%	<0.001
Overall Electro-cardiograph (ECG)	Abnormal	(n=603) 21.2%	(n=1,042) 23.1%	(n=342) 22.2%	(n=211) 20.9%	0.785
ECG: Right Bundle Branch Block (RBBB)	Abnormal	(n=603) 1.2%	(n=1,043) 1.7%	(n=341) 0.9%	(n=211) 1.4%	0.635
ECG: Left Bundle Branch Block (LBBB)	Abnormal	(n=603) 0.7%	(n=1,043) 0.7%	(n=341) 0.0%	(n=211) 0.0%	0.295
ECG: Non-specific ST-and T-Wave Changes	Abnormal	(n=603) 13.3%	(n=1,043) 15.6%	(n=341) 13.5%	(n=211) 12.8%	0.462
ECG: Bradycardia	Abnormal	(n=604) 3.0%	(n=1,043) 2.5%	(n=342) 3.2%	(n=211) 1.9%	0.748
ECG: Tachycardia	Abnormal	(n=604) 0.2%	(n=1,043) 0.3%	(n=342) 0.0%	(n=211) 0.5%	0.656
ECG: Arrhythmia	Abnormal	(n=603) 4.6%	(n=1,043) 4.4%	(n=342) 4.4%	(n=211) 5.7%	0.875
ECG: Evidence of Prior Myocardial Infarction	Abnormal	(n=601) 1.7%	(n=1,040) 3.7%	(n=342) 5.3%	(n=211) 4.3%	0.021
ECG: Other Diagnoses	Abnormal	(n=604) 0.8%	(n=1,043) 0.4%	(n=342) 1.5%	(n=211) 0.5%	0.189

--: Covariate not applicable for dependent variable.

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Lifetime Alcohol History (drink-years)			
		0	>0-40	>40	p-Value
Essential Hypertension	Yes	(n=134) 38.8%	(n=1,458) 34.5%	(n=544) 48.5%	<0.001
Heart Disease (Excluding Essential Hypertension)	Yes	(n=134) 47.0%	(n=1,473) 48.3%	(n=553) 50.3%	0.679
Myocardial Infarction	Yes	(n=134) 10.4%	(n=1,473) 6.1%	(n=553) 7.8%	0.093
Systolic Blood Pressure (continuous)		(n=134)	(n=1,472) r=0.048	(n=553)	0.027
(discrete)	Abnormal	17.2%	15.3%	15.6%	0.846
Heart Sounds	Abnormal	(n=134) 16.4%	(n=1,468) 20.5%	(n=552) 20.1%	0.529
Overall Electrocardiograph (ECG)	Abnormal	(n=134) 23.9%	(n=1,471) 21.7%	(n=553) 23.1%	0.694
ECG: Right Bundle Branch Block (RBBB)	Abnormal	(n=134) 0.7%	(n=1,471) 1.4%	(n=553) 1.6%	0.725
ECG: Left Bundle Branch Block (LBBB)	Abnormal	(n=134) 0.0%	(n=1,471) 0.7%	(n=553) 0.2%	0.259
ECG: Non-specific ST- and T-Wave Changes	Abnormal	(n=134) 16.4%	(n=1,471) 13.9%	(n=553) 15.0%	0.625
ECG: Bradycardia	Abnormal	(n=134) 2.2%	(n=1,473) 2.9%	(n=553) 2.2%	0.615
ECG: Tachycardia	Abnormal	(n=134) 0.7%	(n=1,473) 0.2%	(n=553) 0.2%	0.439
ECG: Arrhythmia	Abnormal	(n=134) 6.7%	(n=1,472) 4.6%	(n=553) 4.2%	0.444
ECG: Evidence of Prior Myocardial Infarction	Abnormal	(n=134) 4.5%	(n=1,470) 3.4%	(n=551) 3.3%	0.782
ECG: Other Diagnoses	Abnormal	(n=134) 1.5%	(n=1,473) 0.7%	(n=553) 0.5%	0.490

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Cholesterol (mg/dl) 0-200	>200-239	>239	p-Value
Essential Hypertension	Yes	(n=710) 34.8%	(n=868) 38.0%	(n=599) 43.4%	0.006
Heart Disease (Excluding Essential Hypertension)	Yes	(n=715) 50.2%	(n=880) 50.5%	(n=606) 45.1%	0.085
Myocardial Infarction	Yes	(n=715) 6.7%	(n=880) 7.0%	(n=606) 6.6%	0.937
Systolic Blood Pressure (continuous)		(n=715)	(n=879) r=0.076	(n=606)	<0.001
(discrete)	Abnormal	14.4%	14.4%	18.2%	0.097
Heart Sounds	Abnormal	(n=714) 21.7%	(n=875) 20.1%	(n=605) 19.0%	0.469
Overall Electrocardiograph (ECG)	Abnormal	(n=715) 21.7%	(n=880) 22.7%	(n=604) 22.4%	0.881
ECG: Right Bundle Branch Block (RBBB)	Abnormal	(n=715) 1.5%	(n=879) 1.1%	(n=605) 1.7%	0.667
ECG: Left Bundle Branch Block (LBBB)	Abnormal	(n=715) 0.4%	(n=879) 0.6%	(n=605) 0.5%	0.915
ECG: Non-specific ST-and T-Wave Changes	Abnormal	(n=715) 12.7%	(n=879) 15.0%	(n=605) 15.4%	0.307
ECG: Bradycardia	Abnormal	(n=715) 3.5%	(n=880) 2.7%	(n=606) 1.7%	0.117
ECG: Tachycardia	Abnormal	(n=715) 0.1%	(n=880) 0.3%	(n=606) 0.2%	0.655
ECG: Arrhythmia	Abnormal	(n=715) 4.9%	(n=880) 4.7%	(n=605) 4.1%	0.798
ECG: Evidence of Prior Myocardial Infarction	Abnormal	(n=714) 3.4%	(n=879) 3.4%	(n=602) 3.5%	0.992
ECG: Other Diagnoses	Abnormal	(n=715) 0.6%	(n=880) 0.7%	(n=606) 0.8%	0.843

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	HDL (mg/dl) Normal: >35	HDL (mg/dl) Low: 0-35	HDL (mg/dl) p-Value	Body Fat Obese: >25%	Body Fat Lean or Normal: ≤25%	Body Fat p-Value
Essential Hypertension	Yes	(n=1,598) 36.5%	(n=555) 43.1%	0.006	(n=549) 57.0%	(n=1,629) 32.2%	<0.001
Heart Disease (Excluding Essential Hypertension)	Yes	(n=1,615) 48.9%	(n=561) 49.0%	0.985	(n=561) 50.1%	(n=1,641) 48.4%	0.533
Myocardial Infarction	Yes	(n=1,615) 5.5%	(n=561) 10.5%	<0.001	(n=561) 8.0%	(n=1,641) 6.4%	0.222
Systolic Blood Pressure (continuous)		(n=1,614) r=-0.016	(n=561)	0.443	(n=561) r=0.273	(n=1,640)	<0.001
(discrete)	Abnormal	15.6%	14.4%	0.550	24.4%	12.4%	<0.001
Heart Sounds	Abnormal	(n=1,609) 20.1%	(n=560) 20.9%	0.724	(n=560) 24.6%	(n=1,635) 18.8%	0.004
Overall Electro-cardiograph (ECG)	Abnormal	(n=1,613) 21.5%	(n=561) 24.4%	0.172	(n=561) 25.0%	(n=1,639) 21.4%	0.087
ECG: Right Bundle Branch Block (RBBB)	Abnormal	(n=1,613) 1.4%	(n=561) 1.6%	0.836	(n=561) 1.4%	(n=1,639) 1.4%	0.999
ECG: Left Bundle Branch Block (LBBB)	Abnormal	(n=1,613) 0.7%	(n=561) 0.0%	0.106	(n=561) 0.7%	(n=1,639) 0.4%	0.630
ECG: Non-specific ST-and T-Wave Changes	Abnormal	(n=1,613) 13.6%	(n=561) 16.4%	0.115	(n=561) 18.4%	(n=1,639) 13.0%	0.002
ECG: Bradycardia	Abnormal	(n=1,615) 3.0%	(n=561) 1.8%	0.155	(n=561) 0.7%	(n=1,641) 3.4%	0.001
ECG: Tachycardia	Abnormal	(n=1,615) 0.2%	(n=561) 0.4%	0.829	(n=561) 0.2%	(n=1,641) 0.2%	0.999
ECG: Arrhythmia	Abnormal	(n=1,614) 4.2%	(n=561) 5.7%	0.161	(n=561) 4.1%	(n=1,640) 4.8%	0.600
ECG: Evidence of Prior Myocardial Infarction	Abnormal	(n=1,611) 2.5%	(n=559) 5.9%	<0.001	(n=559) 3.6%	(n=1,637) 3.4%	0.912
ECG: Other Diagnoses	Abnormal	(n=1,615) 0.6%	(n=561) 1.1%	0.333	(n=561) 0.2%	(n=1,641) 0.9%	0.167

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Diabetic Class			
		Normal	Impaired	Diabetic	p-Value
Essential Hypertension	Yes	(n=1,622) 32.2%	(n=242) 54.1%	(n=311) 58.8%	<0.001
Heart Disease (Excluding Essential Hypertension)	Yes	(n=1,632) 47.5%	(n=247) 53.0%	(n=320) 52.8%	0.084
Myocardial Infarction	Yes	(n=1,632) 5.3%	(n=247) 10.5%	(n=320) 11.9%	<0.001
Systolic Blood Pressure (continuous)		(n=1,631) $\bar{x}$=119.49	(n=247) $\bar{x}$=126.39	(n=320) $\bar{x}$=131.11	<0.001
(discrete)	Abnormal	11.8%	22.7%	28.4%	<0.001
Heart Sounds	Abnormal	(n=1,627) 19.7%	(n=246) 18.3%	(n=319) 24.5%	0.114
Overall Electrocardiograph (ECG)	Abnormal	(n=1,631) 19.1%	(n=247) 26.7%	(n=319) 35.1%	<0.001
ECG: Right Bundle Branch Block (RBBB)	Abnormal	(n=1,631) 1.1%	(n=247) 1.2%	(n=319) 3.1%	0.018
ECG: Left Bundle Branch Block (LBBB)	Abnormal	(n=1,631) 0.5%	(n=247) 0.4%	(n=319) 0.6%	0.927
ECG: Non-specific ST-and T-Wave Changes	Abnormal	(n=1,631) 12.0%	(n=247) 16.6%	(n=319) 24.5%	<0.001
ECG: Bradycardia	Abnormal	(n=1,632) 3.2%	(n=247) 1.2%	(n=320) 0.9%	0.021
ECG: Tachycardia	Abnormal	(n=1,632) 0.2%	(n=247) 0.4%	(n=320) 0.0%	0.578
ECG: Arrhythmia	Abnormal	(n=1,631) 3.7%	(n=247) 6.9%	(n=320) 7.2%	0.005
ECG: Evidence of Prior Myocardial Infarction	Abnormal	(n=1,628) 2.6%	(n=247) 4.5%	(n=318) 6.6%	0.001
ECG: Other Diagnoses	Abnormal	(n=1,632) 0.7%	(n=247) 0.4%	(n=320) 0.9%	0.745

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Personality Type			Family History of Heart Disease		
		A	B	p-Value	No	Yes	p-Value
Essential Hypertension	Yes	(n=932) 36.6%	(n=1,244) 39.8%	0.140	(n=918) 31.9%	(n=1,234) 43.4%	<0.001
Heart Disease (Excluding Essential Hypertension)	Yes	(n=942) 50.5%	(n=1,258) 47.6%	0.190	(n=926) 44.1%	(n=1,250) 52.6%	<0.001
Myocardial Infarction	Yes	(n=942) 6.6%	(n=1,258) 7.0%	0.768	(n=926) 4.4%	(n=1,250) 8.6%	<0.001
Systolic Blood Pressure							
(continuous)		(n=941) $\bar{x}$=121.21	(n=1,258) $\bar{x}$=122.53	0.097	(n=926) $\bar{x}$=120.94	(n=1,249) $\bar{x}$=122.61	0.037
(discrete)	Abnormal	13.5%	16.9%	0.032	14.9%	15.9%	0.585
Heart Sounds	Abnormal	(n=938) 21.0%	(n=1,255) 19.8%	0.508	(n=922) 20.0%	(n=1,247) 20.7%	0.715
Overall Electro-cardiograph (ECG)	Abnormal	(n=940) 21.9%	(n=1,258) 22.6%	0.752	(n=925) 20.4%	(n=1,249) 23.5%	0.104
ECG: Right Bundle Branch Block (RBBB)	Abnormal	(n=941) 1.4%	(n=1,257) 1.4%	0.999	(n=926) 1.4%	(n=1,248) 1.4%	0.999
ECG: Left Bundle Branch Block (LBBB)	Abnormal	(n=941) 0.4%	(n=1,257) 0.6%	0.898	(n=926) 0.5%	(n=1,248) 0.5%	0.999
ECG: Non-specific ST-and T-Wave Changes	Abnormal	(n=941) 13.7%	(n=1,257) 14.9%	0.477	(n=926) 13.9%	(n=1,248) 14.7%	0.675
ECG: Bradycardia	Abnormal	(n=942) 3.1%	(n=1,258) 2.4%	0.388	(n=926) 2.4%	(n=1,250) 3.0%	0.486
ECG: Tachycardia	Abnormal	(n=942) 0.1%	(n=1,258) 0.3%	0.562	(n=926) 0.1%	(n=1,250) 0.3%	0.570
ECG: Arrhythmia	Abnormal	(n=941) 4.9%	(n=1,258) 4.4%	0.639	(n=926) 4.2%	(n=1,249) 4.9%	0.524
ECG: Evidence of Prior Myocardial Infarction	Abnormal	(n=938) 2.5%	(n=1,256) 4.1%	0.042	(n=923) 2.5%	(n=1,247) 4.1%	0.056
ECG: Other Diagnoses	Abnormal	(n=942) 0.5%	(n=1,258) 0.8%	0.629	(n=926) 0.5%	(n=1,250) 0.8%	0.643

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Age			Race		
		Born ≥1942	Born <1942	p-Value	Black	Non-Black	p-Value
Diastolic Blood Pressure		(n=948)	(n=1,253)		(n=126)	(n=2,075)	
(continuous)		r=0.025		0.239	$\bar{x}$=73.94	$\bar{x}$=72.20	0.051
(discrete)	Abnormal	3.7%	2.6%	0.157	4.0%	3.0%	0.723
Funduscopic Examination	Abnormal	(n=945) 4.1%	(n=1,245) 7.9%	<0.001	(n=126) 7.9%	(n=2,064) 6.2%	0.540
Carotid Bruits	Abnormal	(n=948) 0.4%	(n=1,253) 2.3%	0.001	(n=126) 0.0%	(n=2,075) 1.6%	0.294
Radial Pulses	Abnormal	(n=948) 0.2%	(n=1,254) 0.6%	0.354	(n=126) 0.8%	(n=2,076) 0.4%	0.999
Femoral Pulses	Abnormal	(n=948) 0.2%	(n=1,254) 1.3%	0.012	(n=126) 0.8%	(n=2,076) 0.8%	0.999
Popliteal Pulses	Abnormal	(n=948) 0.3%	(n=1,252) 2.2%	<0.001	(n=126) 1.6%	(n=2,074) 1.4%	0.999
Dorsalis Pedis Pulses	Abnormal	(n=946) 5.3%	(n=1,252) 9.5%	<0.001	(n=126) 7.1%	(n=2,072) 7.7%	0.948
Posterior Tibial Pulses	Abnormal	(n=948) 1.1%	(n=1,252) 4.4%	<0.001	(n=126) 4.8%	(n=2,074) 2.8%	0.336
Leg Pulses	Abnormal	(n=946) 5.8%	(n=1,253) 10.5%	<0.001	(n=126) 9.5%	(n=2,073) 8.4%	0.796
Peripheral Pulses	Abnormal	(n=946) 5.9%	(n=1,253) 10.9%	<0.001	(n=126) 10.3%	(n=2,073) 8.7%	0.640
Kidney, Urethra, and Bladder (KUB) X Ray Excluding Kidney Stones	Abnormal	(n=946) 19.6%	(n=1,253) 39.4%	<0.001	(n=126) 24.6%	(n=2,073) 31.2%	0.144
Intermittent Claudication and Vascular Insufficiency (ICVI) Index	Abnormal	(n=945) 1.1%	(n=1,254) 4.1%	<0.001	(n=126) 4.0%	(n=2,073) 2.7%	0.599

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Occupation			
		Officer	Enlisted Flyer	Enlisted Groundcrew	p-Value
Diastolic Blood Pressure		(n=852)	(n=362)	(n=987)	
(continuous)		$\bar{x}$=72.31	$\bar{x}$=72.68	$\bar{x}$=72.16	0.680
(discrete)	Abnormal	3.1%	3.0%	3.0%	0.999
Funduscopic Examination	Abnormal	(n=848) 5.1%	(n=359) 8.1%	(n=983) 6.6%	0.118
Carotid Bruits	Abnormal	(n=853) 1.6%	(n=362) 1.7%	(n=986) 1.3%	0.820
Radial Pulses	Abnormal	(n=853) 0.4%	(n=362) 0.0%	(n=987) 0.6%	0.284
Femoral Pulses	Abnormal	(n=853) 0.7%	(n=362) 1.4%	(n=987) 0.7%	0.428
Popliteal Pulses	Abnormal	(n=852) 1.3%	(n=361) 1.9%	(n=987) 1.2%	0.582
Dorsalis Pedis Pulses	Abnormal	(n=851) 7.3%	(n=361) 8.9%	(n=986) 7.6%	0.635
Posterior Tibial Pulses	Abnormal	(n=852) 2.7%	(n=361) 3.9%	(n=987) 2.8%	0.518
Leg Pulses	Abnormal	(n=851) 7.5%	(n=362) 9.9%	(n=986) 8.8%	0.341
Peripheral Pulses	Abnormal	(n=851) 7.8%	(n=362) 9.9%	(n=986) 9.2%	0.372
Kidney, Urethra, and Bladder (KUB) X Ray Excluding Kidney Stones	Abnormal	(n=853) 32.4%	(n=361) 33.2%	(n=985) 28.6%	0.125
Intermittent Claudication and Vascular Insufficiency (ICVI) Index	Abnormal	(n=852) 2.8%	(n=362) 3.6%	(n=985) 2.5%	0.585

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Lifetime Cigarette Smoking History (pack-years) 0	>0-10	>10	p-Value
Diastolic Blood Pressure		(n=604)	(n=671)	(n=923)	
(continuous)			r=-0.077		<0.001
(discrete)	Abnormal	3.8%	4.0%	1.8%	0.019
Funduscopic Examination	Abnormal	(n=599) 3.8%	(n=668) 6.0%	(n=920) 7.9%	0.005
Carotid Bruits	Abnormal	(n=604) 0.7%	(n=671) 1.6%	(n=923) 2.0%	0.121
Radial Pulses	Abnormal	(n=604) 0.3%	(n=671) 0.1%	(n=924) 0.6%	0.285
Femoral Pulses	Abnormal	(n=604) 0.0%	(n=671) 1.0%	(n=924) 1.2%	0.031
Popliteal Pulses	Abnormal	(n=604) 0.0%	(n=669) 1.3%	(n=924) 2.3%	0.001
Dorsalis Pedis Pulses	Abnormal	(n=604) 4.6%	(n=667) 5.8%	(n=924) 10.9%	<0.001
Posterior Tibial Pulses	Abnormal	(n=604) 0.7%	(n=669) 1.9%	(n=924) 5.2%	<0.001
Leg Pulses	Abnormal	(n=604) 4.8%	(n=668) 6.6%	(n=924) 12.2%	<0.001
Peripheral Pulses	Abnormal	(n=604) 5.1%	(n=668) 6.7%	(n=924) 12.6%	<0.001
Kidney, Urethra, and Bladder (KUB) X Ray Excluding Kidney Stones	Abnormal	(n=602) 28.4%	(n=671) 28.2%	(n=923) 34.3%	0.010
Intermittent Claudication and Vascular Insufficiency (ICVI) Index	Abnormal	(n=603) 1.3%	(n=671) 1.9%	(n=924) 4.4%	<0.001

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Current Cigarette Smoking (cigarettes/day) 0-Never Smoked	0-Former Smoker	>0-20	>20	p-Value
Diastolic Blood Pressure (continuous)		(n=604)	(n=1,043)	(n=342)	(n=210)	
			r=-0.113			<0.001
(discrete)	Abnormal	3.8%	2.9%	2.6%	2.4%	0.615
Funduscopic Examination	Abnormal	(n=599) 3.8%	(n=1,038) 6.6%	(n=342) 6.1%	(n=209) 11.5%	0.001
Carotid Bruits	Abnormal	(n=604) 0.7%	(n=1,042) 2.1%	(n=342) 1.5%	(n=211) 0.9%	0.115
Radial Pulses	Abnormal	(n=604) 0.3%	(n=1,043) 0.4%	(n=342) 0.3%	(n=211) 0.9%	0.631
Femoral Pulses	Abnormal	(n=604) 0.0%	(n=1,043) 0.6%	(n=342) 2.0%	(n=211) 2.4%	<0.001
Popliteal Pulses	Abnormal	(n=604) 0.0%	(n=1,041) 0.8%	(n=342) 3.5%	(n=211) 4.7%	<0.001
Dorsalis Pedis Pulses	Abnormal	(n=604) 4.6%	(n=1,040) 7.3%	(n=342) 11.4%	(n=210) 11.9%	<0.001
Posterior Tibial Pulses	Abnormal	(n=604) 0.7%	(n=1,041) 2.5%	(n=342) 5.3%	(n=211) 8.1%	<0.001
Leg Pulses	Abnormal	(n=604) 4.8%	(n=1,041) 8.3%	(n=342) 12.6%	(n=210) 13.3%	<0.001
Peripheral Pulses	Abnormal	(n=604) 5.1%	(n=1,041) 8.5%	(n=342) 12.9%	(n=210) 13.3%	<0.001
Kidney, Urethra, and Bladder (KUB) X Ray Excluding Kidney Stones	Abnormal	(n=602) 28.4%	(n=1,042) 31.6%	(n=342) 33.6%	(n=211) 29.9%	0.351
Intermittent Claudication and Vascular Insufficiency (ICVI) Index	Abnormal	(n=603) 1.3%	(n=1,043) 2.5%	(n=342) 4.4%	(n=211) 6.2%	0.001

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Lifetime Alcohol History (drink-years) 0	>0-40	>40	p-Value
Diastolic Blood Pressure		(n=134)	(n=1,473)	(n=552)	
(continuous)			r=0.019		0.382
(discrete)	Abnormal	3.7%	3.2%	2.7%	0.784
Funduscopic Examination		(n=132)	(n=1,466)	(n=550)	
	Abnormal	9.8%	5.2%	8.4%	0.007
Carotid Bruits		(n=134)	(n=1,472)	(n=553)	
	Abnormal	0.0%	1.4%	2.0%	0.221
Radial Pulses		(n=134)	(n=1,473)	(n=553)	
	Abnormal	0.0%	0.4%	0.4%	0.758
Femoral Pulses		(n=134)	(n=1,473)	(n=553)	
	Abnormal	0.0%	0.5%	1.6%	0.027
Popliteal Pulses		(n=134)	(n=1,471)	(n=553)	
	Abnormal	1.5%	1.2%	1.8%	0.518
Dorsalis Pedis Pulses		(n=134)	(n=1,469)	(n=553)	
	Abnormal	6.7%	7.0%	9.8%	0.106
Posterior Tibial Pulses		(n=134)	(n=1,471)	(n=553)	
	Abnormal	2.2%	2.2%	4.9%	0.006
Leg Pulses		(n=134)	(n=1,470)	(n=553)	
	Abnormal	6.7%	7.6%	11.2%	0.027
Peripheral Pulses		(n=134)	(n=1,470)	(n=553)	
	Abnormal	6.7%	8.0%	11.2%	0.054
Kidney, Urethra, and Bladder (KUB) X Ray Excluding Kidney Stones	Abnormal	(n=134) 31.3%	(n=1,470) 28.9%	(n=553) 36.3%	0.006
Intermittent Claudication and Vascular Insufficiency (ICVI) Index	Abnormal	(n=134) 3.0%	(n=1,472) 2.2%	(n=553) 4.3%	0.040

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Cholesterol (mg/dl) 0-200	>200-239	>239	p-Value
Diastolic Blood Pressure		(n=714)	(n=880)	(n=606)	
(continuous)			r=0.090		<0.001
(discrete)	Abnormal	2.2%	3.0%	4.1%	0.136
Funduscopic Examination		(n=713)	(n=876)	(n=600)	
	Abnormal	5.2%	6.2%	7.7%	0.180
Carotid Bruits		(n=714)	(n=880)	(n=606)	
	Abnormal	1.7%	1.5%	1.3%	0.864
Radial Pulses		(n=715)	(n=880)	(n=606)	
	Abnormal	0.4%	0.3%	0.5%	0.899
Femoral Pulses		(n=715)	(n=880)	(n=606)	
	Abnormal	0.4%	1.0%	1.0%	0.354
Popliteal Pulses		(n=715)	(n=878)	(n=606)	
	Abnormal	0.8%	1.4%	2.0%	0.205
Dorsalis Pedis Pulses		(n=714)	(n=878)	(n=605)	
	Abnormal	7.4%	7.4%	8.4%	0.726
Posterior Tibial Pulses		(n=715)	(n=878)	(n=606)	
	Abnormal	2.8%	2.5%	3.8%	0.338
Leg Pulses		(n=714)	(n=879)	(n=605)	
	Abnormal	8.5%	8.2%	8.9%	0.882
Peripheral Pulses		(n=714)	(n=879)	(n=605)	
	Abnormal	8.8%	8.3%	9.4%	0.756
Kidney, Urethra, and Bladder (KUB) X Ray Excluding Kidney Stones		(n=713)	(n=879)	(n=606)	
	Abnormal	33.1%	28.3%	31.8%	0.100
Intermittent Claudication and Vascular Insufficiency (ICVI) Index		(n=712)	(n=880)	(n=606)	
	Abnormal	1.1%	3.2%	4.3%	0.002

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	HDL (mg/dl) Normal: >35	HDL (mg/dl) Low: 0-35	HDL (mg/dl) p-Value	Body Fat Obese: >25%	Body Fat Lean or Normal: ≤25%	Body Fat p-Value
Diastolic Blood Pressure (continuous)		(n=1,614) r=-0.040	(n=561)	0.061	(n=561) r=0.218	(n=1,640)	<0.001
(discrete)	Abnormal	3.0%	3.0%	0.999	5.2%	2.3%	0.001
Funduscopic Examination	Abnormal	(n=1,606) 5.9%	(n=558) 7.5%	0.193	(n=556) 7.0%	(n=1,634) 6.0%	0.451
Carotid Bruits	Abnormal	(n=1,615) 1.7%	(n=560) 1.1%	0.423	(n=561) 1.8%	(n=1,640) 1.4%	0.661
Radial Pulses	Abnormal	(n=1,615) 0.4%	(n=561) 0.4%	0.999	(n=561) 0.5%	(n=1,641) 0.4%	0.874
Femoral Pulses	Abnormal	(n=1,615) 0.6%	(n=561) 1.4%	0.122	(n=561) 0.9%	(n=1,641) 0.8%	0.999
Popliteal Pulses	Abnormal	(n=1,614) 1.0%	(n=560) 2.3%	0.032	(n=561) 1.4%	(n=1,639) 1.3%	0.999
Dorsalis Pedis Pulses	Abnormal	(n=1,613) 7.6%	(n=559) 8.1%	0.817	(n=561) 6.6%	(n=1,637) 8.1%	0.301
Posterior Tibial Pulses	Abnormal	(n=1,614) 2.5%	(n=560) 4.1%	0.081	(n=561) 2.0%	(n=1,639) 3.3%	0.143
Leg Pulses	Abnormal	(n=1,613) 8.4%	(n=560) 8.9%	0.784	(n=561) 7.1%	(n=1,638) 9.0%	0.206
Peripheral Pulses	Abnormal	(n=1,613) 8.8%	(n=560) 8.9%	0.997	(n=561) 7.3%	(n=1,638) 9.3%	0.181
Kidney, Urethra, and Bladder (KUB) X Ray Excluding Kidney Stones	Abnormal	(n=1,613) 30.6%	(n=560) 31.6%	0.704	(n=560) 32.9%	(n=1,639) 30.1%	0.251
Intermittent Claudication and Vascular Insufficiency (ICVI) Index	Abnormal	(n=1,612) 2.4%	(n=561) 3.9%	0.088	(n=561) 3.4%	(n=1,638) 2.6%	0.428

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Diabetic Class			
		Normal	Impaired	Diabetic	p-Value
Diastolic Blood Pressure		(n=1,631)	(n=247)	(n=320)	
(continuous)		$\bar{x}$=71.63	$\bar{x}$=72.98	$\bar{x}$=75.15	<0.001
(discrete)	Abnormal	2.8%	3.2%	4.4%	0.301
Funduscopic Examination	Abnormal	(n=1,625) 5.2%	(n=244) 9.8%	(n=318) 9.1%	0.001
Carotid Bruits	Abnormal	(n=1,631) 1.2%	(n=247) 3.2%	(n=320) 1.9%	0.037
Radial Pulses	Abnormal	(n=1,632) 0.3%	(n=247) 0.4%	(n=320) 0.9%	0.271
Femoral Pulses	Abnormal	(n=1,632) 0.4%	(n=247) 1.2%	(n=320) 2.8%	<0.001
Popliteal Pulses	Abnormal	(n=1,631) 0.6%	(n=246) 3.3%	(n=320) 3.8%	<0.001
Dorsalis Pedis Pulses	Abnormal	(n=1,629) 6.0%	(n=246) 11.4%	(n=320) 13.8%	<0.001
Posterior Tibial Pulses	Abnormal	(n=1,631) 1.7%	(n=246) 5.3%	(n=320) 7.5%	<0.001
Leg Pulses	Abnormal	(n=1,629) 6.5%	(n=247) 13.0%	(n=320) 15.3%	<0.001
Peripheral Pulses	Abnormal	(n=1,629) 6.7%	(n=247) 13.4%	(n=320) 15.9%	<0.001
Kidney, Urethra, and Bladder (KUB) X Ray Excluding Kidney Stones	Abnormal	(n=1,629) 28.5%	(n=247) 30.8%	(n=320) 42.5%	<0.001
Intermittent Claudication and Vascular Insufficiency (ICVI) Index	Abnormal	(n=1,630) 1.8%	(n=246) 4.1%	(n=320) 6.9%	<0.001

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Personality Type			Family History of Heart Disease		
		A	B	p-Value	No	Yes	p-Value
Diastolic Blood Pressure		(n=942)	(n=1,257)		(n=925)	(n=1,250)	
(continuous)		$\bar{x}$=72.10	$\bar{x}$=72.46	0.389	$\bar{x}$=71.85	$\bar{x}$=72.57	0.089
(discrete)	Abnormal	2.3%	3.6%	0.120	3.6%	2.6%	0.263
Funduscopic Examination	Abnormal	(n=934) 6.0%	(n=1,254) 6.5%	0.724	(n=921) 4.5%	(n=1,243) 7.6%	0.004
Carotid Bruits	Abnormal	(n=942) 1.4%	(n=1,257) 1.6%	0.822	(n=926) 1.1%	(n=1,249) 1.8%	0.208
Radial Pulses	Abnormal	(n=942) 0.4%	(n=1,258) 0.4%	0.999	(n=926) 0.5%	(n=1,250) 0.3%	0.651
Femoral Pulses	Abnormal	(n=942) 1.1%	(n=1,258) 0.6%	0.391	(n=926) 0.8%	(n=1,250) 0.8%	0.999
Popliteal Pulses	Abnormal	(n=940) 1.6%	(n=1,258) 1.2%	0.535	(n=926) 1.2%	(n=1,248) 1.4%	0.747
Dorsalis Pedis Pulses	Abnormal	(n=938) 6.8%	(n=1,258) 8.3%	0.213	(n=925) 6.9%	(n=1,247) 8.3%	0.281
Posterior Tibial Pulses	Abnormal	(n=940) 3.2%	(n=1,258) 2.8%	0.665	(n=926) 2.9%	(n=1,248) 2.9%	0.999
Leg Pulses	Abnormal	(n=939) 8.0%	(n=1,258) 8.9%	0.494	(n=925) 7.8%	(n=1,248) 9.0%	0.364
Peripheral Pulses	Abnormal	(n=939) 8.1%	(n=1,258) 9.3%	0.362	(n=925) 8.1%	(n=1,248) 9.2%	0.409
Kidney, Urethra, and Bladder (KUB) X Ray Excluding Kidney Stones	Abnormal	(n=940) 28.1%	(n=1,257) 32.9%	0.017	(n=924) 28.9%	(n=1,249) 32.3%	0.102
Intermittent Claudication and Vascular Insufficiency (ICVI) Index	Abnormal	(n=941) 2.7%	(n=1,256) 2.9%	0.784	(n=926) 1.9%	(n=1,249) 3.4%	0.050

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-1. (Continued)
Dependent Variable-Covariate Associations for Cardiovascular Assessment

Dependent Variable	Level	Blood Pressure Medication		
		Yes	No	p-Value
Systolic Blood Pressure		(n=434)	(n=1,767)	
(continuous)		$\bar{x}$=131.68	$\bar{x}$=119.57	<0.001
(discrete)	Abnormal	28.8%	12.2%	<0.001
Diastolic Blood Pressure		(n=435)	(n=1,766)	
(continuous)		$\bar{x}$=75.81	$\bar{x}$=71.44	<0.001
(discrete)	Abnormal	4.8%	2.6%	0.024

Note: Correlations (r) are based on total sample and are not category-specific.

Table K-1-2.
Association Between Cardiovascular Findings and Verified Essential Hypertension, Verified Heart Disease, and Verified Myocardial Infarction

Variable	Level	Essential Hypertension			Heart Disease*			Myocardial Infarction		
		Total	Percent Yes	p-Value	Total	Percent Yes	p-Value	Total	Percent Yes	p-Value
Central Cardiac Function										
Systolic Blood Pressure (D)	Normal	1,844	31.3		1,861	47.8		1,861	6.6	
	Abnormal	333	77.8	<0.001	340	54.4	0.030	340	8.2	0.311
Heart Sounds	Normal	1,730	36.8		1,749	46.7		1,749	6.8	
	Abnormal	441	44.7	0.003	446	57.2	<0.001	446	7.0	0.996
Overall Electrocardiograph (ECG)	Normal	1,693	34.0		1,710	41.6		1,710	2.3	
	Abnormal	483	54.0	<0.001	490	74.5	<0.001	490	22.4	<0.001
ECG: Right Bundle Branch Block (RBBB)	Normal	2,145	38.1		2,169	48.3		2,169	6.6	
	Abnormal	31	61.3	0.014	31	90.3	<0.001	31	22.6	0.002
ECG: Left Bundle Branch Block (LBBB)	Normal	2,165	38.5		2,189	48.6		2,189	6.8	
	Abnormal	11	27.3	0.652	11	100.0	0.002	11	9.1	0.999
ECG: Non-specific ST- and T-Wave Changes	Normal	1,865	35.5		1,884	45.6		1,884	4.1	
	Abnormal	311	55.9	<0.001	316	68.0	<0.001	316	23.1	<0.001
ECG: Bradycardia	Normal	2,119	39.0		2,143	47.8		2,143	6.8	
	Abnormal	59	18.6	0.002	59	88.1	<0.001	59	8.5	0.801
ECG: Tachycardia	Normal	2,173	38.4		2,197	48.7		2,197	6.8	
	Abnormal	5	60.0	0.594	5	100.0	0.065	5	0.0	0.999
ECG: Arrhythmia	Normal	2,076	37.6		2,100	47.2		2,100	6.2	
	Abnormal	101	56.4	<0.001	101	83.2	<0.001	101	19.8	<0.001

* Excluding essential hypertension.

Table K-1-2. (Continued)
Association Between Cardiovascular Findings and Verified Essential Hypertension, Verified Heart Disease, and Verified Myocardial Infarction

Variable	Level	Essential Hypertension			Heart Disease*			Myocardial Infarction		
		Total	Percent Yes	p-Value	Total	Percent Yes	p-Value	Total	Percent Yes	p-Value
ECG: Evidence of Prior Myocardial Infarction	Normal	2,097	37.3		2,121	47.1		2,121	3.5	
	Abnormal	75	68.0	<0.001	75	100.0	<0.001	75	100.0	<0.001
ECG: Other Diagnoses	Normal	2,163	38.2		2,187	48.7		2,187	6.4	
	Abnormal	15	66.7	0.047	15	73.3	0.100	15	60.0	<0.001
Peripheral Vascular Function										
Diastolic Blood Pressure (D)	Normal	2,111	36.7		2,134	48.8		2,134	6.8	
	Abnormal	66	95.5	<0.001	67	50.7	0.847	67	6.0	0.974
Funduscopic Examination	Normal	2,031	36.8		2,053	48.1		2,053	6.4	
	Abnormal	135	63.7	<0.001	137	61.3	0.004	137	12.4	0.012
Carotid Bruits	Normal	2,144	38.1		2,168	48.2		2,168	6.5	
	Abnormal	33	60.6	0.014	33	87.9	<0.001	33	24.2	<0.001
Radial Pulses	Normal	2,169	38.4		2,193	48.8		2,193	6.7	
	Abnormal	9	55.6	0.475	9	66.7	0.461	9	22.2	0.240
Femoral Pulses	Normal	2,161	38.3		2,184	48.8		2,184	6.7	
	Abnormal	17	58.8	0.138	18	61.1	0.420	18	16.7	0.231
Popliteal Pulses	Normal	2,147	38.1		2,170	48.7		2,170	6.6	
	Abnormal	29	62.1	0.014	30	63.3	0.158	30	20.0	0.011
Dorsalis Pedis Pulses	Normal	2,008	37.8		2,029	47.9		2,029	6.2	
	Abnormal	166	45.2	0.074	169	60.4	0.002	169	13.6	<0.001
Posterior Tibial Pulses	Normal	2,113	37.8		2,135	48.5		2,135	6.4	
	Abnormal	63	58.7	0.001	65	61.5	0.051	65	18.5	<0.001
Leg Pulse Index	Normal	1,991	38.0		2,012	47.9		2,012	6.1	
	Abnormal	184	43.5	0.164	187	59.4	0.004	187	13.9	<0.001

* Excluding essential hypertension.

Table K-1-2. (Continued)
Association Between Cardiovascular Findings and Verified Essential Hypertension, Verified Heart Disease, and Verified Myocardial Infarction

Variable	Level	Essential Hypertension			Heart Disease*			Myocardial Infarction		
		Total	Percent Yes	p-Value	Total	Percent Yes	p-Value	Total	Percent Yes	p-Value
Peripheral Pulse Index	Normal	1,985	37.9		2,006	47.9		2,006	6.0	
	Abnormal	190	43.7	0.139	193	59.6	0.002	193	14.5	<0.001
Kidney, Urethra, and Bladder (KUB) X-Ray Excluding Kidney Stones	Normal	1,504	35.0		1,521	45.6		1,521	4.8	
	Abnormal	671	46.1	<0.001	678	56.2	<0.001	678	11.4	<0.001
Intermittent Claudication and Vascular Insufficiency (ICVI) Index	Normal	2,117	38.0		2,137	48.5		2,137	6.4	
	Abnormal	58	55.2	0.012	62	61.3	0.063	62	21.0	<0.001

Variable	Level	Systolic Blood Pressure (C)			Diastolic Blood Pressure (C)		
		Total	Mean (95% C.I.)	p-Value	Total	Mean (95% C.I.)	p-Value
Essential Hypertension	No	1,341	115.55 (114.78,116.32)		1,340	69.31 (68.87,69.75)	
	Yes	836	132.00 (130.67,133.33)	<0.001	837	76.95 (76.28,77.62)	<0.001
Heart Disease*	No	1,126	121.03 (120.00,122.06)		1,126	72.60 (72.04,73.16)	
	Yes	1,075	122.93 (121.79,124.08)	0.016	1,075	71.99 (71.41,72.58)	0.144
Myocardial Infarction	No	2,051	121.75 (120.96,122.54)		2,051	72.33 (71.91,72.75)	
	Yes	150	124.79 (121.61,127.98)	0.051	150	71.91 (70.44,73.38)	0.610

C: Continuous analysis.
D: Discrete analysis.

* Excluding essential hypertension.