

## DESCRIPTION OF SCL-90-R DIMENSIONS\*

### ANXIETY

The anxiety dimension is composed of a set of symptoms and signs that are associated clinically with high levels of manifest anxiety. General signs such as nervousness, tension, and trembling are included in the definition, as are panic attacks and feelings of terror. Cognitive components involving feelings of apprehension and dread, and some of the somatic correlates of anxiety are also included as dimensional components. The symptoms comprising the anxiety dimension are experiencing nervousness or shakiness inside, trembling, being suddenly scared for no reason, feeling fearful, experiencing heart pounding or racing, feeling tense and keyed up, having spells of terror and panic, feeling so restless you couldn't sit still, feeling that something bad is going to happen, and experiencing frightening thoughts and images.

### DEPRESSION

The symptoms of the depression dimension reflect a broad range of the manifestations of clinical depression. Symptoms of dysphoric mood and affect are represented, as are signs of withdrawal of life interest, lack of motivation, and loss of vital energy. In addition, feelings of hopelessness, thoughts of suicide, and other cognitive and somatic correlates of depression are included. The symptoms comprising the depression dimension are losing sexual interest or pleasure, feeling low in energy or slowed down, thinking of ending your life, crying easily, feeling trapped or caught, blaming yourself for things, feeling lonely, feeling blue, worrying too much about things, feeling no interest in things, feeling hopeless about the future, feeling everything is an effort, and feeling worthless.

### HOSTILITY

The hostility dimension reflects thoughts, feelings, or actions that are characteristic of the negative affect state of anger. The selection of items includes all three modes of manifestation and reflects qualities such as aggression, irritability, rage, and resentment. The symptoms comprising the hostility dimension are feeling easily annoyed or irritated; having uncontrollable temper outbursts; having urges to beat, injure, or harm someone; having urges to break or smash things; getting into frequent arguments; and shouting or throwing things.

### INTERPERSONAL SENSITIVITY

The interpersonal sensitivity dimension focuses on feelings of personal inadequacy and inferiority, particularly in comparison with others. Self-deprecation, feelings of uneasiness, and marked discomfort during interpersonal interactions are characteristic manifestations of this syndrome. In addition, individuals with high scores on interpersonal sensitivity report acute self-consciousness and negative expectancies concerning the communications and interpersonal behaviors with others. The symptoms comprising the

\*Taken from the SCL-90-R.

interpersonal sensitivity dimension are feeling critical of others, feeling shy or uneasy with the opposite sex, having feelings easily hurt, feeling others do not understand or are unsympathetic, feeling that people are unfriendly or dislike you, feeling inferior to others, feeling uneasy when people are watching or talking about you, feeling very self-conscious with others, and feeling uncomfortable about eating or drinking in public.

#### OBSESSIVE-COMPULSIVE

The obsessive-compulsive dimension reflects symptoms that are highly identified with the standard clinical syndrome of the same name. This measure focuses on thoughts, impulses, and actions that are experienced as unremitting and irresistible by the individual but are of an ego-alien or unwanted nature. Behaviors and experiences of a more general cognitive performance attenuation are also included in this measure. The symptoms comprising the obsessive-compulsive dimension are experiencing repeated unpleasant thoughts that won't leave the mind, having trouble remembering things, worrying about sloppiness or carelessness, feeling blocked in getting things done, having to do things very slowly to ensure correctness, having to check and double-check what is done, having difficulty making decisions, having mind go blank, having trouble concentrating, and having to repeat the same actions (e.g., touching, counting, washing).

#### PARANOID IDEATION

The present dimension represents paranoid behavior fundamentally as a disordered mode of thinking. The cardinal characteristics of projective thought, hostility, suspiciousness, grandiosity, centrality, fear of loss of autonomy, and delusions are viewed as primary reflections of this disorder; item selection was oriented toward representing this conceptualization. The symptoms comprising the paranoid ideation dimension are feeling others are to blame for most of your troubles, feeling that most people cannot be trusted, feeling that you are watched or talked about by others, having ideas and beliefs that others do not share, not receiving proper credit from others for your achievements, and feeling that people will take advantage of you if you let them.

#### PHOBIC ANXIETY

Phobic anxiety is defined as a persistent fear response to a specific person, place, object, or situation that is characterized as being irrational and disproportionate to the stimulus, and which leads to avoidance or escape behavior. The items of the present dimension focus on the more pathognomonic and disruptive manifestations of phobic behavior. The actual structure of the dimension is in close agreement with the definition of "agoraphobia" (Marks, 1969), also termed "phobic anxiety depersonalization syndrome" by Roth (1959). The symptoms comprising the phobic anxiety dimension are feeling afraid in open spaces or on the street; feeling afraid to go out of the house alone; feeling afraid to travel on buses, subways, or trains; having to avoid certain things, places, or activities because they are frightening; feeling uneasy in crowds, such as shopping or at a movie; feeling nervous when left alone; and feeling afraid of fainting in public.

## PSYCHOTICISM

The psychoticism scale was developed in a fashion to represent the construct as a continuous dimension of human experience. Items indicative of a withdrawn, isolated, schizoid lifestyle were included, as were first-rank symptoms of schizophrenia, such as hallucinations and thought-broadcasting. The psychoticism scale provides a graduated continuum from mild interpersonal alienation to dramatic evidence of psychosis. In this respect, the present definition owes much to the work of Eysenck (1968). The symptoms comprising the psychoticism dimension are having the idea that someone else can control your thoughts, hearing voices that other people do not hear, believing that other people are aware of your private thoughts, having thoughts that are not your own, feeling lonely even when you are with people, having thoughts about sex that bother you a lot, believing that you should be punished for your sins, thinking that something serious is wrong with your body, never feeling close to another person, and thinking that something is wrong with your mind.

## SOMATIZATION

The somatization dimension reflects distress arising from perceptions of bodily dysfunction. Complaints focusing on cardiovascular, gastrointestinal, respiratory, and other systems with strong autonomic mediation are included. Headaches, pain, and discomfort of the gross musculature and additional somatic equivalents of anxiety are components of the definition. These symptoms and signs have all been demonstrated to have high prevalence in disorders demonstrated to have a functional etiology, although all may be reflections of true physical disease. The symptoms comprising the somatization dimension are headaches, faintness or dizziness, pains in heart or chest, pains in lower back, nausea or upset stomach, soreness of muscles, trouble getting breath, hot or cold spells, numbness or tingling in parts of body, lump in throat, weakness in parts of body, and heavy feelings in arms or legs.

## ADDITIONAL ITEMS

Seven items that are a part of the SCL-90-R which are not subsumed under any of the primary symptom dimensions; these symptoms actually "load" on several of the dimensions but are not univocal to any of them. While in this sense they violate one of the statistical criteria for inclusion in the test, they are a part of the item set because they are clinically important. These items contribute to the global scores on the SCL-90-R and are intended to be used configurally. Thus, a high depression score with "early morning awakening" and "poor appetite" may mean something quite different from a similar score with these symptoms absent. By the same token, the presence of conscious "feelings of guilt" is an important clinical indicator that communicates important information to the clinician. The additional items are not scored collectively as a dimension but are summed into the global scores. The additional items in the SCL-90-R are having a poor appetite, overeating, having trouble falling asleep, awakening in the early morning, experiencing restless or disturbed sleep, thinking of death or dying, and feeling guilty.

### The Global Indices of Distress

There are three global indices of distress associated with the SCL-90-R: the GSI, the PSDI, and the PST. The function of each of these global measures is to communicate in a single score the level or depth of the individual's psychopathology. Each measure does this in a somewhat distinct fashion and reflects somewhat different aspects of psychopathology (Derogatis, Yevzeroff, & Wittelsberger, 1975). The GSI represents the best single indicator of the current level or depth of the disorder and should be utilized in most instances where a single summary measure is required. The GSI combines information on numbers of symptoms and intensity of perceived distress. The PSDI is a pure intensity measure, in a sense, "corrected" for numbers of symptoms. It functions very much as a measure of response style in the sense of communicating whether the patient is "augmenting" or "attenuating" symptomatic distress in his style of reporting his disorder. The PST is simply a count of the number of symptoms the patient reports as positive--that is, that he experiences as having to any degree. When used configurally in conjunction with the GSI, information on style of response and numbers of symptoms endorsed can be very helpful in appreciating the clinical picture.

## DESCRIPTION OF MCMI SCALES\*

### BASIC PERSONALITY PATTERNS

The following descriptions of high-scale scorers focus on everyday ways of functioning that characterize these patients even when they are not suffering acute symptom states. They reflect relatively enduring and pervasive traits that typify patient styles of behaving, perceiving, thinking, feeling, and relating to others. Although patients may currently exhibit more distinctive pathological symptoms, the features noted refer to their premorbid characterological pattern.

#### Schizoid (Asocial)

1. Affectivity deficit (e.g., exhibits intrinsic emotional blandness; reports weak affectionate needs and an inability to display enthusiasm or experience pleasure).
2. Mild cognitive slippage (e.g., evidences impoverished and obscure thought processes inappropriate to intellectual level; social communication often tangential and irrelevant).
3. Interpersonal indifference (e.g., possesses minimal "human" interests; prefers a peripheral role in social and family relationships).
4. Behavioral apathy (e.g., experiences fatigue, low energy, and lack of vitality; displays deficits in activation, motoric expressiveness, and spontaneity).
5. Perceptual insensitivity (e.g., reveals minimal introspection and awareness of self; is impervious to subtleties of everyday social and emotional life).

#### Avoidant

1. Affective dysphoria (e.g., describes a constant and confusing undercurrent of tension, sadness, and anger; vacillates between desire for affection, fear, and numbness of feeling).
2. Mild cognitive interference (e.g., is bothered and distracted by disruptive inner thoughts; irrelevant and digressive ideation disrupts social communication).
3. Alienated self-image (e.g., describes life as one of social isolation and rejection; devalues self and reports periodic feelings of emptiness and depersonalization).

\*Taken from the MCMI.

4. Aversive interpersonal behavior (e.g., tells of social pan-anxiety and distrust; seeks privacy to avoid anticipated social derogation).

5. Perceptual hypersensitivity (e.g., vigilantly scans for potential threats; overinterprets innocuous behavior as a sign of ridicule and humiliation).

### Dependent (Submissive)

1. Pacific temperament (e.g., is characteristically docile and noncompetitive; avoids social tension and interpersonal conflicts).

2. Interpersonal submissiveness (e.g., needs a stronger, nurturing figure, and without one feels anxiously helpless; is often conciliatory, placating, and self-sacrificing).

3. Inadequate self-image (e.g., perceives self as weak, fragile, and ineffectual; exhibits lack of confidence by belittling own aptitudes and competencies).

4. Pollyanna cognitive style (e.g., reveals a naive or benign attitude toward interpersonal difficulties; smooths over troubling events).

5. Initiative deficit (e.g., prefers a subdued, uneventful, and passive lifestyle; avoids self-assertion and refuses autonomous responsibilities).

### Histrionic (Gregarious)

1. Fickle affectivity (e.g., displays short-lived, dramatic, and superficial affects; reports tendency to be easily excited and as easily bored).

2. Sociable self-image (e.g., perceives self as gregarious, stimulating, and charming; attracts fleeting acquaintances and enjoys rapidly paced social life).

3. Interpersonal seductiveness (e.g., actively solicits praise and manipulates others to gain attention and approval; exhibits self-dramatizing and childishly exhibitionistic behaviors).

4. Cognitive dissociation (e.g., integrates experiences poorly, which results in scattered learning and unexamined thought; reveals undependable, erratic, and flighty judgment).

5. Immature stimulus-seeking behavior (e.g., is intolerant of inactivity, leading to unreflected and impulsive responsiveness; describes penchant for momentary excitements, fleeting adventures, and short-sighted hedonism).

### Narcissistic

1. Inflated self-image (e.g., displays pretentious self-assurance and exaggerates achievements; is seen by others as egotistic, haughty, and arrogant).
2. Interpersonal exploitiveness (e.g., takes others for granted and uses them to enhance self and indulge desires; expects special favors without assuming reciprocal responsibilities).
3. Cognitive expansiveness (e.g., exhibits immature fantasies and an undisciplined imagination; is minimally constrained by objective reality, takes liberties with facts, and often lies to redeem self-illusions).
4. Insouciant temperament (e.g., manifests a general air of nonchalance and imperturbability; appears coolly unimpressionable or buoyantly optimistic except when narcissistic confidence is shaken).
5. Deficient social conscience (e.g., flouts conventional rules of shared social living, viewing them as naive or inapplicable to self; reveals a careless disregard for personal integrity and an indifference to the rights of others).

### Antisocial (Aggressive)

1. Hostile affectivity (e.g., has a pugnacious and irascible temper that flares readily into argument and attack; exhibits frequent verbally abusive and physically cruel behaviors).
2. Assertive self-image (e.g., proudly characterizes self as independent, vigorously energetic, and hardheaded; values tough, competitive, and power-oriented life style).
3. Interpersonal vindictiveness (e.g., reveals satisfaction in derogating and humiliating others; is contemptuous of sentimentality, social compassion, and humanistic values).
4. Hyperthymic fearlessness (e.g., exhibits high activation level in impulsive, accelerated, and forceful responding; is attracted to and undaunted by danger and punishment).
5. Malevolent projection (e.g., claims that most persons are devious, controlling, and punitive; justifies own mistrustful, hostile, and vengeful attitudes by ascribing them to others).

### Compulsive (Conforming)

1. Restrained affectivity (e.g., is unrelaxed, tense, joyless, and grim; keeps emotional expression under tight control).
2. Conscientious self-image (e.g., sees self as industrious, dependable, and efficient; values self-discipline, prudence, and loyalty).

3. Interpersonal respectfulness (e.g., exhibits unusual adherence to social conventions and proprieties; prefers polite, formal, and correct personal relationships).

4. Cognitive constriction (e.g., constructs world in terms of rules, regulations, and hierarchies; is unimaginative, indecisive, and upset by unfamiliar or novel ideas and customs).

5. Behavioral rigidity (e.g., keeps a well-structured, highly regulated, and repetitive life pattern; prefers organized, methodical, and meticulous work).

#### Passive-Aggressive (Negativistic)

1. Labile affectivity (e.g., is frequently irritable and displays erratic moodiness; reports being easily frustrated and explosive).

2. Behavioral contrariness (e.g., frequently exhibits passively aggressive, petulant, and fault-finding behaviors; reveals gratification in demoralizing and undermining the pleasures of others).

3. Discontented self-image (e.g., reports feeling misunderstood, unappreciated, and demeaned by others; is characteristically pessimistic, disgruntled, and disillusioned with life).

4. Deficient regulatory controls (e.g., expresses fleeting thoughts and impulsive emotions in unmodulated form; external stimuli evoke capricious and vacillating reactions).

5. Interpersonal ambivalence (e.g., assumes conflicting and changing roles in social relationships, particularly dependent acquiescence and assertive independence; uses unpredictable and sulking behavior to provoke edgy discomfort in others).

#### **PATHOLOGICAL PERSONALITY DISORDERS**

The following three scales describe patients who clearly evidence a chronic or periodically severe pathology in the overall structure of personality. There is a checkered history of disruptions, predicaments, and disappointments in personal relationships and in school and work performance. These patients achieve modest levels of social competence because of an apparent inability to learn from previous difficulties; a tendency to precipitate self-defeating vicious circles, digressions, and setbacks; and a failure to achieve a niche in life that is consonant with natural aptitudes and potentials. Although frequently able to function on an ambulatory basis, they may have had transient but repetitive psychotic episodes involving extreme or bizarre behaviors.

### Schizotypal (Schizoid)

1. Social detachment (e.g., prefers life of isolation with minimal personal attachments and obligations; over time, has drifted into increasingly peripheral social and vocational roles).
2. Behavioral eccentricity (e.g., exhibits peculiar habits frequently; is perceived by others as unobtrusively strange or different).
3. Nondelusional autistic thinking (e.g., mixes social communication with personal irrelevancies, obscurities, and tangential asides; appears self-absorbed and lost in daydreams with occasional blurring of fantasy and reality).
4. Either (a) anxious wariness (e.g., reports being hypersensitive and apprehensively ill-at-ease, particularly in social encounters; is guarded, suspicious of others, and secretive in behavior); or (b) emotional flatness (e.g., manifests a drab, sluggish, joyless, and spiritless appearance; reveals marked deficiencies in activation and affect).
5. Disquieting estrangement (e.g., reports periods of depersonalization, derealization, and dissociation; experiences anxious feelings of emptiness and meaninglessness).

### Borderline (Cycloid)

1. Intense endogenous moods (e.g., continually fails to accord mood with external events; is either depressed or excited or has recurring periods of dejection and apathy interspersed with spells of anger, anxiety, or euphoria).
2. Dysregulated activation (e.g., experiences desultory energy level and irregular sleep-wake cycle, describes time periods that suggest that affective-activation equilibrium is constantly in jeopardy).
3. Self-condemnatory conscience (e.g., reveals recurring self-mutilating and suicidal thoughts; periodically redeems moody behavior through contrition and self-derogation).
4. Dependency anxiety (e.g., is preoccupied with securing affection and maintaining emotional support; reacts intensely to separation and reports haunting fear of isolation and loss).
5. Cognitive-affective ambivalence (e.g., repeatedly struggles to express attitudes contrary to inner feelings; simultaneously experiences conflicting emotions and thoughts toward others, notably love, rage, and guilt).

### Paranoid

1. Vigilant mistrust (e.g., exhibits edgy defensiveness against anticipated criticism and deception; conveys extreme suspicion, envy, and jealousy of others).

2. Provocative interpersonal behavior (e.g., displays a disputatious, fractious, and abrasive irritability; precipitates exasperation and anger by hostile, deprecatory demeanor).

3. Tenacious autonomy (e.g., expresses fear of losing independence and power of self-determination; is grimly resistant to sources of external influence and control).

4. Minidelusional cognitions (e.g., distorts events into personally logical but essentially irrational beliefs; embellishes trivial achievements to accord with semigrandiose self-image).

5. Persecutory self-references (e.g., construes incidental events as critical of self; reveals tendency to magnify minor and personally unrelated tensions into proofs of purposeful deception and malice).

#### **CLINICAL SYMPTOM SYNDROMES**

Most, but not all, of the symptom disorders described in this section are of the reactive kind that are of substantially briefer duration than the personality disorders. They usually represent states in which an active pathological process is clearly manifested. Many of these symptoms are precipitated by external events. Most typically, they appear in somewhat striking or dramatic form, often accentuating or intensifying the more prosaic features of the premorbid or basic personality style; that is, in their active form, these symptoms tend to stand out in sharp relief within the context of the more enduring and characteristic mode of functioning. During periods of active pathology, it is not uncommon for several symptoms to covary at any one time and to change over time in their degrees of prominence. The first six scales represent disorders of moderate severity; the last three scales reflect disorders of marked severity.

#### **Anxiety**

The high-scoring patient often reports feeling either vaguely apprehensive or specifically phobic; is typically tense, indecisive, restless; and tends to complain about a variety of physical discomforts, such as tightness, excessive perspiration, ill-defined muscular aches, and nausea.

#### **Somatoform**

The high-scoring patient expresses psychological difficulties through somatic channels, reports persistent periods of fatigue and weakness, and may be preoccupied with ill health and a variety of dramatic, but largely nonspecific pains in different and unrelated regions of the body.

#### **Hypomanic**

The high-scoring patient evidences periods of superficial, elevated but unstable moods; restless overactivity and distractibility; pressured speech; and impulsiveness and irritability.

### Dysthymic

The high-scoring patient remains involved in everyday life, but is downhearted, preoccupied with feelings of discouragement or guilt, exhibits a lack of initiative and behavioral apathy, and frequently voices futility and self-deprecatory comments.

### Alcohol Abuse

The high-scoring patient probably has a history of alcoholism, has made efforts to overcome the difficulty with minimal success, and as a consequence, experiences considerable discomfort in both family and work settings.

### Drug Abuse

The high-scoring patient probably has a recurrent or recent history of drug abuse, tends to have difficulty in restraining impulses or keeping them within conventional social limits, and displays an inability to manage the personal consequences of these behaviors.

### Psychotic Thinking

The high-scoring patient, usually classified as "schizophrenic," periodically exhibits incongruous, disorganized, or regressive behavior; often appears confused and disoriented; and occasionally displays inappropriate affects, scattered hallucinations, and unsystematic delusions.

### Psychotic Depression

The high-scoring patient is usually incapable of functioning in a normal environment, is in a severely depressed mood, and expresses a dread of the future and a sense of hopeless resignation. Some exhibit a marked motor retardation, whereas others display an agitated quality, incessantly pacing about and bemoaning their sorry state.

### Psychotic Delusions

The high-scoring patient, usually considered paranoid, becomes periodically belligerent and often voices irrational but interconnected sets of delusions of a persecutory or grandiose nature.

**TABLE I-1.**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Age			Race			
		Born $\geq 1942$	Born 1923-1941	Born $\leq 1922$	p-Value	Black	Nonblack	
Trouble Falling Asleep	Yes	(n=957) 13.9%	(n=1,253) 9.3%	(n=84) 8.3%	0.002	(n=137) 13.1%	(n=2,157) 11.1%	0.534
Waking Up During the Night	Yes	(n=957) 13.2%	(n=1,253) 14.7%	(n=84) 22.6%	0.053	(n=137) 8.8%	(n=2,157) 14.7%	0.061
Waking Up Too Early and Can't Go Back to Sleep	Yes	(n=957) 11.2%	(n=1,253) 10.7%	(n=84) 13.1%	0.768	(n=137) 11.7%	(n=2,157) 10.9%	0.874
Waking Up Unrefreshed	Yes	(n=957) 11.7%	(n=1,253) 8.0%	(n=84) 4.8%	0.004	(n=137) 9.5%	(n=2,157) 9.4%	0.999
Involuntarily Falling Asleep During the Day	Yes	(n=957) 3.6%	(n=1,253) 4.1%	(n=84) 7.1%	0.261	(n=137) 5.1%	(n=2,157) 3.9%	0.598
Great or Disabling Fatigue During the Day	Yes	(n=957) 3.3%	(n=1,253) 2.6%	(n=84) 1.2%	0.393	(n=137) 5.1%	(n=2,157) 2.7%	0.190
Frightening Dreams	Yes	(n=955) 5.4%	(n=1,249) 3.7%	(n=84) 4.8%	0.138	(n=136) 6.6%	(n=2,152) 4.3%	0.296
Talking in Sleep	Yes	(n=956) 5.5%	(n=1,252) 2.6%	(n=84) 3.6%	0.001	(n=137) 2.9%	(n=2,155) 3.9%	0.772

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Age			Race			
		Born $\geq 1942$	Born 1923-1941	Born $\leq 1922$	p-Value	Black	Nonblack	
Sleepwalking	Yes	(n=957) 3.1%	(n=1,253) 1.0%	(n=84) 0.0%	0.001	(n=137) 0.7%	(n=2,157) 2.0%	0.522
Abnormal Movement/Activity During the Night	Yes	(n=957) 4.7%	(n=1,253) 2.6%	(n=84) 2.4%	0.020	(n=137) 4.4%	(n=2,157) 3.4%	0.664
Sleep Problems Requiring Medication	Yes	(n=957) 2.5%	(n=1,253) 2.0%	(n=84) 1.2%	0.586	(n=137) 2.2%	(n=2,157) 2.2%	0.999
Snore Loudly in All Sleeping Positions	Yes	(n=957) 6.6%	(n=1,253) 7.8%	(n=84) 4.8%	0.365	(n=137) 5.8%	(n=2,157) 7.3%	0.670
Insomnia	Yes	(n=957) 24.9%	(n=1,253) 22.6%	(n=84) 31.0%	0.136	(n=137) 20.4%	(n=2,157) 24.1%	0.392
Overall Sleep Disorder Index	Abnormal	(n=955) 37.0%	(n=1,249) 32.4%	(n=84) 36.9%	0.076	(n=136) 29.4%	(n=2,152) 34.8%	0.232
Average Sleep Each Night		--	(n=2,293) $r=0.090$	--	<0.001	(n=137) $\bar{x}=6.41$	(n=2,156) $\bar{x}=6.96$	<0.001
SCL-90-R Anxiety	Abnormal	(n=864) 8.3%	(n=1,096) 5.3%	(n=72) 6.9%	0.027	(n=121) 7.4%	(n=1,911) 6.6%	0.826

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Age			p-Value	Race		p-Value
		Born >1942	Born 1923-1941	Born ≤1922		Black	Nonblack	
SCL-90-R Depression	Abnormal	(n=864) 10.4%	(n=1,096) 7.0%	(n=72) 8.3%	0.028	(n=121) 5.8%	(n=1,911) 8.7%	0.348
SCL-90-R Hostility	Abnormal	(n=864) 7.3%	(n=1,096) 3.2%	(n=72) 1.4%	<0.001	(n=121) 6.6%	(n=1,911) 4.8%	0.466
SCL-90-R Interpersonal Sensitivity	Abnormal	(n=864) 8.9%	(n=1,096) 4.5%	(n=72) 8.3%	<0.001	(n=121) 6.6%	(n=1,911) 6.5%	0.999
SCL-90-R Obsessive-Compulsive Behavior	Abnormal	(n=864) 10.1%	(n=1,096) 6.2%	(n=72) 9.7%	0.006	(n=121) 8.3%	(n=1,911) 8.0%	0.999
SCL-90-R Paranoid Ideation	Abnormal	(n=864) 5.8%	(n=1,096) 2.9%	(n=72) 1.4%	0.003	(n=121) 7.4%	(n=1,911) 3.9%	0.109
SCL-90-R Phobic Anxiety	Abnormal	(n=864) 9.8%	(n=1,096) 4.7%	(n=72) 6.9%	<0.001	(n=121) 10.7%	(n=1,911) 6.8%	0.149
SCL-90-R Psychoticism	Abnormal	(n=864) 11.1%	(n=1,096) 7.1%	(n=72) 9.7%	0.008	(n=121) 12.4%	(n=1,911) 8.7%	0.226
SCL-90-R Somatization	Abnormal	(n=864) 8.1%	(n=1,096) 10.2%	(n=72) 9.7%	0.275	(n=121) 12.4%	(n=1,911) 9.1%	0.296

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Age			Race			
		Born $\geq 1942$	Born 1923-1941	Born $\leq 1922$	P-Value	Black	Nonblack	
SCL-90-R GSI	Abnormal	(n=864) 10.2%	(n=1,096) 5.7%	(n=72) 5.6%	0.001	(n=121) 9.9%	(n=1,911) 7.5%	0.414
SCL-90-R PSDI	Abnormal	(n=864) 10.4%	(n=1,096) 8.8%	(n=72) 9.7%	0.461	(n=121) 10.7%	(n=1,911) 9.4%	0.722
SCL-90-R PST	Abnormal	(n=864) 10.2%	(n=1,096) 5.4%	(n=72) 5.6%	<0.001	(n=121) 10.7%	(n=1,911) 7.2%	0.216
MCMI Schizoid Score <sup>a</sup>		--	(n=2,288) $r=-0.053$	--	0.012	(n=137) $\bar{x}=24.5$	(n=2,151) $\bar{x}=24.4$	0.919
MCMI Avoidant Score <sup>b</sup>		--	(n=2,288) $r=-0.051$	--	0.014	(n=137) $\bar{x}=15.8$	(n=2,151) $\bar{x}=16.7$	0.489
MCMI Dependent Score <sup>c</sup>		(n=955) $\bar{x}=42.5$	(n=1,250) $\bar{x}=40.1$	(n=83) $\bar{x}=45.9$	0.003	(n=137) $\bar{x}=42.7$	(n=2,151) $\bar{x}=41.2$	0.419
MCMI Histrionic Score <sup>d</sup>		--	(n=2,288) $r=-0.032$	--	0.121	(n=137) $\bar{x}=67.2$	(n=2,151) $\bar{x}=63.4$	0.002

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Age			Race		
		Born $\geq 1942$	Born 1923-1941	Born $\leq 1922$	p-Value	Black	Nonblack
MCMI Narcissistic Score		— —	(n=2,288) r=-0.007	— —	0.743	(n=137) $\bar{x}=69.2$	(n=2,151) $\bar{x}=63.6$ <0.001
MCMI Antisocial Score		— —	(n=2,288) r=-0.019	— —	0.374	(n=137) $\bar{x}=62.0$	(n=2,151) $\bar{x}=60.2$ 0.288
MCMI Compulsive Score		— —	(n=2,288) r=0.138	— —	<0.001	(n=137) $\bar{x}=69.3$	(n=2,151) $\bar{x}=68.4$ 0.300
MCMI Passive-Aggressive Score		— —	(n=2,288) r=-0.142	— —	<0.001	(n=137) $\bar{x}=20.5$	(n=2,151) $\bar{x}=19.0$ 0.253
MCMI Schizotypal Score		(n=955) $\bar{x}=35.7$	(n=1,250) $\bar{x}=33.2$	(n=83) $\bar{x}=36.9$	0.003	(n=137) $\bar{x}=33.4$	(n=2,151) $\bar{x}=34.4$ 0.523
MCMI Borderline Score		(n=955) $\bar{x}=34.7$	(n=1,250) $\bar{x}=31.8$	(n=83) $\bar{x}=35.1$	<0.001	(n=137) $\bar{x}=34.3$	(n=2,151) $\bar{x}=33.0$ 0.408

TABLE I-1. (continued)

Dependent Variable	Level	Age			Race			
		Born $\geq 1942$	Born 1923-1941	Born $\leq 1922$	p-Value	Black	Nonblack	p-Value
MCMII Paranoid Score		-- $r=-0.015$	(n=2,288) $r=-0.015$	--	0.471	(n=137) $\bar{x}=56.5$	(n=2,151) $\bar{x}=52.0$	0.001
MCMII Anxiety Score		-- $r=-0.006$	(n=2,288) $r=-0.006$	--	0.767	(n=137) $\bar{x}=48.9$	(n=2,151) $\bar{x}=47.0$	0.318
MCMII Somatoform Score		-- $r=0.021$	(n=2,288) $r=0.021$	--	0.315	(n=137) $\bar{x}=53.2$	(n=2,151) $\bar{x}=51.1$	0.181
MCMII Hypomania Score		-- $r=-0.045$	(n=2,288) $r=-0.045$	--	0.031	(n=137) $\bar{x}=26.3$	(n=2,151) $\bar{x}=20.9$	0.017
MCMII Dysthymia Score		-- $r=-0.008$	(n=2,288) $r=-0.008$	--	0.694	(n=137) $\bar{x}=50.6$	(n=2,151) $\bar{x}=50.0$	0.779
MCMII Alcohol Abuse Score		-- $r=-0.039$	(n=2,288) $r=-0.039$	--	0.065	(n=137) $\bar{x}=36.5$	(n=2,151) $\bar{x}=30.8$	<0.001

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Age			Race		
		Born $\geq 1942$	Born 1923-1941	Born $\leq 1922$	p-Value	Black	Nonblack
MCMI Drug Abuse Score		---	(n=2,288) $r=-0.060$	---	0.004	(n=137) $\bar{x}=55.7$	(n=2,151) $\bar{x}=46.9$ <0.001
MCMI Psychotic Thinking Score		---	(n=2,288) $r=-0.072$	---	<0.001	(n=137) $\bar{x}=36.0$	(n=2,151) $\bar{x}=31.9$ 0.021
MCMI Psychotic Depression Score		---	(n=2,288) $r=-0.053$	---	0.011	(n=137) $\bar{x}=26.5$	(n=2,151) $\bar{x}=23.2$ 0.063
MCMI Psychotic Delusion Score		(n=955) $\bar{x}=44.2$	(n=1,250) $\bar{x}=41.9$	(n=83) $\bar{x}=43.2$	0.039	(n=137) $\bar{x}=47.0$	(n=2,151) $\bar{x}=42.7$ 0.018

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Education			p-Value	Post-Traumatic Stress Disorder		
		High School	College	No		Yes		
Trouble Falling Asleep	Yes	(n=1,150) 13.3%	(n=1,130) 9.0%	0.001	(n=2,162) 10.7%	(n=16) 81.3%	<0.001	
Waking Up During the Night	Yes	(n=1,150) 15.0%	(n=1,130) 13.7%	0.432	(n=2,162) 14.0%	(n=16) 75.0%	<0.001	
Waking Up Too Early and Can't Go Back to Sleep	Yes	(n=1,150) 12.8%	(n=1,130) 9.1%	0.006	(n=2,162) 10.5%	(n=16) 62.5%	<0.001	
Waking Up Unrefreshed	Yes	(n=1,150) 11.0%	(n=1,130) 7.7%	0.009	(n=2,162) 8.7%	(n=16) 87.5%	<0.001	
Involuntarily Falling Asleep During the Day	Yes	(n=1,150) 4.4%	(n=1,130) 3.4%	0.224	(n=2,162) 3.8%	(n=16) 31.3%	<0.001	
Great or Disabling Fatigue During the Day	Yes	(n=1,150) 4.3%	(n=1,130) 1.4%	<0.001	(n=2,162) 2.7%	(n=16) 37.5%	<0.001	
Frightening Dreams	Yes	(n=1,146) 5.3%	(n=1,128) 3.5%	0.038	(n=2,157) 3.9%	(n=15) 66.7%	<0.001	
Talking in Sleep	Yes	(n=1,149) 5.2%	(n=1,129) 2.5%	<0.001	(n=2,160) 3.7%	(n=16) 25.0%		0.005

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Education		p-Value	Post-Traumatic Stress Disorder		p-Value
		High School	College		No	Yes	
Sleepwalking	Yes	(n=1,150) 1.7%	(n=1,130) 1.8%	0.999	(n=2,162) 1.8%	(n=16) 6.3%	0.514
Abnormal Movement/ Activity During the Night	Yes	(n=1,150) 4.5%	(n=1,130) 2.3%	0.005	(n=2,162) 3.1%	(n=16) 50.0%	<0.001
Sleep Problems Requiring Medication	Yes	(n=1,150) 3.0%	(n=1,130) 1.3%	0.010	(n=2,162) 1.8%	(n=16) 56.3%	<0.001
Snore Loudly in All Sleeping Positions	Yes	(n=1,150) 7.4%	(n=1,130) 6.9%	0.710	(n=2,162) 7.1%	(n=16) 31.3%	0.009
Insomnia	Yes	(n=1,150) 26.3%	(n=1,130) 21.2%	0.005	(n=2,162) 23.5%	(n=16) 87.5%	<0.001
Overall Sleep Disorder Index	Abnormal	(n=1,146) 38.3%	(n=1,128) 30.4%	<0.001	(n=2,157) 34.2%	(n=15) 100.0%	<0.001
Average Sleep Each Night		(n=1,150) $\bar{x}=6.86$	(n=1,129) $\bar{x}=7.00$	0.001	(n=2,161) $\bar{x}=6.93$	(n=16) $\bar{x}=6.25$	0.138
SCL-90-R Anxiety	Abnormal	(n=1,030) 9.1%	(n=989) 4.0%	<0.001	(n=1,914) 5.9%	(n=16) 93.8%	<0.001

TABLE I-1. (continued)

**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Education		p-Value	Post-Traumatic Stress Disorder		p-Value
		High School	College		No	Yes	
SCL-90-R Depression	Abnormal	(n=1,030) 11.0%	(n=989) 5.9%	<0.001	(n=1,914) 7.7%	(n=16) 100.0%	<0.001
SCL-90-R Hostility	Abnormal	(n=1,030) 6.5%	(n=989) 3.1%	0.001	(n=1,914) 4.3%	(n=16) 81.3%	<0.001
SCL-90-R Interpersonal Sensitivity	Abnormal	(n=1,030) 9.5%	(n=989) 3.3%	<0.001	(n=1,914) 5.8%	(n=16) 81.3%	<0.001
SCL-90-R Obsessive-Compulsive Behavior	Abnormal	(n=1,030) 11.1%	(n=989) 4.8%	<0.001	(n=1,914) 7.4%	(n=16) 81.3%	<0.001
SCL-90-R Paranoid Ideation	Abnormal	(n=1,030) 5.1%	(n=989) 3.0%	0.022	(n=1,914) 3.5%	(n=16) 75.0%	<0.001
SCL-90-R Phobic Anxiety	Abnormal	(n=1,030) 9.0%	(n=989) 4.9%	<0.001	(n=1,914) 6.3%	(n=16) 75.0%	<0.001
SCL-90-R Psychoticism	Abnormal	(n=1,030) 12.1%	(n=989) 5.6%	<0.001	(n=1,914) 8.2%	(n=16) 93.8%	<0.001

TABLE I-1. (continued)

## Dependent Variable-Covariate Associations for Psychology Assessment

Dependent Variable	Level	Education		p-Value	Post-Traumatic Stress Disorder		p-Value
		High School	College		No	Yes	
SCL-90-R Somatization	Abnormal	(n=1,030) 12.6%	(n=989) 5.9%	<0.001	(n=1,914) 8.7%	(n=16) 87.5%	<0.001
SCL-90-R GSI	Abnormal	(n=1,030) 10.8%	(n=989) 4.3%	<0.001	(n=1,914) 6.8%	(n=16) 93.8%	<0.001
SCL-90-R PSDI	Abnormal	(n=1,030) 11.1%	(n=989) 7.9%	0.018	(n=1,914) 9.1%	(n=16) 75.0%	<0.001
SCL-90-R PST	Abnormal	(n=1,030) 9.9%	(n=989) 4.8%	<0.001	(n=1,914) 6.7%	(n=16) 93.8%	<0.001
MCMI Schizoid Score <sup>a</sup>		(n=1,147) $\bar{x}=26.3$	(n=1,127) $\bar{x}=22.6$	<0.001	(n=2,158) $\bar{x}=24.1$	(n=16) $\bar{x}=83.0$	<0.001
MCMI Avoidant Score <sup>b</sup>		(n=1,147) $\bar{x}=19.3$	(n=1,127) $\bar{x}=14.3$	<0.001	(n=2,158) $\bar{x}=16.3$	(n=16) $\bar{x}=89.2$	<0.001
MCMI Dependent Score <sup>c</sup>		(n=1,147) $\bar{x}=44.0$	(n=1,127) $\bar{x}=38.6$	<0.001	(n=2,158) $\bar{x}=41.1$	(n=16) $\bar{x}=52.2$	0.148

TABLE I-1. (continued)

## Dependent Variable-Covariate Associations for Psychology Assessment

Dependent Variable	Level	Education		P-Value	Post-Traumatic Stress Disorder		P-Value
		High School	College		No	Yes	
MCMI Histrionic Score		(n=1,147) $\bar{x}=61.4$	(n=1,127) $\bar{x}=65.9$	<0.001	(n=2,158) $\bar{x}=63.9$	(n=16) $\bar{x}=41.2$	<0.001
MCMI Narcissistic Score		(n=1,147) $\bar{x}=62.6$	(n=1,127) $\bar{x}=65.3$	<0.001	(n=2,158) $\bar{x}=64.1$	(n=16) $\bar{x}=40.1$	<0.001
MCMI Antisocial Score		(n=1,147) $\bar{x}=61.0$	(n=1,127) $\bar{x}=59.5$	0.063	(n=2,158) $\bar{x}=60.3$	(n=16) $\bar{x}=67.1$	0.152
MCMI Compulsive Score		(n=1,147) $\bar{x}=68.1$	(n=1,127) $\bar{x}=68.9$	0.035	(n=2,158) $\bar{x}=68.7$	(n=16) $\bar{x}=42.2$	<0.001
MCMI Passive-Aggressive Score		(n=1,147) $\bar{x}=20.9$	(n=1,127) $\bar{x}=17.2$	<0.001	(n=2,158) $\bar{x}=18.6$	(n=16) $\bar{x}=91.0$	<0.001
MCMI Schizotypal Score		(n=1,147) $\bar{x}=36.8$	(n=1,127) $\bar{x}=31.8$	<0.001	(n=2,158) $\bar{x}=34.0$	(n=16) $\bar{x}=67.3$	<0.001

TABLE I-1. (continued)

## Dependent Variable-Covariate Associations for Psychology Assessment

Dependent Variable	Level	Education			Post-Traumatic Stress Disorder		
		High School	College	p-Value	No	Yes	p-Value
MCMI Borderline Score		(n=1,147) $\bar{x}=35.4$	(n=1,127) $\bar{x}=30.7$	<0.001	(n=2,158) $\bar{x}=32.6$	(n=16) $\bar{x}=71.5$	<0.001
MCMI Paranoid Score		(n=1,147) $\bar{x}=54.1$	(n=1,127) $\bar{x}=50.4$	<0.001	(n=2,158) $\bar{x}=52.2$	(n=16) $\bar{x}=60.5$	0.034
MCMI Anxiety Score		(n=1,147) $\bar{x}=49.8$	(n=1,127) $\bar{x}=44.3$	<0.001	(n=2,158) $\bar{x}=46.7$	(n=16) $\bar{x}=92.9$	<0.001
MCMI Somatoform Score		(n=1,147) $\bar{x}=52.1$	(n=1,127) $\bar{x}=50.3$	0.011	(n=2,158) $\bar{x}=51.0$	(n=16) $\bar{x}=68.5$	<0.001
MCMI Hypomania Score <sup>c</sup>		(n=1,147) $\bar{x}=20.1$	(n=1,127) $\bar{x}=22.4$	0.022	(n=2,158) $\bar{x}=21.0$	(n=16) $\bar{x}=37.2$	0.023
MCMI Dysthymia Score		(n=1,147) $\bar{x}=51.3$	(n=1,127) $\bar{x}=48.6$	0.004	(n=2,158) $\bar{x}=49.6$	(n=16) $\bar{x}=89.3$	<0.001
MCMI Alcohol Abuse Score		(n=1,147) $\bar{x}=33.5$	(n=1,127) $\bar{x}=28.7$	<0.001	(n=2,158) $\bar{x}=30.6$	(n=16) $\bar{x}=66.0$	<0.001

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

<b>Dependent Variable</b>	<b>Level</b>	<b>Education</b>			<b>Post-Traumatic Stress Disorder</b>		
		<b>High School</b>	<b>College</b>	<b>p-Value</b>	<b>No</b>	<b>Yes</b>	<b>p-Value</b>
<b>MCMI</b> <b>Drug Abuse Score</b>		(n=1,147) $\bar{x}=48.7$	(n=1,127) $\bar{x}=46.2$	0.003	(n=2,158) $\bar{x}=47.2$	(n=16) $\bar{x}=58.1$	0.029
<b>MCMI</b> <b>Psychotic Thinking Score</b>		(n=1,147) $\bar{x}=36.3$	(n=1,127) $\bar{x}=27.9$	<0.001	(n=2,158) $\bar{x}=31.6$	(n=16) $\bar{x}=70.8$	<0.001
<b>MCMI</b> <b>Psychotic Depression Score</b>		(n=1,147) $\bar{x}=27.1$	(n=1,127) $\bar{x}=19.5$	<0.001	(n=2,158) $\bar{x}=22.8$	(n=16) $\bar{x}=74.9$	<0.001
<b>MCMI</b> <b>Psychotic Delusion Score</b>		(n=1,147) $\bar{x}=46.3$	(n=1,127) $\bar{x}=39.5$	<0.001	(n=2,158) $\bar{x}=42.8$	(n=16) $\bar{x}=53.8$	0.033

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Lifetime Alcohol History				Current Alcohol Use			p-Value
		0	>0-40	>40	p-Value	0-1	>1-4	>4	
Trouble Falling Asleep	Yes	(n=205) 6.8%	(n=1,559) 10.3%	(n=517) 15.5%	0.001	(n=1,816) 11.0%	(n=398) 11.1%	(n=74) 18.9%	0.104
Waking Up During the Night	Yes	(n=205) 9.8%	(n=1,559) 12.6%	(n=517) 21.1%	<0.001	(n=1,816) 13.2%	(n=398) 18.6%	(n=74) 18.9%	0.011
Waking Up Too Early and Can't Go Back to Sleep	Yes	(n=205) 7.8%	(n=1,559) 9.9%	(n=517) 15.5%	0.001	(n=1,816) 10.2%	(n=398) 13.6%	(n=74) 16.2%	0.050
Waking Up Unrefreshed	Yes	(n=205) 6.3%	(n=1,559) 9.0%	(n=517) 11.6%	0.066	(n=1,816) 9.5%	(n=398) 9.0%	(n=74) 10.8%	0.888
Involuntarily Falling Asleep During the Day	Yes	(n=205) 2.9%	(n=1,559) 4.0%	(n=517) 4.4%	0.641	(n=1,816) 4.4%	(n=398) 2.5%	(n=74) 2.7%	0.201
Great or Disabling Fatigue During the Day	Yes	(n=205) 2.0%	(n=1,559) 2.5%	(n=517) 4.3%	0.083	(n=1,816) 3.0%	(n=398) 2.5%	(n=74) 2.7%	0.880
Frightening Dreams	Yes	(n=205) 3.4%	(n=1,554) 3.5%	(n=516) 7.9%	<0.001	(n=1,810) 4.0%	(n=398) 5.8%	(n=74) 8.1%	0.095

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Lifetime Alcohol History				P-Value	Current Alcohol Use			P-Value
		0	>0-40	>40	0-1		>1-4	>4		
Talking in Sleep	Yes	(n=205) 2.9%	(n=1,558) 3.4%	(n=516) 5.4%	(n=1,814) 3.7%	0.090	(n=398) 4.0%	(n=74) 5.4%	0.754	
Sleepwalking	Yes	(n=205) 2.0%	(n=1,559) 1.7%	(n=517) 2.3%	(n=1,816) 1.7%	0.693	(n=398) 2.3%	(n=74) 4.1%	0.286	
Abnormal Movement/ Activity During the Night	Yes	(n=205) 2.4%	(n=1,559) 3.1%	(n=517) 4.8%	(n=1,816) 3.5%	0.133	(n=398) 3.0%	(n=74) 4.1%	0.845	
Sleep Problems Requiring Medication	Yes	(n=205) 2.0%	(n=1,559) 1.5%	(n=517) 4.4%	(n=1,816) 1.9%	<0.001	(n=398) 2.5%	(n=74) 6.8%	0.018	
Snore Loudly in All Sleeping Positions	Yes	(n=205) 4.9%	(n=1,559) 6.5%	(n=517) 9.5%	(n=1,816) 7.2%	0.035	(n=398) 6.8%	(n=74) 8.1%	0.913	
Insomnia	Yes	(n=205) 17.1%	(n=1,559) 22.0%	(n=517) 32.1%	(n=1,816) 22.9%	<0.001	(n=398) 27.6%	(n=74) 28.4%	0.083	
Overall Sleep Disorder Index	Abnormal	(n=205) 26.3%	(n=1,554) 32.4%	(n=516) 43.8%	(n=1,810) 33.5%	<0.001	(n=398) 37.7%	(n=74) 41.9%	0.110	
Average Sleep Each Night		—	(n=2,281) r=0.016	—	—	0.452	(n=2,288) r=-0.003	—	—	0.879
SCL-90-R Anxiety	Abnormal	(n=178) 6.2%	(n=1,373) 5.7%	(n=469) 9.8%	(n=1,609) 5.9%	0.008	(n=354) 9.0%	(n=64) 12.5%	0.016	

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Lifetime Alcohol History				p-Value	Current Alcohol Use			p-Value
		0	>0-40	>40			0-1	>1-4	>4	
I-28	SCL-90-R Depression	Abnormal	(n=178) 10.7%	(n=1,373) 7.1%	(n=469) 11.5%	0.007	(n=1,609) 7.9%	(n=354) 11.3%	(n=64) 9.4%	0.112
	SCL-90-R Hostility	Abnormal	(n=178) 2.8%	(n=1,373) 4.1%	(n=469) 8.1%	0.001	(n=1,609) 4.4%	(n=354) 6.2%	(n=64) 9.4%	0.086
	SCL-90-R Interpersonal Sensitivity	Abnormal	(n=178) 5.1%	(n=1,373) 5.8%	(n=469) 9.4%	0.016	(n=1,609) 6.3%	(n=354) 7.1%	(n=64) 9.4%	0.553
	SCL-90-R Obsessive-Compulsive Behavior	Abnormal	(n=178) 7.3%	(n=1,373) 7.1%	(n=469) 11.1%	0.020	(n=1,609) 7.6%	(n=354) 9.3%	(n=64) 9.4%	0.527
	SCL-90-R Paranoid Ideation	Abnormal	(n=178) 2.2%	(n=1,373) 3.6%	(n=469) 6.2%	0.024	(n=1,609) 3.7%	(n=354) 5.4%	(n=64) 6.3%	0.251
	SCL-90-R Phobic Anxiety	Abnormal	(n=178) 10.1%	(n=1,373) 5.9%	(n=469) 9.0%	0.019	(n=1,609) 7.0%	(n=354) 6.8%	(n=64) 7.8%	0.956
	SCL-90-R Psychoticism	Abnormal	(n=178) 9.6%	(n=1,373) 7.8%	(n=469) 12.2%	0.016	(n=1,609) 8.6%	(n=354) 8.5%	(n=64) 18.8%	0.020

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Lifetime Alcohol History				Current Alcohol Use				p-Value
		0	>0-40	>40	p-Value	0-1	>1-4	>4		
I-29	Abnormal	(n=178) 12.4%	(n=1,373) 8.2%	(n=469) 11.3%	0.042	(n=1,609) 9.3%	(n=354) 9.0%	(n=64) 10.9%	0.891	
		(n=178) 7.3%	(n=1,373) 6.7%	(n=469) 10.4%	0.030	(n=1,609) 7.1%	(n=354) 8.8%	(n=64) 14.1%	0.086	
		(n=178) 14.6%	(n=1,373) 8.7%	(n=469) 9.6%	0.042	(n=1,609) 9.8%	(n=354) 8.2%	(n=64) 7.8%	0.574	
		(n=178) 6.7%	(n=1,373) 6.4%	(n=469) 10.7%	0.009	(n=1,609) 6.9%	(n=354) 8.5%	(n=64) 15.6%	0.024	
MCMI Schizoid Score <sup>a</sup>		--	(n=2,277) $r=0.047$	--	0.024	--	(n=2,283) $r=0.017$	--	0.427	
MCMI Avoidant Score <sup>b</sup>		(n=204) $\bar{x}=17.6$	(n=1,559) $\bar{x}=15.8$	(n=514) $\bar{x}=19.3$	<0.001	--	(n=2,283) $r=0.054$	--	0.010	
MCMI Dependent Score <sup>c</sup>		--	(n=2,277) $r=-0.005$	--	0.794	(n=1,812) $\bar{x}=42.1$	(n=397) $\bar{x}=37.5$	(n=74) $\bar{x}=43.6$	<0.001	

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Lifetime Alcohol History			p-Value	Current Alcohol Use			p-Value
		0	>0-40	>40		0-1	>1-4	>4	
MCMI Histrionic Score	--	(n=2,277) r=0.022	--	--	0.296	(n=1,812) $\bar{x}=63.3$	(n=397) $\bar{x}=65.7$	(n=74) $\bar{x}=61.9$	0.004
MCMI Narcissistic Score	--	(n=2,277) r=0.021	--	--	0.316	--	(n=2,283) r=0.009	--	0.663
MCMI Antisocial Score	--	(n=2,277) r=0.075	--	--	<0.001	--	(n=2,283) r=0.039	--	0.066
MCMI Compulsive Score	--	(n=2,277) r=-0.164	--	--	<0.001	--	(n=2,283) r=-0.108	--	<0.001
MCMI Passive-Aggressive <sup>c</sup>	--	(n=2,277) r=0.152	--	--	<0.001	--	(n=2,283) r=0.074	--	<0.001
MCMI Schizotypal Score	(n=204) $\bar{x}=36.5$	(n=1,559) $\bar{x}=33.1$	(n=514) $\bar{x}=37.3$	<0.001		--	(n=2,283) r=0.037	--	0.075

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Lifetime Alcohol History				Current Alcohol Use			p-Value
		0	>0-40	>40	p-Value	0-1	>1-4	>4	
MCMI									
Borderline Score		--	(n=2,277) r=0.095	--	<0.001	--	(n=2,283) r=0.041	--	0.052
MCMI									
Paranoid Score		--	(n=2,277) r=0.047	--	0.026	--	(n=2,283) r=0.009	--	0.671
MCMI									
Anxiety Score		--	(n=2,277) r=0.022	--	0.296	--	(n=2,283) r=-0.015	--	0.467
MCMI									
Somatoform Score		--	(n=2,277) r=-0.035	--	0.096	--	(n=2,283) r=-0.044	--	0.036
MCMI									
Hypomania Score		--	(n=2,277) r=0.067	--	0.001	--	(n=2,283) r=0.019	--	0.360
MCMI									
Dysthymia Score		--	(n=2,277) r=0.006	--	0.793	--	(n=2,283) r=-0.021	--	0.322

**TABLE I-1. (continued)**  
**Dependent Variable-Covariate Associations for Psychology Assessment**

Dependent Variable	Level	Lifetime Alcohol History			p-Value	Current Alcohol Use			p-Value
		0	>0-40	>40		0-1	>1-4	>4	
<b>MCMI</b> <b>Alcohol Abuse Score</b>		--	(n=2,277) r=0.279	--	<0.001	--	(n=2,283) r=0.187	--	<0.001
<b>MCMI</b> <b>Drug Abuse Score</b>		--	(n=2,277) r=0.109	--	<0.001	--	(n=2,283) r=0.061	--	0.004
<b>I-32</b> <b>MCMI</b> <b>Psychotic Thinking Score</b>		--	(n=2,277) r=0.100	--	<0.001	--	(n=2,283) r=0.063	--	0.003
<b>MCMI</b> <b>Psychotic Depression Score</b>		--	(n=2,277) r=0.118	--	<0.001	--	(n=2,283) r=0.052	--	0.013
<b>MCMI</b> <b>Psychotic Delusion Score</b>		--	(n=2,277) r=0.003	--	0.885	(n=1,812) $\bar{x}=43.7$	(n=397) $\bar{x}=38.9$	(n=74) $\bar{x}=45.8$	<0.001

<sup>a</sup>Means transformed from natural logarithm scale; correlations based on natural logarithm versus covariate.

<sup>b</sup>Means transformed from natural logarithm (X+1) scale; correlations based on natural logarithm (X+1) versus covariate.

<sup>c</sup>Means transformed from square root scale; correlations based on square root versus covariate.

<sup>d</sup>Means transformed from square scale; correlations based on square versus covariate.

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

**TABLE I-2.**  
**Summary of Group-by-Covariate Interactions for Psychology Variables**

Variable	Interaction	Stratification	Statistic	Group		Adj. Relative Risk (95% C.I.)	p-Value
				Ranch Hand	Comparison		
Waking Up During the Night	Group-by-Age	Born >1942	n Number/%	381	517		
			Yes	54 14.2%	64 12.4%	1.16 (0.77,1.73)	0.475
			No	327 85.8%	453 87.6%		
	Born 1923-1941		n Number/%	534	651		
			Yes	73 13.7%	101 15.5%	0.83 (0.60,1.16)	0.281
			No	461 86.3%	550 84.5%		
	Born ≤1922		n Number/%	35	48		
			Yes	5 14.3%	14 29.2%	0.35 (0.11,1.13)	0.078
			No	30 85.7%	34 70.8%		
Waking Up Too Early and Can't Go Back to Sleep	Group-by-PTSD	Yes	n Number/%	10	6		
			Yes	6 60.0%	4 66.7%	0.75 (0.09,6.23)*	0.999
			No	4 40.0%	2 33.3%		
	No		n Number/%	933	1,204		
			Yes	100 10.7%	124 10.3%	1.04 (0.78,1.37)	0.804
			No	833 89.3%	1,080 89.7%		

**TABLE I-2. (continued)**  
**Summary of Group-by-Covariate Interactions for Psychology Variables**

Variable	Interaction	Stratification	Statistic	Group		Adj. Relative Risk (95% C.I.)	p-Value
				Ranch Hand	Comparison		
Talking in Sleep	Group-by-PTSD	Yes	n	10	6		
			Number/%				
		Yes	3	30.0%	1	16.7%	2.14 (0.17,27.10)
		No	7	70.0%	5	83.3%	0.999
		No	n	932	1,203		
			Number/%				
		Yes	42	4.5%	37	3.1%	1.48 (0.94,2.34)
		No	890	95.5%	1,166	96.9%	0.089
Abnormal Movement/Activity During the Night	Group-by-Education	High School	n	494	605		
			Number/%				
		Yes	30	6.1%	21	3.5%	1.63 (0.90,2.93)
		No	464	93.9%	584	96.5%	0.106
		College	n	458	608		
			Number/%				
		Yes	6	1.3%	16	2.6%	0.52 (0.20,1.35)
		No	452	98.7%	592	97.4%	0.177

**TABLE I-2. (continued)**  
**Summary of Group-by-Covariate Interactions for Psychology Variables**

Variable	Interaction	Stratification	Statistic	Group		Adj. Relative Risk (95% C.I.)	p-Value
				Ranch Hand	Comparison		
Insomnia	Group-by-Age	Born >1942	n	378	512		
			Number/%				
			Yes	99 26.2%	121 23.6%	1.10 (0.80,1.51)	0.547
	Born 1923-1941		No	279 73.8%	391 76.4%		
			n	530	650		
			Number/%				
	Born <1922		Yes	120 22.6%	149 22.9%	0.97 (0.73,1.28)	0.813
			No	410 77.4%	501 77.1%		
			n	35	48		
Overall Sleep Disorder Index	Group-by-Lifetime Alcohol History	0	Number/%				
			Abnormal	93	101		
			Normal	30 32.3%	23 22.8%	1.47 (0.76,2.81)	0.249
	>0-40		Number/%	63 67.7%	78 77.2%		
			Abnormal	642	817		
			Normal	218 34.0%	255 31.2%	1.14 (0.91,1.43)	0.241
	>40		Number/%	424 66.0%	562 68.8%		
			Abnormal	205	289		
			Normal	84 41.0%	132 45.7%	0.77 (0.53,1.12)	0.168
			Number/%	121 59.0%	157 54.3%		

**TABLE I-2. (continued)**  
**Summary of Group-by-Covariate Interactions for Psychology Variables**

Variable	Interaction	Stratification	Statistic	Group		Adj. Relative Risk (95% C.I.)	p-Value
				Ranch Hand	Comparison		
SCL-90-R Hostility	Group-by- PTSD	Yes	n	10	6		
			Number/%				
	Group-by- Education	High School	Abnormal	8	80.0%	5	83.3%
			Normal	2	20.0%	1	16.7%
SCL-90-R Somatization	Group-by- Education	College	n	824	1,066		
			Number/%				
	Group-by- Race	Black	Abnormal	37	4.5%	44	4.1%
			Normal	787	95.5%	1,022	95.9%
SCL-90-R PSDI	Group-by- Race	Nonblack	n	451	533		
			Number/%				
	Group-by- Race	Nonblack	Abnormal	70	15.5%	52	9.8%
			Normal	381	84.5%	481	90.2%
SCL-90-R PSDI	Group-by- Race	Black	n	392	542		
			Number/%				
	Group-by- Race	Nonblack	Abnormal	20	5.1%	38	7.0%
			Normal	372	94.9%	504	93.0%

**TABLE I-2. (continued)**  
**Summary of Group-by-Covariate Interactions for Psychology Variables**

Variable	Interaction	Stratification	Statistic	Group		Adj. Relative Risk (95% C.I.)	p-Value
				Ranch Hand	Comparison		
MCMI Avoidant Score	Group-by- Education	High School	n	489	602	--	0.099
			Adj. Mean <sup>a</sup>	45.6	41.9		
			95% C.I. <sup>a</sup>	(36.7,56.6)	(33.6,52.2)		
	Group-by- Race	College	n	453	606	--	0.022
			Adj. Mean <sup>a</sup>	31.0	35.0		
			95% C.I. <sup>a</sup>	(24.7,38.8)	(28.1,43.6)		
MCMI Dependent Score	Group-by- Race	Black	n	55	78	--	0.086
			Adj. Mean <sup>b</sup>	52.4	45.8		
			95% C.I. <sup>b</sup>	(44.4,61.0)	(38.9,53.3)		
	Group-by- Race	Nonblack	n	892	1,131	--	0.005
			Adj. Mean <sup>b</sup>	45.9	48.5		
			95% C.I. <sup>b</sup>	(40.4,51.7)	(42.9,54.5)		
MCMI Histrionic Score	Group-by- Race	Black	n	55	78	--	0.062
			Adj. Mean <sup>c</sup>	74.5	70.5		
			95% C.I. <sup>c</sup>	(61.5,85.5)	(57.2,81.7)		
	Group-by- Race	Nonblack	n	892	1,131	--	0.313
			Adj. Mean <sup>c</sup>	51.8	52.5		
			95% C.I. <sup>c</sup>	(47.1,56.1)	(47.9,56.8)		

**TABLE I-2. (continued)**  
**Summary of Group-by-Covariate Interactions for Psychology Variables**

Variable	Interaction	Stratification	Statistic	Group		Adj. Relative Risk (95% C.I.)	p-Value
				Ranch Hand	Comparison		
MCMI Compulsive Score	Group-by-PTSD	Yes	n	7	4	--	0.004
		0-1	Adj. Mean <sup>c</sup>	51.9	25.7		
	Group-by-Current Alcohol Use		95% C.I. <sup>c</sup>	(43.1,59.4)	(0.0,41.9)	--	0.614
		Yes	n	3	2		
		>1-4	Adj. Mean <sup>c</sup>	45.7	51.0		
	No		95% C.I. <sup>c</sup>	(28.6,57.9)	(32.3,64.5)	--	0.318
		0-1	n	747	951		
			Adj. Mean <sup>c</sup>	69.4	69.8		
	No		95% C.I. <sup>c</sup>	(68.5,70.3)	(69.0,70.6)	--	0.802
		>1-4	n	160	206		
	>4		Adj. Mean <sup>c</sup>	68.4	68.2	--	0.028
			95% C.I. <sup>c</sup>	(66.9,69.8)	(66.7,69.6)		
	No		n	25	45	--	0.028
		>4	Adj. Mean <sup>c</sup>	71.4	67.0		
			95% C.I. <sup>c</sup>	(67.1,75.4)	(63.0,70.7)		

**TABLE I-2. (continued)**  
**Summary of Group-by-Covariate Interactions for Psychology Variables**

Variable	Interaction	Stratification	Statistic	Group		Adj. Relative Risk (95% C.I.)	p-Value
				Ranch Hand	Comparison		
MCMI Passive- Aggressive Score	Group-by- Education	High School	n Adj. Mean <sup>b</sup> 95% C.I. <sup>b</sup>	489 49.6 (43.9,55.7)	602 46.2 (40.7,52.1)	--	0.014
		College	n Adj. Mean <sup>b</sup> 95% C.I. <sup>b</sup>	453 43.0 (37.6,48.8)	606 44.2 (38.9,50.0)	--	0.354
	Group-by- Lifetime Alcohol History	0	n Adj. Mean 95% C.I.	92 53.0 (47.0,59.1)	101 53.0 (47.0,58.9)	--	0.977
		>0-40	n Adj. Mean 95% C.I.	645 48.0 (43.2,52.9)	819 49.9 (45.1,54.8)	--	0.053
		>40	n Adj. Mean 95% C.I.	205 55.0 (49.9,60.2)	288 52.1 (47.0,57.2)	--	0.081
MCMI Borderline Score	Group-by- Race	Black	n Adj. Mean 95% C.I.	55 55.8 (49.7,62.0)	78 50.2 (44.6,55.8)	--	0.057
		Nonblack	n Adj. Mean 95% C.I.	887 51.0 (46.7,55.3)	1,130 52.9 (48.5,57.2)	--	0.012

**TABLE I-2. (continued)**  
**Summary of Group-by-Covariate Interactions for Psychology Variables**

Variable	Interaction	Stratification	Statistic	Group		Adj. Relative Risk (95% C.I.)	p-Value
				Ranch Hand	Comparison		
MCMI Anxiety Score	Group-by-Race	Black	n	56	78	--	0.042
			Adj. Mean	75.6	68.3		
	Group-by-PTSD	Black	95% C.I.	(68.2,83.1)	(61.5,75.0)	--	0.014
		Nonblack	n	895	1,132		
MCMI Alcohol Abuse Score	Group-by-Race	Black	Adj. Mean	68.7	71.0	--	0.014
		Yes	95% C.I.	(63.5,73.9)	(65.8,76.2)		
	Group-by-PTSD	Black	n	0	1	--	--
		Yes	Adj. Mean	--	95.1		
		Black	95% C.I.	--	--		
		No	n	55	77		
	Group-by-PTSD	No	Adj. Mean	39.3	32.5	--	0.014
		Nonblack	95% C.I.	(35.1,43.4)	(29.1,36.0)		
	Group-by-PTSD	Yes	n	10	5	--	0.135
		Nonblack	Adj. Mean	57.2	70.0		
	Group-by-PTSD	Yes	95% C.I.	(47.6,66.9)	(56.3,83.6)	--	0.777
		No	n	877	1,125		
		No	Adj. Mean	30.5	30.3	--	0.777
			95% C.I.	(29.4,31.5)	(29.4,31.2)		

**TABLE I-2. (continued)**  
**Summary of Group-by-Covariate Interactions for Psychology Variables**

Variable	Interaction	Stratification	Statistic	Group		Adj. Relative Risk (95% C.I.)	p-Value
				Ranch Hand	Comparison		
MCMI Psychotic Depression Score	Group-by- Education	High School	n	489	602	--	0.125
			Adj. Mean	52.0	50.1		
			95% C.I.	(47.0,56.9)	(45.1,55.2)		
	College		n	453	606	--	0.034
			Adj. Mean	42.7	45.3		
			95% C.I.	(37.6,47.8)	(40.3,50.3)		

<sup>1</sup>  
<sup>1</sup>--Adjusted relative risk not applicable for continuous analysis of a variable; summary statistics not given due to zero participants in a particular group.

\*Unadjusted relative risk and p-value used.

<sup>a</sup>Transformed from logarithm (X+1) scale.

<sup>b</sup>Transformed from the square root scale.

<sup>c</sup>Transformed from the square scale.

Note: Refer to Tables 12-5, 12-7, and 12-9 for specification of adjusted model.

**TABLE I-3.**  
**Exposure Index-by-Covariate Interactions for Psychology Variables**

Variable	Interaction (Occupation)	Stratification	Statistic	Exposure Index			Exposure Index Contrast	Adj. Relative Risk (95% C.I.)	p-Value
				Low	Medium	High			
I-3 Involuntarily Falling Asleep During the Day	Exposure Index-by- Education	High School	n	0	0	6	Overall	—	—
		Born 1923-1941	Number/%	0	—	0 0.0%	M vs. L	—	—
		0	Yes	0	—	6 100.0%	H vs. L	—	—
	Exposure Index-by- Age	High School	n	7	5	11	Overall	—	0.095
		Born 1923-1941	Number/%	2	28.6%	2 40.0%	0 0.0%	M vs. L	1.67 (0.15, 18.87)
		>40	Yes	5	71.4%	3 60.0%	11 100.0%	H vs. L	0.999 0.274
	Exposure Index-by- Lifetime Alcohol History (Officer)	High School	n	1	3	4	Overall	—	—
		Born 1923-1941	Number/%	0	0.0%	0 0.0%	0 0.0%	M vs. L	—
		>40	Yes	1	100.0%	3 100.0%	4 100.0%	H vs. L	—
	High School Born <1922	High School	n	0	0	1	Overall	—	—
		Born <1922	Number/%	0	—	0 0.0%	M vs. L	—	—
		0	Yes	0	—	1 100.0%	H vs. L	—	—
	High School Born <1922 >40	High School	n	1	3	1	Overall	—	0.659
		Born <1922	Number/%	0	0.0%	1 33.3%	0 0.0%	M vs. L	—
		>40	Yes	1	100.0%	2 66.7%	1 100.0%	H vs. L	0.999 —
	High School Born <1922 >40	High School	n	0	4	1	Overall	—	—
		Born <1922	Number/%	0	—	0 0.0%	M vs. L	—	—
		>40	Yes	0	—	4 100.0%	1 100.0%	H vs. L	—

TABLE I-3. (continued)

## Exposure Index-by-Covariate Interactions for Psychology Variables

Variable	Interaction (Occupation)	Stratification	Statistic	Exposure Index			Exposure Index Contrast	Adj. Relative Risk (95% C.I.)	p-Value
				Low	Medium	High			
I-3	Involun- tarily Falling Asleep During the Day (cont.)	College Born >1942	n	4	0	2	Overall	—	—
			Number/%						
		0	Yes	0 0.0%	0	0	M vs. L	—	—
			No	4 100.0%	0	2	H vs. L	—	—
		>0-40	n	38	19	7	Overall	0.300	—
			Number/%						
			Yes	0 0.0%	1 5.3%	0 0.0%	M vs. L	—	0.666
		>40	No	38 100.0%	18 94.7%	1 100.0%	H vs. L	—	—
			College Born > 1942	n	4	1	1	Overall	—
			Number/%						
			Yes	0 0.0%	0 0.0%	0 0.0%	M vs. L	—	—
		0	No	4 100.0%	1 100.0%	1 100.0%	H vs. L	—	—
			College Born 1923-1941	n	6	3	4	Overall	—
			Number/%						
			Yes	0 0.0%	0 0.0%	0 0.0%	M vs. L	—	—
		>0-40	No	6 100.0%	3 100.0%	4 100.0%	H vs. L	—	—
			College Born 1923-1941	n	47	61	61	Overall	0.977
			Number/%						
			Yes	1 2.1%	1 1.6%	1 1.6%	M vs. L	0.77 (0.05,12.59)	0.999
		>40	No	46 97.9%	60 98.4%	60 98.4%	H vs. L	0.77 (0.05,12.59)	0.999
			College Born 1923-1941	n	16	15	25	Overall	0.249
			Number/%						
			Yes	0 0.0%	1 6.7%	0 0.0%	M vs. L	—	0.968
		>40	No	16 100.0%	14 93.3%	25 100.0%	H vs. L	—	—

TABLE I-3. (continued)  
Exposure Index-by-Covariate Interactions for Psychology Variables

Variable	Interaction (Occupation)	Stratification	Statistic	Exposure Index			Exposure Index Contrast	Adj. Relative Risk (95% C.I.)	p-Value
				Low	Medium	High			
Involun- tarily Falling Asleep During the Day (cont.)	College Born <1922 >40	n	4	4		0	Overall		—
			Number/%						
		Yes	0	0.0%	0	0.0%	M vs. L	—	—
		No	4	100.0%	4	100.0%	H vs. L	—	—
		n	0	3		0	Overall		—
			Number/%						
			Yes	0	—	1	33.3%	M vs. L	—
		>40	No	0	—	2	66.7%	H vs. L	—
	Exposure Index-by- Education (Enlisted Groundcrew)	High School	n	103	117	102	Overall		0.032
			Number/%						
			Yes	8	7.8%	2	1.7%	M vs. L	0.21 (0.04,1.00)
			No	95	92.2%	115	98.3%	H vs. L	0.24 (0.05,1.15)
		College	n	38	38	31	Overall		0.227
			Number/%						
			Yes	0	0.0%	3	7.9%	M vs. L	—
			No	38	100.0%	35	92.1%	H vs. L	0.240 0.396

TABLE I-3. (continued)

## Exposure Index-by-Covariate Interactions for Psychology Variables

Variable	Interaction (Occupation)	Stratification	Statistic	Exposure Index			Exposure Index Contrast	Adj. Relative Risk (95% C.I.)	p-Value
				Low	Medium	High			
Great or Disabling Fatigue During the Day	Exposure Index-by-Age	Born >1942	n	4	0	2	Overall	—	—
			Number/%						
			Yes	0 0.0%	0	0 0.0%	M vs. L	—	—
	Exposure Index-by-Lifetime	Born >1942 >40	n	38	19	7	Overall	0.706	
			Number/%						
			Yes	1 2.6%	0 0.0%	0 0.0%	M vs. L	—	0.999
	Alcohol History (Officer)	Born >1942 >40	n	37	19	7	Overall	—	0.999
			Number/%						
			Yes	37 97.4%	19 100.0%	7 100.0%	H vs. L	—	—
			n	4	1	1	Overall	—	
			Number/%						
			Yes	0 0.0%	0 0.0%	0 0.0%	M vs. L	—	—
			No	4 100.0%	1 100.0%	1 100.0%	H vs. L	—	—
	Born 1923-1941	0	n	6	3	10	Overall	—	
			Number/%						
			Yes	0 0.0%	0 0.0%	0 0.0%	M vs. L	—	—
			No	6 100.0%	3 100.0%	10 100.0%	H vs. L	—	—
	Born 1923-1941	>40	n	54	66	72	Overall	0.079	
			Number/%						
			Yes	0 0.0%	0 0.0%	3 4.2%	M vs. L	—	—
			No	54 100.0%	66 100.0%	69 95.8%	H vs. L	—	0.366
	Born 1923-1941	>40	n	17	18	29	Overall	0.273	
			Number/%						
			Yes	0 0.0%	1 5.6%	0 0.0%	M vs. L	—	0.999
			No	17 100.0%	17 94.4%	29 100.0%	H vs. L	—	—

TABLE I-3. (continued)

## Exposure Index by Covariate Interactions for Psychology Variables

Variable	Interaction (Occupation)	Stratification	Statistic	Exposure Index			Exposure Index Contrast	Adj. Relative Risk (95% C.I.)	p-Value
				Low	Medium	High			
Great or Disabling Fatigue During the Day (cont.)	Born $\leq$ 1922 0	n Number/%	0	0	0	1	Overall	—	—
			Yes	0	—	0	M vs. L	—	—
			No	0	—	0	H vs. L	—	—
	Born $\leq$ 1922 $>40$	n Number/%	5	7	1	Overall	—	—	—
			Yes	0 0.0%	0 0.0%	0 0.0%	M vs. L	—	—
			No	5 100.0%	7 100.0%	1 100.0%	H vs. L	—	—
	Born $\leq$ 1922 $>40$	n Number/%	0	7	1	Overall	—	—	—
			Yes	0 —	0 0.0%	0 0.0%	M vs. L	—	—
			No	0 —	7 100.0%	1 100.0%	H vs. L	—	—
Great or Disabling Fatigue During the Day	Exposure Index-by- Race Black	n Number/%	0	1	0	Overall	—	—	—
			Yes	0 —	0 0.0%	0 —	M vs. L	—	—
			No	0 —	1 100.0%	0 —	H vs. L	—	—
	Exposure Index-by- Lifetime Alcohol History (Enlisted Flyer) Black	n Number/%	1	3	1	Overall	—	0.659	—
			Yes	0 0.0%	1 33.3%	0 0.0%	M vs. L	—	0.999
			No	1 100.0%	2 66.7%	1 100.0%	H vs. L	—	—
	$>40$	n Number/%	0	0	2	Overall	—	—	—
			Yes	0 —	0 —	0 0.0%	M vs. L	—	—
			No	0 —	0 —	2 100.0%	H vs. L	—	—

TABLE I-3. (continued)

## Exposure Index-by-Covariate Interactions for Psychology Variables

Variable	Interaction (Occupation)	Stratification	Statistic	Exposure Index			Exposure Index Contrast	Adj. Relative Risk (95% C.I.)	p-Value
				Low	Medium	High			
I-1	Great or Disabling Fatigue During the Day (cont.)	Nonblack 0	n	6	5	7	Overall	—	—
			Number/%						
			Yes	0 0.0%	0 0.0%	0 0.0%	M vs. L	—	—
	Nonblack ≥40	n	6 100.0%	5 100.0%	7 100.0%	H vs. L	—	—	—
			Number/%						
			Yes	0 0.0%	0 0.0%	2 6.5%	M vs. L	—	—
	Nonblack ≥40	n	No	33 100.0%	31 100.0%	29 93.5%	H vs. L	—	0.462
			Number/%						
			Yes	1 7.7%	0 0.0%	0 0.0%	M vs. L	—	0.742
			No	12 92.3%	22 100.0%	9 100.0%	H vs. L	—	0.999
I-2	Frightening Dreams	Exposure Index-by- Education	High School	n	0	0	6	Overall	—
			Born 1923-1941	Number/%					
			Yes	0 —	0 —	0 0.0%	M vs. L	—	—
			No	0 —	0 —	6 100.0%	H vs. L	—	—
	Exposure Index-by- Age	High School	n	7	5	11	Overall	—	0.152
			Born 1923-1941	Number/%					
	Exposure Index-by- Lifetime Alcohol History (Officer)	High School ≥40	Yes	0 0.0%	1 20.0%	0 0.0%	M vs. L	—	0.834
			No	7 100.0%	4 80.0%	11 100.0%	H vs. L	—	—
	High School Born 1923-1941	n	1	3	4	Overall	—	—	—
			Number/%						
	Yes	0 0.0%	0 0.0%	0 0.0%	0 0.0%	M vs. L	—	—	—
			No	1 100.0%	3 100.0%	4 100.0%	H vs. L	—	—

TABLE I-3. (continued)

## Exposure Index-by-Covariate Interactions for Psychology Variables

Variable	Interaction (Occupation)	Stratification	Statistic	Exposure Index			Exposure Index Contrast	Adj. Relative Risk (95% C.I.)	p-Value
				Low	Medium	High			
Frightening Dreams (cont.)	High School Born <u>&lt;1922</u>	n	0	0	0	1	Overall	—	—
			Number/%	—	—	—	M vs. L	—	—
		0	Yes	0	—	0	0 0.0%	H vs. L	—
		No	0	—	0	—	1 100.0%	H vs. L	—
	High School Born <u>&lt;1922</u> <u>&gt;40</u>	n	1	3	—	1	Overall	—	—
			Number/%	—	—	—	M vs. L	—	—
		0	Yes	0 0.0%	0 0.0%	0 100.0%	H vs. L	—	—
		No	1 100.0%	3 100.0%	1 100.0%	H vs. L	—	—	—
	High School Born <u>&lt;1922</u> <u>&gt;40</u>	n	0	4	—	1	Overall	—	—
			Number/%	—	—	—	M vs. L	—	—
		0	Yes	0 —	1 25.0%	1 100.0%	H vs. L	—	—
		No	0 —	3 75.0%	0 0.0%	0 0.0%	H vs. L	—	—
	College Born <u>&gt;1942</u>	n	4	0	—	2	Overall	0.999	—
			Number/%	—	—	—	M vs. L	—	—
		0	Yes	1 25.0%	0 —	0 0.0%	H vs. L	—	0.999
		No	3 75.0%	0 —	2 100.0%	H vs. L	—	—	—
	College Born <u>&gt;1942</u> <u>&gt;40</u>	n	38	19	—	7	Overall	0.300	—
			Number/%	—	—	—	M vs. L	—	0.666
		0	Yes	0 0.0%	1 5.3%	0 0.0%	H vs. L	—	—
		No	38 100.0%	18 94.7%	7 100.0%	H vs. L	—	—	—
	College Born <u>&gt;1942</u> <u>&gt;40</u>	n	4	1	—	1	Overall	—	—
			Number/%	—	—	—	M vs. L	—	—
		0	Yes	0 0.0%	0 0.0%	0 0.0%	H vs. L	—	—
		No	4 100.0%	1 100.0%	1 100.0%	H vs. L	—	—	—

TABLE I-3. (continued)

## Exposure Index-by-Covariate Interactions for Psychology Variables

Variable	Interaction (Occupation)	Stratification	Statistic	Exposure Index			Exposure Index Contrast	Adj. Relative Risk (95% C.I.)	p-Value				
				Low	Medium	High							
Frightening Dreams (cont.)	College Born 1923-1941	n	6	3	4	Overall	M vs. L H vs. L	— — — —	0.201				
			Number/%	0 0.0%	0 0.0%	0 0.0%							
		Yes	0 100.0%	3 100.0%	4 100.0%	M vs. L H vs. L							
		No	6	3	4								
	College Born 1923-1941 ≥40	n	47	61	61	Overall	M vs. L H vs. L	— — 2.38 (0.24,23.64)					
			Number/%	1 2.1%	0 0.0%	3 4.9%							
		Yes	46 97.9%	61 100.0%	58 95.1%	H vs. L							
		No	46	61	58								
	College Born 1923-1941 ≥40	n	16	15	25	Overall	M vs. L H vs. L	0.190 2.31 (0.19,28.47) — —					
			Number/%	1 6.3%	2 13.3%	0 0.0%							
		Yes	15 93.7%	13 86.7%	25 100.0%	H vs. L							
		No	15	13	25								
	College Born <1922 ≥40	n	4	4	0	Overall	M vs. L H vs. L	— — — —					
			Number/%	0 0.0%	0 0.0%	0 —							
		Yes	4 100.0%	4 100.0%	0 —	H vs. L							
		No	4	4	0								
	College Born <1922 ≥40	n	0	3	0	Overall	M vs. L H vs. L	— — — —					
			Number/%	0 —	0 0.0%	0 —							
		Yes	0 —	0 100.0%	0 —	H vs. L							
		No	0	3 100.0%	0								

TABLE I-3. (continued)

## Exposure Index-by-Covariate Interactions for Psychology Variables

Variable	Interaction (Occupation)	Stratification	Statistic	Exposure Index			Exposure Index Contrast	Adj. Relative Risk (95% C.I.)	p-Value
				Low	Medium	High			
Frightening Dreams	Exposure Index-by- Education	High School	n	7	3	1	Overall		0.730
		Born >1942	Number/%						
		0-1	Yes	1	14.3%	0	0.0%	M vs. L	—
	Exposure Index-by- Age	Black	No	6	85.7%	3	100.0%	H vs. L	—
		High School	n	37	67	43	Overall		0.132
		Born >1942	Number/%						
		0-1	Yes	3	8.1%	2	3.0%	M vs. L	0.35 (0.06,2.19)
		Nonblack	No	34	91.9%	65	97.0%	M vs. L	—
	Exposure Index-by- Current Alcohol Use	High School	n	1	2	1	Overall		—
		Born >1942	Number/%						
		>1-4	Yes	0	0.0%	0	0.0%	M vs. L	—
H		Black	No	1	100.0%	2	100.0%	H vs. L	—
Exposure Index-by- Race (Enlisted Groundcrew)	High School	n	8	12	6	Overall		0.138	
	Born >1942	Number/%							
	>1-4	Yes	0	0.0%	3	25.0%	M vs. L	—	
	Nonblack	No	8	100.0%	9	75.0%	H vs. L	—	
High School	High School	n	0	2	0	Overall		—	
	Born >1942	Number/%							
	>4	Yes	0	—	0	0.0%	M vs. L	—	
	Black	No	0	—	2	100.0%	H vs. L	—	
High School	High School	n	2	0	1	Overall		—	
	Born >1942	Number/%							
	>4	Yes	0	0.0%	0	—	M vs. L	—	
	Nonblack	No	2	100.0%	0	—	H vs. L	—	