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CHAPTER 2
INTERPRETING PAI CLINICAL SCALE ELEVATIONS

The starting point in interpreting the PAI lies at the level of the individual scales that were developed to measure the specific construct implied by the scale name. Each scale on the test was designed to measure the major facets of a different clinical construct, as determined by current theoretical and empirical work on those constructs. Most of the clinical scales offer subscales. Therefore, configural interpretation of the test is possible even at the level of the individual scales, because two identical elevations on a particular scale may be interpreted quite differently depending on the configuration of the subscales. The following sections describe the logic underlying the PAI clinical scales and the interpretations of different ranges and configurations of scores on each scale.

Somatic Complaints (*SOM*)

The Somatic Complaints scale is precisely what the scale name suggests: the items reflect complaints and concerns about physical functioning and health matters in general. Interpretively, there are many things that the *SOM* scale should not be expected to do. In isolation, *SOM* cannot distinguish between *functional* and *organic* somatic features. It is not a neuropsychological assessment instrument, and it certainly is not sufficient evidence for establishing a diagnosis of a physical condition. However, the scale is useful for assessing the extent to which physical conditions are a central concern in an individual's life. It is important to recognize that people with very similar physical conditions can differ drastically in their reactions to the condition. For example, one person faced with a crippling chronic condition might react stoically, successfully adapting to any impairment and, perhaps, refusing to acknowledge the limitations imposed by his or her health. Another person, faced with the same condition, might ruminate bitterly about these limitations, complaining endlessly about physical problems and, perhaps, even using the problems as a means of controlling other people. There are valid physical problems in both situations, but the psychological reaction to the problems is quite different. The *SOM* scale provides information about the latter, but it should not be used in isolation to determine the former.

The *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV*; American Psychiatric Association, 1994) classification system groups a variety of syndromes under the concept of Somatoform Disorder; all involve physical symptoms suggestive of some organic disorder, but one for which there are no known physiologic mechanisms. The constructs included in this group of disorders (e.g., conversion hysteria and hypochondriasis) have had a variety of clinical meanings over the years; for this reason, it is difficult to evaluate the results of diagnostic research that has accumulated on this topic. One of the central distinctions drawn in recent years has been between individuals who present with multiple, relatively minor physiologic symptoms and individuals who complain of major disability of some sensory or motor function. In the *DSM* manual, the former individuals are referred to as having Somatization Disorder, whereas the latter are typically diagnosed with Conversion Disorder. This distinction can be traced back to the early studies of Briquet (1859), who found that most patients with "hysteria" displayed few of the symptoms thought to be pathognomonic of the disorder. More recently, the symptomatic approach of Briquet has been applied to contemporary diagnoses, with research suggesting that "Briquet's syndrome" (or Somatization Disorder, as it is now called) reflects a distinct diagnostic entity from the traditional construct of conversion hysteria (Guze, Woodruff, & Clayton, 1971). Both disorders are viewed as distinct from Hypochondriasis, which, in contemporary diagnostic practice, refers to a preoccupation with the fear or belief of having a disease.

The PAI *SOM* scale was designed to provide a differential assessment of some of these components of somatoform disorders. The three subscales of *SOM* reflect different facets of somatic complaints frequently associated with psychological conditions. Although two of the subscale names reflect this association, one should not assume that an elevation on one of these scales indicates that the *diagnosis* is present, as for each of those diagnoses the presumption is made that organic factors have been ruled out. Rather, elevation indicates that the respondent is reporting symptoms consistent with these disorders. To support such caution in interpretation, the *SOM* scale is generally the highest point of the PAI profile in a general clinical population, although, even in such populations, the average score is typically below 70*T* (Osborne, 1994). Perhaps more than on any other scale, the primary question about discriminant validity (i.e., whether these might be valid physical problems) lies outside of the domains measured by the PAI.

SOM-C: Conversion

The Conversion subscale includes items corresponding to the dramatic physiological symptoms that have been found to be prevalent in conversion disorders (Watson & Buranen, 1979). As it turns out, most of these symptoms involve

unusual sensory-motor problems: impairments in perception (e.g., vision or hearing problems, numbness) or motor problems (e.g., paralysis). The mean raw score in the normative sample on the Conversion subscale was very low, indicating that, for the most part, these symptoms are quite unusual in the general population. Although such symptoms may be rare, there are some populations in which these symptoms are more common, because there are a variety of physical conditions that result in sensory-motor problems. For example, people with multiple sclerosis, stroke victims, and those with other neurological disorders all may have sensory-motor problems. It has been observed that the *SOM-C* subscale is probably the most sensitive scale on the PAI to various forms of Central Nervous System (CNS) impairment. One diagnostic group that frequently obtains elevations on *SOM-C* are chronic alcoholics who are beginning to experience some neuropsychological compromise associated with their drinking. Often, clinicians will use indicators on self-report personality inventories to distinguish a conversion reaction from a "genuine" organic problem or to distinguish functional from organic pain, but, in actuality, this diagnostic distinction should never be based solely on the results of such tests. In such instances, a thorough medical evaluation is recommended.

Thus, an elevated score on *SOM-C* indicates a report of problems in physical functioning due to symptoms often associated with conversion disorders, such as sensory or motor dysfunctions. Such problems are likely to be unusual ones, rather than a more severe form of more common problems such as headaches or dizziness. Perhaps consistent with the notion of *la belle indifference*, the *SOM-C* scale is relatively uncorrelated with other indicators of distress; thus, an isolated elevation does not necessarily signify that the reported symptoms are of great concern to the respondent (cf. the score on *DEP* and the *SOM-H* subscale for such distress or preoccupation). Marked elevations could be a sign of (a) a debilitating physical illness leading to marked sensorimotor impairment, (b) a rather dramatic conversion reaction, or (c) severe hypochondriasis or, perhaps, even somatic delusions. More moderate elevations would be expected in a person with a more circumscribed sensory or motor impairment, such as those associated with mild cerebrovascular infarcts. Because of the rarity of these somatic signs in the general population, *SOM-C* has a rather "hard floor," and it is not possible to obtain extremely low scores.

Individuals with *SOM-C* elevations are likely to report that their daily functioning has been compromised by one or more serious and rather unusual physical problems. Although they may feel that their health is good in general, if the other *SOM* subscales are not elevated, they will feel that the health problems that they do have are complex and difficult to treat successfully. Physical complaints are

likely to focus on symptoms of distress in neurological and musculoskeletal systems, and may involve features often associated with conversion disorders, such as unusual sensory or motor dysfunctions. As scores become extreme (i.e., ≥ 95*T*), the possibility of somatic delusions should also be considered.

SOM-S: Somatization

The Somatization subscale inquires about routine physical complaints, such as headaches, back problems, pain, or gastrointestinal ailments; these complaints are diagnostic by virtue of their frequency rather than their presence. In comparison to *SOM-C*, the Somatization subscale consists of complaints that are more vague and diffuse, not localized in any one organ system. There are two components to elevations on the subscale, one element involving the physical symptoms (which can include a general lethargy and malaise), and a second element relating to a more general complaintiveness and dissatisfaction. The *SOM-S* subscale yields substantial correlations with measures of both psychological and physical distress; individuals with *SOM-S* elevations are likely to have a litany of physical complaints that they will share with anyone who will listen.

Individuals with *SOM-S* elevations will report that their daily functioning has been compromised by numerous and varied physical problems. They will report particular problems with the frequent occurrence of various minor physical symptoms and vague complaints of ill health and fatigue, often accompanied by unhappiness and bitterness about their health. This pattern of symptoms is often consistent with a somatization disorder.

SOM-H: Health Concerns

The Health Concerns subscale indicates a preoccupation with health and physical functioning. Items on this subscale are related to the self-perceived complexity of the individual's health problems and the intensity of the individual's efforts to ameliorate these problems. The *SOM-H* subscale is a measure of focus rather than of severity; a general medical population has a very wide distribution, and individuals with serious health problems can still obtain low scores on this subscale. Such people will tend to strike others as quite stoic about their problems, whereas individuals with *SOM-H* elevations will tend to focus a great deal on their health issues.

Individuals with elevations on *SOM-H* are likely to report that their daily functioning has been compromised by numerous and varied physical problems. If the other subscales are not elevated, such individuals may appear to be relatively healthy to other observers, but they will see themselves as having a history of complex medical problems. They will tend to feel that their health is not as good as

that of their age peers, who may view such individuals as rather hypochondriacal. There are likely to be continuous concerns with health status and physical problems, and the poor health may be a major component of the self-image, with such individuals accustomed to being in the patient role.

SOM Full Scale Interpretation

As the sum of these three elements, the full scale of *SOM* reflects the degree of concern about physical functioning and health matters and the extent of perceived impairment arising from somatic symptoms. Average scores on *SOM* (i.e., < 60*T*) reflect a person with few bodily complaints. Such individuals are typically seen as optimistic, alert, and effective. Scores between 60*T* and 70*T* indicate some concern about health functioning and will not be uncommon in older respondents or in medical patients with relatively specific organic symptoms. Scores above 70*T* suggest significant concerns about somatic functioning and probable impairment arising from somatic symptoms. Such a person will feel that his or her health is not as good as that of age peers and is likely to believe that the health problems are complex and difficult to treat successfully. For such people, social interactions and conversations are likely to focus often on their health problems, and self-image may be largely influenced by the belief that they are handicapped by poor health. Individuals scoring in this range may be seen as unhappy, complaining, and pessimistic. They may be using somatic complaints to control others in a passive-aggressive manner.

SOM scores that are markedly elevated (i.e., > 87*T*) are unusual even in clinical samples; such scores suggest a ruminative preoccupation with physical functioning and health matters and severe impairment arising from somatic symptoms. In that range, the somatic complaints are likely to be chronic and accompanied by fatigue and weakness that render the individual incapable of performing even minimal role expectations. Such scores require elevations on all three subscales, reflecting a large number of somatic complaints affecting most organ systems, including the neurological, gastrointestinal, and musculoskeletal systems. Scores in this range will reflect a diagnosable somatoform disorder in most instances. These patients may be resistant to psychological explanations for problems and may be poor candidates for psychotherapy, particularly if there are few accompanying indications of psychological distress.

SOM Subscale Configurations

The following sections describe some of the implications of particular combinations of elevations on *SOM* subscales.

SOM-C high, SOM-S high, SOM-H high

Individuals with this subscale pattern will report that their daily functioning has been compromised by numerous and varied physical problems. They feel that their health is not as good as that of their age peers and are likely to believe that their health problems are complex and difficult to treat successfully. Physical complaints are likely to include symptoms of distress in several biological systems, including the neurological, gastrointestinal, and musculoskeletal systems. The pattern indicates the report of unusual sensorimotor symptoms as well as severe manifestations of more ordinary complaints, such as headaches or pains. Such individuals are likely to be continuously concerned with their health status and physical problems, and social interactions and conversations will tend to focus on their health problems. The self-image may be largely influenced by a belief that they are handicapped by poor health, and such individuals may be quite accustomed to being in the patient role.

SOM-C high, SOM-S high, SOM-H average

This subscale pattern is rather unusual, as it represents a report of numerous and varied physical problems but relatively little focus on these problems. The physical complaints are likely to include symptoms of distress in several biological systems, including the neurological, gastrointestinal, and musculoskeletal systems. The item endorsement pattern indicates the report of symptoms consistent with both conversion and somatization disorders. The lower scores on *SOM-H* suggest less complaintiveness than is typical of individuals with *SOM-S* elevations.

SOM-C high, SOM-S average, SOM-H high

Individuals with this subscale pattern will report that their daily functioning is impeded by unusual physical problems. They feel that their health is not as good as that of their age peers and are likely to believe that their health problems are particularly challenging and treatment resistant. Physical complaints are likely to focus on symptoms of distress across varied physical systems, particularly neurological and musculoskeletal systems; these involve features often associated with conversion disorders, such as unusual sensory or motor dysfunctions. Such people tend to be continuously concerned with their health status and physical problems, and there may be underlying concerns about the ability of the medical system to treat these problems effectively.

SOM-C average, SOM-S high, SOM-H high

People displaying this pattern are likely to report that they cannot function normally due to various physical problems. They feel that their health is not as good as that of others, reporting that their health problems are complicated and difficult to

treat successfully. They report particular problems with the frequent occurrence of various minor physical symptoms (e.g., headaches, pain, or gastrointestinal problems) and vague complaints of ill health and fatigue. Health status and physical problems are likely to be continuous concerns, and social interactions and conversations will tend to focus on health problems. Marked dissatisfaction with the quality and effectiveness of the care they have received is also likely.

Anxiety (*ANX*)

Anxiety is a prominent part of many of the major syndromes of mental disorder. Unfortunately, with respect to measurement it also represents one of the most elusive psychological constructs. An important conceptualization by Lang (1971) addressed some of these measurement difficulties by portraying anxiety as comprised of three components: "cognitive" (in a person's thoughts), "somatic" (involving physiological reactions), and "behavioral" (observed in a person's actions). Lang viewed each of these three components as related but independent modes of the expression of anxiety; as such, the comprehensive assessment of anxiety involved the measurement of each individual component. Lang included the subjective feeling of anxiety as part of the cognitive component of anxiety, but more recent efforts (Zajonc, 1980) have distinguished between the affective and cognitive experiences of emotion. Koksal and Power (1990) demonstrated that the cognitive and affective components of anxiety were clearly related but could be reliably differentiated by self-report methods and suggested that a comprehensive assessment of anxiety includes an assessment of four systems: affective, cognitive, behavioral, and somatic.

The *ANX* scale of the PAI was designed to assess three of these components of anxiety; the behavioral component of anxiety was not included as a subscale. Specific behaviors often serve as the basis of making differential diagnostic decisions; for example, avoidance behavior is a critical component of the definition of a phobia, whereas ritualistic behavior is a critical sign of Obsessive-Compulsive Disorder. Thus, in the PAI, these specific behaviors were assessed in the context of a scale (*ARD*) pertaining to specific anxiety-related disorders, as described in a later section. This exclusion makes the scale a more general, nonspecific index of anxiety that does not have specific ties to a particular diagnostic construct. Rather, it relates broadly to the experience of anxiety and to how it is typically expressed.

ANX-C: Cognitive

The Cognitive subscale of *ANX* includes items that tap an expectation of harm, ruminative worry, and cognitive beliefs of the type described by Beck and Emery

(1979) within the context of cognitive therapy of anxiety disorders. This cognitive component involves a ruminative form of anxiety expression; people operating in this mode of expression tend to dwell on events, running them over and over in their minds. This is an internalizing approach to anxiety; such people tend to be vigilant to the experience of anxiety, rather than repressing it, and these feelings of being ill at ease will tend to have an ideational target or source. This mode of anxiety expression also tends to have strong trait aspects, meaning that it is both a characteristic style of dealing with anxiety and an indication of current distress.

Elevated scores on *ANX-C* indicate worry and concern about current issues to a degree that may impair the person's ability to concentrate and attend. Such people are likely to be overly concerned about issues and events over which they have no control. As scores exceed 85*T*, the worry and negative expectations are likely to be debilitating, and the possibility of intrusive obsessions should be investigated.

ANX-A: Affective

The Affective subscale includes items that measure the feelings of tension, apprehension, and nervousness that are characteristic of anxiety. This anxiety tends to be free-floating rather than attached to specific objects or events. Also, the anxiety reflected in this subscale tends to be rather persistent and trait-like; it reflects a dispositionally low threshold for the experience of events as alarming. High scorers on this scale experience a great deal of tension, have difficulty relaxing, and tend to be easily fatigued as a result of constant apprehension and high perceived stress. Elevations on this subscale in the absence of elevations on the remaining *ANX* subscales are suggestive of generalized anxiety rather than more specific fears.

ANX-P: Physiological

The Physiological subscale of *ANX* includes items that assess the somatic expression of anxiety, such as racing heart, sweaty palms, rapid breathing, and dizziness. This subscale has a fairly different pattern of relationships to other constructs than *ANX-C* and *ANX-A*. For example, *ANX-P* correlates most highly with the state component (as opposed to the trait component) of the STAI. However, this may, in part, be due to the nature of that instrument, as many of its "state" items are physiological in nature, and mode of anxiety expression may be confounded with duration of anxiety on the STAI (Spielberger, 1983).

Another distinction of *ANX-P* is that it is associated much less with indicators of depression and much more with physical symptom expression, as compared to *ANX-C* or *ANX-A*. This distinction captures the difference between somatization and

ideation. *ANX-P* correlates most highly with the expression of physical symptomatology. People with this pattern may not psychologically experience themselves as anxious, but they show physiological signs that most people associate with anxiety. This suggests a repressive style of dealing with stress; the person may notice overt physical signs such as sweaty palms and shortness of breath, and still not recognize these as signs of anxiety and stress.

ANX Full Scale Interpretation

As mentioned earlier, the full scale score of *ANX* is a nonspecific indicator of the degree of tension and negative affect experienced by the respondent. Average scores on *ANX* (i.e., < 60*T*) reflect a person with few complaints of anxiety or tension. Such individuals are typically seen as calm, optimistic, and effective in dealing with stress. Very low scores (i.e., < 40*T*) are indicative of a person reporting fearlessness, and it is possible that this represents a reckless lack of prudence in certain situations. Scores between 60*T* and 70*T* are indicative of a person who may be experiencing some stress and who is worried, sensitive, and emotional. Scores above 70*T* suggest significant anxiety and tension. With scores in this range, the respondent is probably tense much of the time and ruminative about anticipated misfortune. These individuals may be seen as high strung, nervous, timid, and dependent. With scores above 70*T*, at least one *ANX* subscale is likely to be elevated and such elevations should be examined to determine the typical modality in which anxiety is expressed.

ANX scores that are markedly elevated (i.e., > 90*T*) will likely have elevations on all three subscales, reflecting a generalized impairment associated with anxiety. Such a person's life will be seriously constricted, and the individual may not be able to meet even minimal role expectations without feeling overwhelmed. Mild stressors are likely to precipitate a crisis, and this repeating pattern of crises may present difficulties for psychotherapy despite the motivating nature of the individual's distress. Scores in this range will reflect a diagnosable anxiety disorder in most instances; scores on *ARD* may suggest a specific focus for the fears, or a lack of elevation on *ARD* may suggest that the anxiety is free-floating and generalized.

ANX Subscale Configurations

The following sections describe some of the implications of elevations on two or more *ANX* subscales.

ANX-C high, ANX-A high, ANX-P high

Individuals who have all three subscales elevated are likely to be plagued by worry to a degree that interferes with their ability to concentrate, attend, and

manage stressful periods in their lives. Anxiety is experienced in all modalities, ideationally as well as physically. Such people will ruminate about issues and events of seemingly minor significance and over which they have no control. There is likely to be prominent motor tension, little capacity to relax, and a general fatigue and malaise as a result of high perceived stress.

ANX-C high, ANX-A high, ANX-P average

This pattern suggests an ideational and sensitized approach to anxiety. The tendency to dwell on decisions and issues most likely interferes with their ability to concentrate and focus on matters at hand. The respondent's level of tension and difficulties in relaxing are probably readily apparent to others, who are likely to perceive the respondent as worrying needlessly and excessively about most matters.

ANX-C high, ANX-A average, ANX-P high

This is an unusual configuration in that the person does not report a strong subjective experience of tension or major difficulties in relaxing, yet there appears to be considerable worry and tension surrounding specific events or issues, and overt physical signs of tension and stress (e.g., sweaty palms, trembling hands, complaints of irregular heartbeats, and shortness of breath) are also present. Such a pattern suggests some denial or lack of recognition of the degree to which generalized stress is affecting the person's functioning.

ANX-C average, ANX-A high, ANX-P high

The primary manifestations of the respondent's anxiety appear to be in the affective and physiological areas. Such people feel quite tense much of the time, have difficulty relaxing, and are likely to experience considerable fatigue and malaise as a result of high perceived stress levels. There may be a tendency to try to handle stress by simply not thinking about the stressful issues, as ideation does not appear to be a prominent component of the anxiety, but it is apparent that it is being expressed in other ways, particularly in somatic form.

Anxiety-Related Disorders (*ARD*)

Anxiety is typically a feature in most clinical disorders, and, as such, an anxiety scale such as *ANX* is of limited use in identifying specific disorders in which anxiety may be prominent. The behavioral expression of anxiety, however, varies across different disorders, and, as such, these different diagnostic syndromes are typically defined by characteristic behaviors. The *ARD* scale assesses phenomena central to three important anxiety-related disorders that, in conjunction with marked anxiety as measured by *ANX*, can serve as a more specific indicator of these disorders.

ARD-O: Obsessive-Compulsive

The Obsessive-Compulsive subscale includes items related to both the symptomatic features of the disorder (e.g., fears of contamination and performance of rituals) and the personality elements of the disorder (e.g., perfectionism and hyperattentiveness to detail). In *DSM-IV* terms, these two components represent both Axis I (clinical syndrome) and Axis II (personality trait) aspects of the disorder. The Axis I component involves intrusive, recurrent thoughts, images, or behaviors; the literature suggests a number of common themes to these thoughts, such as fears of contamination leading to characteristic avoidance behaviors (e.g., hand-washing). The Axis II component involves a personality style that is rigid, dogmatic, and affectively constricted. For example, if you were to visit the house of an obsessional individual and pick up an object, the Axis I obsessional would be concerned that you left germs on the object, whereas the Axis II obsessional would be concerned that you did not return the object to its proper place. Although these are fairly different responses to the situation, both are represented on *ARD-O*.

The correlational pattern of *ARD-O* suggests that the Axis II manifestations are most heavily represented, as the scale is less correlated with traditional markers of anxiety and neuroticism than other *ARD* subscales. This pattern suggests that high scorers are using obsessional tactics to try to control anxiety (i.e., control through order and predictability). The relatively lower associations with *ANX*, for example, point out that there are a number of individuals who are successful in these efforts (i.e., they have little subjective experience of anxiety). Thus, with *ARD-O* elevated and the full-scale of *ANX* low, this suggests that the obsessional tactics are reasonably effective. However, this control of anxiety may be achieved at a cost; other aspects of the test may reveal pronounced interpersonal problems (e.g., low *WRM*, *SCZ-S*, *BOR-N*) associated with the individual's rigidity and need for control. However, as both *ANX* and *ARD-O* elevate, this is a sign that the obsessional tactics are failing to control the anxiety.

By comparison to most other clinical subscales, elevations on *ARD-O* are less frequent in clinical samples. This suggests that these behaviors and defenses are more unusual in clinical samples, as compared to the straightforward experience of anxiety. Thus, relatively moderate elevations (i.e., 55*T* to 65*T*) are interpretively significant in the clinical settings. Such people may be seen by others as being ruminating, detail-oriented, conforming, and somewhat rigid in attitudes and behavior. Scores ranging from 65*T* to 75*T* suggest a fairly rigid individual who follows his or her own guidelines for personal conduct in an inflexible and unyielding manner. Such people ruminate about matters to the degree that they often have difficulty in making decisions and in perceiving the larger significance of decisions

they do make. Changes in routine, unexpected events, and contradictory information are likely to generate untoward stress, and such individuals will be particularly wary of situations with strong affective demands. Scores at or above 75*T* indicate marked rigidity and significant ruminative concerns; intrusive thoughts are likely to be present. Such people may fear their own impulses and doubt their own ability to control them. They are likely to be extremely indecisive, and obsessional defenses are probably failing to control marked anxiety.

ARD-P: Phobias

The Phobias subscale assesses several of the more common phobic fears, including heights, enclosed places, public transportation, and social exhibition. These fears were selected based on commonality of reporting in the research literature—commonality within clinical, rather than research, settings. For example, snake and insect phobias are frequent objects of study in research laboratories, yet they constitute a fairly minor proportion of presenting complaints in anxiety disorder clinics. Given the prevalence of social phobias, these items are heavily represented on the scale, and elevations may indicate marked social anxiety. The *ARD-P* subscale correlates well with most other indicators of phobic fears as well as with indicators of more general anxiety.

The *ARD-P* scale is interesting in that it also has interpretive significance at very low scores, as the scale has a rather soft floor. Raw scores of 0 or 1 place a person at roughly 35*T*; such scores are typically obtained in people who regard themselves as fearless, unafraid of anything, even at times when fear is merited. In such people, there is a possibility of recklessness because they are not likely to be inhibited by appropriate caution; such scores are sometimes obtained in psychopathic individuals. Scores in the range from 60*T* to 70*T* suggest the possibility of specific fears, but avoidance behaviors are not likely to be severe and probably will not preclude a relatively successful level of daily functioning. As scores elevate above 70*T*, phobic behaviors are likely to interfere in some significant way, and such people will tend to monitor their environment in an effort to avoid contact with the feared object or situation. Marked elevations indicate the likelihood of multiple phobias or a more pervasive phobia, such as agoraphobia, as opposed to a simple, more circumscribed phobia.

ARD-T: Traumatic Stress

The Traumatic Stress subscale concerns phenomena related to reactions to traumatic stressors, including nightmares, sudden anxiety reactions, and feelings of being irreversibly changed by a traumatic event. Items were not written to detail the nature of the traumatic event; such events might include combat experiences,

rape or abuse, or some other highly stressful experience. Positive responses to the items indicate that (a) some terrible event or events happened to this person, and (b) these events changed the person for the worse in some way.

In light of significant elevations on this subscale, the precise nature of the event can be determined through a follow-up inquiry. The test score can serve as a useful means of broaching a topic that an individual may not be willing to disclose during an intake interview. The PAI assessment provides an opportunity to divulge discomforting information. The information is divulged in a "safe" forum, as it is simply a check mark on a piece of paper; however, including it with the rest of the items also acknowledges to the respondent that these are important issues and that it is acceptable to discuss such issues in the context of a professional assessment. Because this scale is commonly elevated in clinical samples, it is often an entry to further discussion while providing the client with feedback on test results. For example, one might say, "I notice your score is very high on the traumatic stress scale; this usually occurs with people who have had something very bad happen to them that really changed their life, that really affected them in a negative way. What do you think about that?" Although this interpretation is rather unexceptional given the content of the items, clients are often impressed by the extent to which they differ from others in this regard. In addition, the acknowledgment that the clinician understands that these are particularly important issues for the client is generally reassuring and increases the client's confidence in the clinician.

One aspect of *ARD-T* that merits mention is that it is quite frequently elevated in clinical settings; the average score for clinical respondents is 64*T*, which approaches the 90th percentile for the general population. It should be recognized that individuals in treatment settings tend to have very high rates of traumatic events; prevalence of a history of physical and/or sexual abuse has been estimated as high as 70-80% in some settings. However, the frequency of this elevation also should serve as a caution against an indeterminate use of this scale as an indication of posttraumatic stress disorder (PTSD), which tends to have a characteristic profile that includes other features as well as *ARD-T* elevations (see chapter 6). PTSD is a syndrome that is not limited to the particular feature identified by *ARD-T*, although the scale is certainly a beginning point in the identification of this syndrome.

Scores in the moderately elevated range on *ARD-T* (i.e., 65*T* to 75*T*) suggest that the respondent has likely experienced a disturbing traumatic event in the past, an event that continues to be a source of distress and to produce recurrent episodes of anxiety. Although the item content of the PAI does not address specific causes of traumatic stress, possible traumatic events involve victimization (e.g., rape, abuse), combat experiences, life-threatening accidents, and natural disasters. As

scores become increasingly elevated, preoccupation with the trauma increases, and scores above 90*T* indicate that the trauma (single or multiple) is the overriding focus of the person's life and that individual views himself or herself as having been severely damaged, perhaps irreparably, by the experience.

ARD Full Scale Interpretation

The full scale of *ARD* is perhaps the most difficult to interpret on the inventory, due to its composition of three fairly diverse conditions. In general, it is a measure of the extent of behavioral expression of anxiety. Average scores on *ARD* (i.e., < 60*T*) reflect a person who reports little distress across many situations. Such individuals are typically seen as secure, adaptable, and calm under fire. Scores between 60*T* and 70*T* reflect a person who occasionally experiences, or experiences only to a mild degree, maladaptive behavior patterns aimed at controlling anxiety. Such people will have some specific fears or worries and also may have little self-confidence. Scores above 70*T* suggest impairment associated with fears surrounding a particular situation; specific subscale elevations should reveal more precisely the nature of these fears. Such individuals may be seen as insecure and self-doubting, ruminative, and particularly uncomfortable in social situations.

ARD scores that are markedly elevated (i.e., > 90*T*) are likely to have elevations on all three subscales, reflecting multiple anxiety disorder diagnoses and broad impairment associated with anxiety. These individuals are in severe psychological turmoil; they are faced with constant rumination and often are guilt ridden over past transgressions, whether real or imagined. A number of maladaptive behavior patterns aimed at controlling anxiety are probably present, but these patterns are having little effect in preventing anxiety from intruding into experience and functioning.

ARD Subscale Configurations

The following sections describe some of the implications when two or more *ARD* subscales are elevated in combination.

ARD-O high, ARD-P high, ARD-T high

This pattern reveals that the respondent is likely to have significant symptoms and behaviors related to anxiety in a variety of domains, including phobic avoidance, obsessive rumination, and troublesome thoughts related to a traumatic event. The resulting avoidance behaviors are likely to interfere with social role functioning in some significant way; such people tend to monitor their environment constantly in a vigilant manner in an effort to avoid contact with particular situations, particularly those that evoke a disturbing traumatic event in the past. Although phobic fears are likely, such people are more likely to have multiple

phobias or a more debilitating phobia, such as agoraphobia, than to suffer from a simple phobia.

There appears to be an attempt, apparently unsuccessful, to control these anxieties through rigidity and affective constriction. Such people are often seen by others as being perfectionistic and overly anxious about trifles. They are likely to set and follow their personal guidelines for conduct in an inflexible and unyielding manner, but they pay for this lack of flexibility by ruminating about matters (both past and present) to the degree that decisions cannot be made. Predictability is very important for such people, and changes in routine, unexpected life events, and contradictory information are likely to overtax the person's efforts at control. They also may fear their own impulses and doubt their ability to control them.

ARD-O high, ARD-P high, ARD-T average

This subscale pattern suggests a fearful individual who attempts to manage anxiety through rigid planning and tries to avoid affective arousal. However, anxiety and avoidance behaviors are likely to be interfering in some significant way in the individual's life, and it is probable that such individuals monitor their surroundings closely to avoid unexpected disruptions in routine. Such people tend to fear novel situations and will avoid risk-taking as much as possible. This pattern, particularly with a concomitant elevation on *DOM*, suggests a person who manages this fear of novelty through a rigid and inflexible need for control. However, this need for control is complicated by the tendency to constantly ruminate about decisions and about the unexpected consequences of any decisions that are made. Changes in routine, unexpected events, and contradictory information are likely to be particularly difficult to handle.

ARD-O high, ARD-P average, ARD-T high

This pattern of responses suggests an individual who ruminatively dwells on past events in his or her life. Such people attempt to manage the discomfort generated by these past events through affective constriction and by organizing their lives in an inflexible and unyielding manner. Although these strategies may help in managing anxiety, they fill the person with doubt and, hence, such individuals will have difficulty in making personal decisions and in perceiving the larger consequences of decisions they do make. Such people may particularly fear their own impulses and doubt their ability to control them should their rigid efforts at self-control fail.

ARD-O average, ARD-P high, ARD-T high

This subscale pattern reflects individuals who have experienced a disturbing traumatic event in the past, an event that continues to serve as a source of marked

distress and to produce recurrent episodes of anxiety. Such people tend to vigilantly monitor their environment in an effort to avoid situations reminiscent of past stressful events; avoidance behaviors related to these fears are likely to be sufficiently severe to interfere with social role functioning. Interpersonal withdrawal in close relationships is likely (look for low scores on *WRM*), and multiple phobias or a more distressing phobia, such as agoraphobia, may be present.

Depression (*DEP*)

The measurement of depression has perhaps received more research attention than any other construct in mental disorders. There are a host of widely used instruments for assessing depression, including the self-report Beck Depression Inventory, the Zung (1965) Depression Scale, and MMPI *D* scale, as well as observer rating scales such as the Hamilton Rating Scale for Depression (HAM-D; Hamilton, 1960). Despite the fact that these scales are widely used and tend to be positively correlated, each has somewhat different characteristics (Lambert, Hatch, Kingston, & Edwards, 1986). For example, the BDI is based on the cognitive features of depression, such as beliefs about helplessness and negative expectations about the future (e.g., Louks, Hayne, & Smith, 1989). In contrast, the HAM-D addresses vegetative signs of depression more heavily than the BDI; as a result, the two instruments have substantially different factor structures (Favarelli, Albanesi, & Poli, 1986). However, both instruments share the characteristic of having very low mean scores and little variance in normal samples. In contrast, the MMPI *D* scale has a relatively "soft floor" with greater variability among normal respondents; thus, it may be more useful for the assessment of depressive features within the milder ranges (Hollon & Mandel, 1979). However, the MMPI items emphasize affective features such as unhappiness and psychological discomfort, with limited assessment of either the cognitive or the physiological features of depression.

The *DEP* scale of the PAI was assembled to provide an equal weighting among the major components of the depressive syndrome and still provide items that would prove useful across the full range of severity of symptomatology. The clinical syndrome of depression is typically found to have three components: an affective component, characterized by unhappy and apathetic mood; a cognitive component, marked by negative expectancies; and a physiological component, where sleep and appetite disturbances and low energy are prominent (e.g., Moran & Lambert, 1983). Thus, three *DEP* subscales were designed: Cognitive, to tap negative expectancies, helplessness, and cognitive errors of the type described by Beck

(e.g., 1967) within the context of his theory of depression; Physiological, to assess the vegetative and somatic features (e.g., disturbances in sleep, appetite, and sexual drive) that are commonly found in depressed patients; and Affective, to measure the unhappiness, dysphoria, and apathy that are universally identified with this population.

DEP-C: Cognitive

The Cognitive component of depression involves expectancies or beliefs regarding one's inadequacy, powerlessness, or helplessness in dealing with the demands of the environment. According to Beck (1967, 1976) and other cognitively-oriented theorists such as Abramson, Seligman, and Teasdale (1978), the root of depressive symptomatology lies in these beliefs. Individuals with this cognitive style tend to globally attribute negative events in their lives to their own incompetence or inadequacy, whereas any positive events are minimized or attributed to some external source (e.g., good luck, assistance from others, etc.). Beck notes a number of other characteristics of the depressive cognitive style, including (a) a tendency to think in dichotomies, with events viewed as extremes (good or bad, black or white); (b) making self-referential assumptions, such as believing everyone notices if one makes a small mistake; and (c) selective abstraction of negative events.

The *DEP-C* scale, by tapping such cognitions, reflects an important component of self-esteem involving a sense of personal competence or self-efficacy. Individuals with *DEP-C* elevations are likely to report feeling worthless, hopeless, and as having failed at most important life tasks. They are likely to be quite pessimistic and to have very little self-confidence. Concentration problems and indecisiveness are also likely to be present. Conversely, people with very low scores on *DEP-C* (i.e., < 40*T*) report that their abilities have few limits; such a pattern could reflect grandiosity or narcissism.

DEP-A: Affective

The affective component of depression refers to the experience of feeling distressed, unhappy, sad, blue, and down in the dumps. Elevations on *DEP-A* suggest sadness, a loss of interest in normal activities, and a loss of sense of pleasure in things that were previously enjoyed. This scale is probably one of the most direct measures of overall life satisfaction on the PAI. Thus, as a relatively pure measure of distress, *DEP-A* can be considered a positive prognostic indicator, as it reflects a dissatisfaction with current circumstances, and the distress can serve as a motivator for change.

DEP-P: Physiological

The *DEP-P* subscale involves what are called the vegetative signs of depression: sleep problems, appetite problems, lack of interest, and lack of drive. Of the three *DEP* subscales, *DEP-P* demonstrates the largest correlation with the Hamilton Rating Scale (HAM-D) for Depression ($r = .75$). This is informative in that the HAM-D is the most widely used measure of depressive symptomatology in psychopharmacological trials of antidepressant medication; these medications tend to be particularly effective in treating vegetative signs of depression. Therefore, the *DEP-P* scale may be useful in identifying target symptoms that may be amenable to treatment with such medications.

Elevations on *DEP-P* suggest that the respondent has experienced a change in level of physical functioning. Such people are likely to show a disturbance in sleep pattern, a decrease in energy and level of sexual interest, and a loss of appetite and/or weight loss. Motor slowing also may be present.

DEP Full Scale Interpretation

As the sum of the three subscales, the *DEP* full scale score indicates the broad spectrum of diagnostic depressive symptomatology. Because all three components are involved in the *DSM* definition of a disorder, the full scale can be useful in diagnostic decision-making. Average scores on *DEP* (i.e., < 60*T*) reflect a person with few complaints about unhappiness or distress. Such individuals are typically seen as stable, self-confident, active, and relaxed. Scores between 60*T* and 70*T* are indicative of a person who may be unhappy and who is sensitive, pessimistic, and self-doubting. Scores above 70*T* suggest prominent unhappiness and dysphoria. With scores in this range, the respondent is probably despondent much of the time and withdrawing from activities he or she previously enjoyed. These individuals may be seen as guilt-ridden, moody, and dissatisfied. With scores above 70*T*, at least one subscale is likely to be elevated, and these scores should be examined to determine the typical modality in which the depression is manifest. As scores become elevated above 80*T*, there is an increasing likelihood of a diagnosis of Major Depressive Disorder.

DEP scores that are markedly elevated (i.e., > 95*T*) are likely to have elevations on all three subscales, often reflecting a diagnosis of Major Depressive Disorder. These individuals feel hopeless, discouraged, and useless. They are socially withdrawn and feel misunderstood by others. Typically, there is little motivation to pursue interests and little energy with which to do so. Suicidal ideation is not uncommon with scores in this range, and particular attention should be given to *SUI* elevations when *DEP* is markedly elevated.

DEP Subscale Configurations

The following sections describe some of the implications of different combinations of elevations on the three *DEP* subscales.

DEP-C high, DEP-A high, DEP-P high

With all three subscales elevated, the respondent is quite likely to meet the diagnostic criteria for a major depressive episode. Plagued by thoughts of worthlessness and hopelessness, such individuals are preoccupied with feelings of sadness, a loss of interest in normal activities, and a loss of sense of pleasure in things that were previously enjoyed. They are likely to show a disturbance in sleep pattern, a decrease in level of energy and sexual interest, and a loss of appetite and/or weight loss. Psychomotor slowing or retardation might also be expected.

DEP-C high, DEP-A high, DEP-P average

This subscale pattern reflects an individual who is plagued by ruminative thoughts of worthlessness and personal failure. Such people admit openly to feelings of sadness, a loss of interest in normal activities, and a loss of the sense of pleasure in things that were previously enjoyed, and they blame themselves for feeling this way. However, the absence of physiological signs of depression suggests that the complete spectrum of depressive symptomatology is not present, and the person may not meet diagnostic criteria for a major depressive episode. This pattern is common in more chronic dysphoric conditions, such as those seen with dysthymic disorder or with certain personality disorders.

DEP-C high, DEP-A average, DEP-P high

An individual with this unusual subscale pattern reports markedly low self-esteem and numerous physiological signs of depression, yet he or she is not admitting to feeling unhappy or distressed. This suggests that the individual might not recognize the aforementioned symptoms as signs of dysphoria and stress or might be repressing the experience of unhappiness to some extent. Alternatively, the person may not be willing to admit to personal unhappiness, viewing it as a sign of weakness. Regardless, it is likely that the person is unhappy at some level and will be vulnerable to future episodes of depression during times of stress.

DEP-C average, DEP-A high, DEP-P high

Although such people do not appear to feel hopeless and their self-esteem is largely intact, they are manifesting affective and physiological signs of depression. Such a pattern would appear to contraindicate a more cognitively-based intervention for the depression and, instead, may underscore the importance of managing

the physical symptoms, perhaps with antidepressant medication. The relatively lower score on *DEP-C* suggests that external circumstances, rather than internal shortcomings, may be blamed for the person's current unhappiness.

Mania (*MAN*)

By definition, mania is a disorder with a fluctuating presentation of symptomatology, and this fluctuation presents a measurement challenge for traditional assessment methods. Within a particular manic episode, symptoms can vary widely; for example, mood can be alternatively elevated, irritable, or depressed within a brief time span. Over the past few decades, an empirical literature has emerged that documents the symptomatic complexity of patients presenting during a manic episode. Goodwin and Jamison (1990), in a comprehensive description of the manic-depressive syndrome, reviewed the results of a number of these studies of symptomatology in an attempt to identify the most salient diagnostic features of mania. They divided symptoms into four broad areas: (a) mood, (b) cognitive, (c) activity and behavior, and (d) psychotic symptoms. By collapsing results across several studies, Goodwin and Jamison were able to calculate a weighted mean representing the diagnostic sensitivity of different signs and symptoms within each of the four areas. With respect to mood symptoms, the most commonly observed were irritability (80% of patients), followed by depression (72%), and euphoria (71%); among cognitive symptoms, grandiosity (78%), racing thoughts (71%), and poor concentration (71%) were most common; and among behavioral symptoms, hyperactivity (87%), typically involving pressured speech (98%), and decreased sleep (81%) were often observed. However, psychotic symptoms such as delusions (48%) or hallucinations (15%) were much less frequently observed.

The *MAN* scale of the PAI was designed to assess prototypic signs of a manic episode. Consistent with the findings of Goodwin and Jamison (1990), disruptions in mood, cognition, and behavior were each assessed via different subscales; because of the low sensitivity of psychotic symptomatology and because such symptoms are often of limited utility in making a differential diagnosis from other psychotic disorders (Carlson & Goodwin, 1973), assessment of psychotic features received relatively little weight in the final scale. Thus, three *MAN* subscales were designed: Activity Level, with items addressing pressured speech, decreased sleep, increased motor activity, and extravagance; Grandiosity, including inflated self-esteem, overvalued ideas, and interpersonal overconfidence; and Irritability, particularly involving impatience and demandingness with others.

MAN-A: Activity Level

The primary feature of manic behavior is that it is elevated; individuals in a manic episode engage in more behaviors than most people. The activity level is heightened with respect to ideational as well as behavioral activity, so ideas flow as rapidly as behaviors (i.e., flight of ideas). However, this increase in *quantity* of behavior is accompanied by a decrease in *quality*; both the ideation and the overt activity become pressured and disorganized. Thus, high scorers on the scale are not merely involved in many activities; instead, they are overinvolved and ineffective at managing all of their commitments.

The *MAN-A* subscale has one of the "softest floors" of the PAI clinical scales, meaning that it is possible to obtain very low scores. Scores in this range (i.e., < 30*T*) represent very low activity levels and marked apathy and indifference that often characterize severely depressed individuals. Scores in the moderate range (i.e., 55*T* to 65*T*) suggest an activity level somewhat higher than normal; in the upper end of this range, the person may be overcommitted to a wide variety of activities, but not necessarily in a disorganized fashion. Scores between 65*T* and 75*T* represent an activity level that is perceptibly high to most observers. Such people tend to be involved in a wide variety of activities in a somewhat disorganized manner and to experience accelerated thought processes. As scores exceed 75*T*, this acceleration renders the person confused and difficult to understand; scores in this range are unusual, as such people often have difficulty focusing their attention for the time required to complete the PAI.

MAN-G: Grandiosity

The grandiosity component of mania involves an overevaluated self-image, an overestimation of one's talents and capabilities. Hence, *MAN-G* items inquire about the person's self-evaluation of many talents and abilities. Grandiose individuals tend to believe they are good at almost anything, and, thus, they obtain elevated scores. In milder forms, this may merely reflect an optimism and an unwillingness to be hampered by one's limitations. In more extreme forms, this represents an incapacity to recognize one's limitations and an inability to think clearly about one's own capabilities.

The *MAN-G* subscale, like *MAN-A*, is interpretively useful at the lower end. Because the scale has a major component of self-evaluation, it can be useful in identifying persons with low self-esteem who are not necessarily depressed. Very low scores on *MAN-G* can render an individual vulnerable to depression, as such people tend to feel rather inadequate and to be unwilling to accept or acknowledge their own positive aspects. Conversely, when *DEP* is elevated and *MAN-G* is

not suppressed, this may indicate that blame for the current circumstances is being externalized. Thus, for example, a paranoid individual may be pessimistic about his or her ability to deal with external forces, yet the self-esteem will remain intact. So, although they may have an elevated *DEP-C*, suggesting that they doubt their ability to succeed against external forces, their self-esteem is unimpaired because they simply project the blame outward. Thus, even more than *DEP-C*, the *MAN-G* score may reflect the extent to which a low self-concept has been internalized.

Scores on *MAN-G* that are in the moderately elevated range (i.e., 60*T* to 70*T*) represent an optimistic and, perhaps, driven type of individual. Content of thought is likely to be marked by an element of expansiveness and self-confidence, with a focus on strategies for success or achievement. Toward the upper end of this range, the possibility of inflated self-esteem increases. As scores exceed 70*T*, the likelihood of grandiosity must be considered, as scores in this range are unusual in clinical settings. Such elements may range from beliefs of having exceptionally high levels of common skills to beliefs that border on delusional in terms of having special and unique talents that will lead to fame and fortune. Others may view such people as self-centered and narcissistic.

MAN-I: Irritability

Although elevated mood is one of the more striking affective features of mania, it is actually not as characteristic of mania as might be expected. More typical of manic affect is volatility; the mood can change rather abruptly, particularly in response to frustration. Thus, *MAN-I* items tap a frustration-responsive irritability that is typical of manic patients. There tend to be two aspects to these items, one involving a certain degree of ambition and the other involving low frustration tolerance. It is this combination of features that makes the scale reasonably specific, rather than a more general marker of trait hostility, a characteristic that may be more directly addressed by some of the *PAR* subscales.

Low scores on *MAN-I* (i.e., ≤ 40*T*) reflect an individual who portrays himself or herself as very patient and rather immune to frustrations. Milder elevations (i.e., 60*T* to 70*T*) suggest a person who is impatient, and individuals with scores in the upper end of this range may be seen by others as demanding. Such people may have difficulty with others who do not cooperate with them or who do not keep up with their plans and schedule of activities. As scores exceed 70*T*, relationships with others are probably under stress due to the demanding presentation of the respondent. Such people are easily frustrated by lack of ability or cooperation in other people, and these other people will tend to be blamed for the respondent's failures

and to be accused of attempting to thwart the respondent's possibly unrealistic plans for success and achievement. With scores above 80*T*, the person is quite volatile in response to frustration, and his or her judgment in such situations may be poor. The quality of mood state in such people can change very rapidly, and they are prone to lash out at people they view as the source of their frustrations.

MAN Full Scale Interpretation

Elevations on the full scale of *MAN* tend to be rarer in clinical settings than any of the other clinical scales of the PAI. Indeed, the average scores for clinical and community respondents are nearly identical, which is certainly not the case with any other PAI clinical scale. As such, the "psychological threshold" for identifying *MAN* scores as problematic should be lowered in most clinical settings.

Average scores on *MAN* (i.e., < 55*T*) reflect a person with few features of mania or hypomania. Although depressed individuals are rarely grandiose and do not have heightened activity levels, they are often quite irritable; hence, depression will not invariably be associated with very low *MAN* scores. Scores between 55*T* and 65*T* are indicative of a person who may be seen as active, outgoing, ambitious, and self-confident; however, toward the upper end of this range such individuals also may be rather impatient, hostile and quick-tempered. Scores in the 65*T* to 75*T* range are associated with increasing restlessness, impulsivity, and high energy levels. Other people are likely to perceive such individuals as unsympathetic and hot-headed.

MAN scores that are markedly elevated (i.e., > 75*T*) are typically associated with disorders such as mania, hypomania, or cyclothymia. These individuals take on more than they can handle and react in a hostile manner to suggestions that they reduce their activities. They are typically quite impulsive and have little ability to delay gratification; their lack of judgment in such situations is likely to lead to significant impairment in role functioning. They may be experience flights of ideas, and their grandiosity may be delusional in proportion. Their interactions with others are likely to be problematic, as their self-importance, hostility, and narcissism impede their ability to be empathic in relationships.

MAN Subscale Configurations

The following sections describe some of the implications of different combinations of evaluations on the three *MAN* subscales. Because *MAN* subscale elevations tend to be unusual in clinical settings, subscale scores greater than 65*T* should be considered "high" in interpreting configurations using the following paragraphs.

MAN-A high, MAN-G high, MAN-I high

This pattern of subscale scores suggests a clinical picture with numerous elements of mania. Such people will have an activity level that is perceptibly high to most observers. They are probably involved in these activities in an overcommitted and disorganized manner, and they may experience their thought processes as being accelerated, although they may not recognize the extent of their disorganization. In part, they are active in many areas because they feel that they have special talents in many areas; content of thought is likely to be marked by overvalued ideas, inflated self-esteem, or grandiosity. They may believe that they have exceptionally high levels of common skills, and they possibly harbor delusional beliefs of having special and unique talents that will lead to fame and fortune. Relationships with others are probably under stress, due to a frustration with the inability or unwillingness of these other people to keep up with overvalued plans and possibly unrealistic ideas. At its extreme, this irritability may result in accusations that significant others are attempting to thwart these plans for success and achievement, particularly when there is an accompanying elevation on *PAR*.

MAN-A high, MAN-G high, MAN-I average

This pattern of responses represents a very active person who is probably involved in his or her activities in an enthusiastic, overcommitted, and disorganized manner. The significance or importance of these activities may be overvalued, as may the person's self-perception of his or her talents and abilities. The lack of any elevation of *MAN-I* is a favorable sign (i.e., it suggests greater perseverance in these behaviors than might be found otherwise), and this increases the possibility that some of the individual's energy and enthusiasm can be translated into effective action.

MAN-A high, MAN-G average, MAN-I high

This pattern suggests that the clinical picture is characterized by heightened energy levels and irritability. This combination suggests a great emphasis on action and activity, perhaps at the expense of relationships and feelings. Other people probably view the respondent as driven, impatient, and demanding, and the respondent is easily frustrated by any inability or unwillingness of these other people to keep up with the agenda and accompanying (possibly unrealistic) expectations. At its extreme, this irritability may result in resentment that significant others are attempting to thwart the respondent's plans for success and achievement.

MAN-A average, MAN-G high, MAN-I high

This pattern of scores suggests an individual with inflated self-esteem and overvalued ideas, who has little tolerance for others who fail to recognize his or

her special talents and unique abilities. Others are likely to view the respondent as demanding, impatient, and arrogant. The self-esteem may be particularly vulnerable to insult (particularly if *BOR-I* is elevated), and, when it is threatened, such individuals may lash out in frustration at those around them. Relationships with others are probably strained, as such people will repeatedly clash with anyone who differs from them or their agenda. However, they probably do not view themselves as hostile, but rather as acting in a manner merited by the strength and importance of their ideas and convictions.

Paranoia (*PAR*)

As is the case with anxiety in milder conditions, symptoms of paranoia are found in a variety of diverse and more severe psychopathologic conditions. The manifestations can range from characterological suspiciousness (e.g., that found in Paranoid Personality Disorder) to the frank persecutory delusions that characterize paranoid psychosis. However, paranoid symptoms are not specific to these syndromes; these beliefs are often encountered in schizophrenia, mania, other personality disorders such as antisocial and borderline personality, and certain organic conditions. Regardless of the nature of the primary diagnosis, paranoid symptoms present a difficult assessment challenge because the respondent is, by definition, defensive and suspicious of diagnostic and treatment efforts. In identifying the relevant components of the paranoia construct for the PAI, a decision was made to place an emphasis on the phenomenology of the disorder, rather than on the more overt symptomatology, in an effort to reduce the impact of defensiveness on scale performance.

The *PAR* scale was designed to identify the personological elements of paranoia, as well as the more symptomatic elements. One of the three *PAR* subscales, Persecution (*PAR-P*), includes items consistent with the typical delusional beliefs associated with severe paranoia. The items for the remaining two subscales were written to capture the experience of the paranoid in a manner that might be less affected by the typically guarded posture of the paranoid respondent. The Hypervigilance (*PAR-H*) subscale indicates an attitude of preparedness, sensitivity, and wariness in interactions with others. The Resentment (*PAR-R*) subscale involves somewhat bitter and envious feelings toward others, along with a sense of being treated unfairly by others.

PAR-H: Hypervigilance

The paranoid individual carries the predisposition to distrust people that he or she does not know well. As a result, such individuals tend to be vigilant and

guarded in their interactions with others, looking for warning signs that the person with whom they are dealing is not completely trustworthy. This tendency is more of an interpersonal set, a way of relating to others, than it is a specific belief; therefore, elevations should not be interpreted as indicative of a delusional system. Rather, there is a wariness in interactions with others and a reluctance to let one's guard down in relationships.

PAR-H has a reasonably soft floor and very low scores are possible. When scores below 40*T* are obtained, this suggests a person who reports being exceedingly trusting and open in relationships. If this self-report is accurate, such people are vulnerable to interpersonal exploitation, particularly if *DOM* is low. However, such scores may also be obtained by individuals who are motivated to appear as trusting. Moderate elevations (i.e., 60*T* to 70*T*) suggest individuals who are pragmatic and skeptical in relationships with others; such people may be difficult to know well and may keep casual acquaintances at arm's length. Scores above 70*T* indicate a person who spends a great deal of time monitoring the environment for evidence that others are not trustworthy and may be trying to harm or discredit the individual in some way. Others will view such people as hypersensitive and easily insulted in their interactions. Such people will question and mistrust the motives of those around them as a matter of course, despite the nature or history of the relationships. As a result, working relationships with others are likely to be strained and may require an unusual degree of support and assistance in order to succeed.

PAR-P: Persecution

The items on the Persecution subscale directly address beliefs that others are attempting to obstruct or impede the respondent's efforts. These beliefs can range from mild feelings of jealousy to delusional beliefs of conspiracy and intrigue. Of the three *PAR* subscales, *PAR-P* is most closely tied to Axis I manifestations of delusional disorders involving paranoia.

Because item content on *PAR-P* is unusual, raw scores tend to be low in the general population and the standard deviation tends to be small. Hence, the scale can elevate rapidly even if relatively few items are answered in the positive direction. Elevated scores suggest an individual who is quick to feel that he or she is being treated inequitably and easily believes that there is a concerted effort among others to undermine his or her best interests. Working and social relationships are likely to be very strained, despite any efforts by others to demonstrate support and assistance. As scores increase above 85*T*, the possibility of delusional beliefs should be investigated, particularly if *SCZ-P* is also elevated.

PAR-R: Resentment

The third *PAR* subscale captures the hostility and bitterness of the paranoid character, the tendency to approach life with a "chip on the shoulder." The obstructions provided by others (reflected in the scores on the other subscales) are a source of lingering resentment for such individuals. These people feel that they have not treated fairly in life, and they nurse grudges against all who have transgressed against them in the past. Blame for any failure is projected outwards, and forgiveness from the respondent is not likely. Indeed, "getting even" with the objects of this resentment may be a major preoccupation for such people.

Scores on *PAR-R* that are moderately elevated (i.e., 60*T* to 70*T*) suggest a sensitive person who is easily insulted or slighted and responds by holding grudges toward the offending party. As scores elevate above 70*T*, the respondents are increasingly inclined to attribute their misfortunes to the neglect of others and to discredit the successes of others as being the result of luck or favoritism. They are likely to be envious of others and disinclined to assist others in achieving their goals and successes. As scores exceed 80*T*, the person may dwell on past slights by others and may be preoccupied with evening the score. Examination of scores on *DOM* and *AGG* may suggest whether this hostility is likely to be expressed directly or in more passive-aggressive form.

PAR Full Scale Elevations

The *PAR* scale measures the characteristic phenomenology of the paranoid individual with respect to both symptomatology and personality elements. The item content addresses a vigilance in monitoring the environment for potential harm, a tendency to be resentful and to hold grudges, and a readiness to spot inequities in the way the respondent has been treated by others. At the full scale level, *PAR* represents a direct measure of interpersonal mistrust and hostility.

Average scores on *PAR* (i.e., < 60*T*) reflect a person who reports being open and forgiving in relationships with others. Scores between 60*T* and 70*T* are indicative of a person who may be seen as sensitive, tough-minded, and skeptical. Toward the upper end of this range, individuals may also be rather wary and cautious in their interpersonal relationships. With scores above 70*T*, the person is likely to be overtly suspicious and hostile. Such a person tends to be distrustful of close interpersonal relationships and probably has few close friends.

PAR scores that are markedly elevated (i.e., > 84*T*) are typically associated with paranoia of potentially delusional proportions. These individuals are bitter and resentful of the the way they have been treated by others, and they expect

that others will attempt to exploit them. Any close relationships that may exist are probably troubled by jealousy and accusations. Ideas of reference and delusions of persecution or grandiosity are not uncommon when scores are in this range.

PAR Subscale Configurations

The following sections describe some of the implications of different combinations of elevations on the three *PAR* subscales.

PAR-H high, PAR-P high, PAR-R high

This pattern suggests a hypersensitive and hypervigilant individual who often questions and mistrusts the motives of others. Such people are extremely touchy in interactions with others and tend to harbor strong feelings of resentment as a result of perceived slights and insults. When circumstances fail to go their way, they are quick to feel that they are being treated inequitably and often holds grudges against others, even if the perceived affront is unintentional. Consistent with the constellation of hypervigilance, suspiciousness, and resentment, such people are seen by others as being quite hostile. Working relationships with others are likely to be very strained, despite any efforts by others to demonstrate support, reassurance, and assistance.

PAR-H high, PAR-P high, PAR-R average

This type of individual feels that he or she has been taken advantage of in the past and is on guard to prevent similar circumstances from happening again. Such individuals approach relationships in a hypervigilant fashion and easily mistrust the motives of others. They are very sensitive to any perceived affronts and will withdrawal quickly from individuals who are perceived as anything less than totally supportive. Casual relationships are likely to be quite distant and strained, and even efforts by others to demonstrate support and assistance may be viewed with skepticism by the respondent.

PAR-H high, PAR-P average, PAR-R high

This patterns suggests a characterologically suspicious individual who is predisposed to question and mistrust the motives of others. Such people are vigilant to any signs that they are being treated unfairly, and they will harbor strong and lingering feelings of resentment following any perceived slights and insults. Although they may not view themselves as unduly suspicious, others are likely to see such people as hostile and unforgiving. Establishing close relationships with such people tends to be quite difficult because of the lack of trust and the suspicion of any efforts to render assistance.

PAR-H average, PAR-P high, PAR-R high

This pattern suggests a person who feels that life has treated him or her unfairly. Such people are bitter about their perceived mistreatment, and they feel they have been victimized in some manner through the neglect or active interference of others. They tend to be envious of others and to denigrate their accomplishments, and they are not likely to support or cooperate with the efforts of others. They are very slow to forgive transgressions and may ruminate about past slights and insults at the hands of others. Such people are prone to attribute the causes for any untoward circumstances externally, and they often feel as if they have very little control over the outcomes in their lives, seeing themselves as the pawn of various malevolent forces. They place a very high premium on loyalty in the people around them, but their high expectations in this regard are often impossible to meet.

Schizophrenia (*SCZ*)

Schizophrenia is one of the most heterogeneous of all clinical syndromes, and this heterogeneity poses a number of problems for assessment. Historically, there have been many schemes for subtyping schizophrenia, with the number of subtypes ranging from the three originally described by Kraepelin (i.e., paranoid, catatonic, hebephrenic) to the dozens of subtypes described by Leonhard (e.g., Ban, 1982). The distinction between "positive" and "negative" symptoms in schizophrenia has received considerable research support in recent years. Positive symptoms involve the presence of features that are normally *not* present in individuals; they include phenomena such as hallucinations, delusions, and bizarre behavior. Negative symptoms represent the absence of features that normally *are* present in individuals, such as social behavior and affective responsiveness (Andraesen, 1985). The clinical import of the distinction can be found in a wide variety of areas; for example, patients with predominantly negative symptoms often show little response to neuroleptic medication and have poorer prognoses (Angrist, Rotrosen, & Gershon, 1980).

However, thought disorder is an important diagnostic feature of schizophrenia that does not fit neatly into the positive–negative distinction. Some features of thought disorder (e.g., tangential speech) are considered positive symptoms, whereas others (e.g., thought blocking, attentional problems) are sometimes characterized as negative symptoms. Confirmatory factor analyses have demonstrated that features of thought disorder tend not to group well with either symptom group (Lenzenweger, Dworkin, & Wethington, 1980), and some analyses have

suggested that thought disorder should be considered a third, relatively independent pattern of impairment in schizophrenia.

The *SCZ* scale of the PAI was designed to assess these three aspects of schizophrenia. Positive symptoms, negative symptoms, and thought disorder were each assessed via different subscales. The Psychotic Experiences subscale emphasizes the positive symptoms of schizophrenia, such as delusions and hallucinations, that are central to the *DSM* definition of the disorder. The Social Detachment subscale focuses on the most characteristic negative symptom of schizophrenia, social withdrawal and poor rapport. Finally, the Thought Disorder subscale includes items assessing experiences such as thought blocking, confusion, distractibility, and concentration problems.

SCZ-P: Psychotic Experiences

Positive symptoms of schizophrenia involve delusions and hallucinations, as well as characteristic bizarre thought content. The positive symptoms tend to have a rather distinct course, with episodic exacerbations and often complete remissions, and persons with predominantly positive symptomatology do not tend to demonstrate intellectual impairments. These symptoms also tend to respond favorably to antipsychotic medications.

The *SCZ-P* items tap various positive symptoms of schizophrenia that vary in severity from unusual perceptions and magical thinking to the characteristic first-rank psychotic symptoms of schizophrenia. In keeping with efforts to maintain discriminant validity, the features are designed to be relatively specific to schizophrenia rather than more broadly defined, nonspecific symptoms that might be found in other syndromes (e.g., delusions of grandeur or nihilistic delusions). Scores that are moderately elevated (i.e., 60*T* to 70*T*) suggest that the respondent may entertain some ideas that others tend to find unconventional or unusual; toward the upper end of this range, the person may strike others as peculiar and eccentric. Scores above 70*T* indicate the experience of unusual perceptual or sensory events and/or unusual ideas that may involve delusional beliefs. Scores exceeding 85*T* are often associated with an active psychotic episode, with poor judgment and breakdown in reality testing as hallmark features; full blown hallucinations or delusions are probable.

SCZ-S: Social Detachment

The negative symptoms of schizophrenia involve behavioral deficits such as poor interpersonal rapport, flattening of affect, and poverty of communication. Such individuals are apathetically indifferent to others, usually speaking to others only when necessary and avoiding interpersonal contact whenever possible. In

schizophrenia, the course of these negative symptoms tends to be enduring, as opposed to episodic, and they are less responsive than positive symptoms to pharmacologic interventions. This pattern of behaviors is also consistent with the features of schizoid personality, which may simply be an alternative name for the same phenomenon.

The *SCZ-S* items focus upon the features of social disinterest and lack of affective responsivity. Moderate scores (i.e., 60*T* to 70*T*) suggest a quiet, impassive individual who exhibits little interest in the lives of other people. Toward the upper end of this range, scores may indicate a lack of ability to interpret the normal nuances of interpersonal behavior that provide the meaning to personal relationships. Scores above 70*T* reflect a person who neither desires nor enjoys close relationships; social isolation and detachment may serve to decrease the sense of discomfort fostered by interpersonal contact. Their lack of interest in others is mirrored in a lack of self-interest; they are generally indifferent to how others view them and are disinterested in introspection. They are made particularly uncomfortable by strong emotions, which they themselves tend not to experience and which they do not understand in others.

SCZ-T: Thought Disorder

Schizophrenia is characterized by disruptions in thought process that do not seem to covary with either positive or negative symptoms. At the extreme, a thought disorder can render the patient incoherent and unable to string together an intelligible sentence. In its milder forms, difficulties in concentration, decision-making, and memory will occur. It should be recognized that these milder features tend to be nonspecific, associated with severe affective disorders in particular. Thus, *SCZ-T* elevations are commonly observed in severe major depression, without accompanying elevations on *SCZ-P*.

The *SCZ-T* items sample across the range of clarity and freedom from confusion in thought processes. Moderate elevations (i.e., 60*T* to 70*T*) suggest problems in concentration and decision-making; such scores would not be unexpected among depressed or anxious individuals. However, toward the upper end of this range, there will be increasing likelihood of confusion and perplexity in addition to the more benign cognitive inefficiencies. Scores above 70*T* reflect a loosening of associations and increased difficulties in self-expression and communication. However, in the absence of a clinical elevation of the full *SCZ* scale, this finding can reflect various causes other than schizophrenic disorder. Severe depression or mania, the sequelae of brain injury or disease, the effects of medication, and the consequences of drug or alcohol abuse should all be explored as potential causes of elevations on this subscale.

SCZ Full Scale Elevations

The *SCZ* scale was designed to measure a number of the different facets of schizophrenia; this multifaceted approach is necessary, because the disorder is one of the most heterogeneous of all clinical groups. Hence, elevations on the full scale could result from a number of causes: unusual beliefs and perceptions; poor social competence and social anhedonia; or inefficiency and disturbances in attention, concentration, and associational processes. Average scores on *SCZ* (i.e., < 60*T*) reflect a person who reports being effective in social relationships and has no trouble with attention or concentration problems. Scores between 60*T* and 70*T* are indicative of a person who may be seen as withdrawn, aloof, and unconventional. Toward the upper end of this range, individuals may be quite cautious and hostile in their few interpersonal relationships. With scores above 70*T*, the person is likely to be isolated and to feel misunderstood and alienated from others. Some difficulties in thinking, concentration, and decision-making are probable with scores in this range. Specific subscale elevations may reveal the presence of unusual perceptions or beliefs that may be psychotic in nature.

SCZ scores that are markedly elevated (i.e., > 90*T*) are typically associated with an active schizophrenic episode. These individuals are confused, withdrawn, suspicious, and tend to have poor judgment and reality testing. Prominent psychotic symptomatology is likely with scores in this range, and specific elevations on other scales may be helpful in identifying the precise nature of such symptoms. For example, concomitant elevations on *PAR* may indicate the presence of delusions of persecution. With increasing *T*-score elevations, delusions of thought broadcasting, thought insertion, thought withdrawal, and thought control become more likely. These individuals may require referral to evaluate the need for psychotropic medications.

SCZ Subscale Configurations

The following sections describe some of the implications of different combinations of elevations on the three *SCZ* subscales.

SCZ-P high, SCZ-S high, SCZ-T high

This pattern indicates prominent features from across the schizophrenic spectrum. It is likely that the respondent experiences unusual perceptual events or full-blown hallucinations as well as unusual ideas that may include magical thinking or delusional beliefs. However, because such people are quiet and avoid interactions with others, this unusual thought content may not be readily apparent. Such

people are likely to be socially isolated, with few interpersonal relationships that could be described as being close and warm. In addition to having limited social skills, the person's thought processes are likely to be marked by confusion, distractibility, and difficulties in concentration; such individuals may experience their thoughts as blocked, withdrawn, or somehow influenced by others.

SCZ-P high, SCZ-S high, SCZ-T average

This pattern represents a person who reports unusual thought content with no disruptions in thought process. The thought content may involve unusual perceptual or sensory events (perhaps including full-blown hallucinations) and/or as unusual ideas that may include magical thinking or delusional beliefs. If *PAR-P* is markedly elevated, these ideas may involve persecutory beliefs that may be part of a well integrated delusional system. Such a finding would also explain the person's presentation as being a socially isolated individual with few, if any, close relationships.

SCZ-P high, SCZ-S average, SCZ-T high

This pattern suggests an individual presenting with acute psychotic symptomatology, involving unusual perceptual or sensory events (perhaps including full-blown hallucinations) as well as unusual ideas that may include magical thinking or delusional beliefs. The person's thought processes are likely to be marked by confusion, distractibility, and difficulties in concentration, and he or she may experience thoughts as being blocked, withdrawn, or somehow influenced by others. The relative absence of negative symptoms may be a favorable prognostic sign for eventual remission of these symptoms.

SCZ-P average, SCZ-S high, SCZ-T high

This pattern suggests a socially isolated individual who has few interpersonal relationships that could be described as being close and warm. Such people tend to have limited social skills, with particular difficulty in interpreting the normal nuances of interpersonal behavior that provide the meaning to personal relationships. Generally apathetic and disinterested in other people and their emotional state, such individuals may withdraw from social interaction to decrease the sense of confusion fostered by interpersonal contact. Thought processes are likely to be inefficient and marked by distractibility and concentration problems. Such individuals are likely to have difficulty communicating effectively, and others who succeed in getting to know them (probably a difficult task) may see them as strange and peculiar.

Borderline Features (*BOR*)

The *BOR* scale assesses a number of elements related to severe personality disorder; although all of these elements are part of the borderline syndrome, individually they are also common to numerous other disorders. This scale is the only PAI scale that has four subscales, largely due to the complexity of the construct as it has been represented in the literature. Part of the reason for this complexity is that this is inherently a more nebulous construct than some that have been recognized for a much longer time (e.g., depression or schizophrenia). The borderline concept has always been thought of as reflecting a "boundary," presumably representing some border, but the nature of the border has never been exactly clear. Initially, borderline personality represented the border of analyzability (i.e., patients who were marginally able to be treated with psychoanalysis). Over time, this came to be synonymous with the boundary between neurosis and psychosis, with a neurotic level of adaptation presumably reflecting problems in the Oedipal stage characterized primarily by difficulties with anxiety, and with psychosis reflecting more primitive issues involving breaks with reality. In this framework, borderline individuals fell somewhere in the middle. It was thought that much of the time the borderline individual superficially would appear to be at a neurotic level of adaptation, but that, under stress, and particularly in more unstructured situations, such individuals would deteriorate and appear psychotic.

The actual incorporation of borderline personality into the diagnostic literature occurred in the *DSM-III* (1980). The formulation of the current construct grew out of work conducted by Robert Spitzer, the chair of the *DSM-III* Task Force, who identified two types of individuals who were being identified as borderline: One type who appeared to lie at the boundary of psychosis or the boundary of schizophrenia and another type who were affectively and behaviorally unstable and erratic. The "unstable" variant was eventually renamed "borderline"; the other type was named Schizotypal Personality Disorder and was considered to represent a schizophrenia spectrum disorder. The resulting borderline criteria, reflecting an erratic and inconsistent group of individuals, were quite factorially complex, but subsumed personality features useful in understanding a variety of different and severe personality disorders.

Over the years, a number of investigators have examined the borderline construct using factor-analytic or cluster-analytic studies (e.g., Grinker, Werble, & Drye,1968; Hurt & Clarkin,1990; Morey, 1989). These studies have provided convergence in identifying the major facets of the borderline construct, and each facet represents a theoretically important etiological mechanism. The four *BOR* subscales of the PAI were designed to reflect these facets.

BOR-A: Affective Instability

Individuals with borderline personality present with emotions that fluctuate impressively, leading some theorists to propose that the disorder may represent a variant of bipolar affective disorder (e.g., Akiskal, Yerevanian, & Davis, 1985). However, the mood changes in borderline patients tend to differ in many ways from the mood changes in bipolar patients. First, the mood changes in borderline individuals are not regular. Instead, they tend to be very sudden, without any rhythmicity. Also, borderline patients rarely, if ever, return to a period of normal affect; there are few days where there is not some dramatic affective change in such individuals. Furthermore, studies of family histories yield smaller estimates of relatedness between the disorders than would be expected if borderline was a bipolar spectrum disorder.

Nonetheless, affective instability in the form of sudden emotional change is one of the hallmark characteristics of borderline personality. These affects are not a polarity between happiness and sadness, however. Rather, for borderline patients affective instability involves a propensity to rapidly become anxious, angry, depressed, or irritable. The *BOR-A* subscale reflects this rapidity of mood shift. Elevations could, for example, represent an individual with a bad temper (which can be confirmed by an examination of the *AGG-A* subscale), or it might indicate a person who becomes anxious easily (a conclusion that might be supported from inspecting the *ANX-A* or *ARD-P* subscales). The unique contribution of the *BOR-A* subscale is in ascertaining the suddenness of the affective change.

Thus, high scorers on *BOR-A* are highly responsive emotionally, typically manifesting rapid and extreme mood swings, rather than the more cyclic mood changes seen in affective disorders. In the highest ranges (i.e., roughly > 80*T*) all affects are likely to be involved, including episodes of poorly controlled anger. In the range from 70*T* to 80*T*, a propensity to experience a particular negative affect may be responsible, and investigation of other scales may determine whether anxiety (*ANX-A* or *ARD-P*), depression (*DEP-A*), or anger (*AGG-A*) is the typical response. On the other hand, unusually low scores (i.e., < 40*T*) reflect individuals who describe themselves as fairly unresponsive emotionally and who may appear to others as affectively constricted.

BOR-I: Identity Problems

Theoretically, the notion of issues surrounding identity are central to Kernberg's (1975) view of borderline personality. Kernberg describes this facet as "identity diffusion," meaning that borderline patients have a difficult time maintaining a constant representation of who they are, where they are headed in life, and what they value. As a result of this diffuse sense of self, such individuals tend to rely on

others to help them formulate an identity, thus defining themselves primarily in relationship to other people. Theoretically, this involves a developmental failure to establish an autonomous identity independent of the primary caregivers, leading to similar difficulties in adulthood. In a sense, this involves being dependent upon others, as illustrated in *DSM* criteria such as "fears of abandonment." Although there is certainly substantial diagnostic overlap between borderline and dependent personality disorder (Morey, 1988), there is a qualitative difference in the nature of these behaviors. Borderline individuals do not really want the assistance of others to make sure that they perform their jobs effectively or make good decisions; rather, they have a profound *need* for others to help them define for themselves who they are. In the absence of these important others, borderline individuals may initiate very desperate and frantic efforts to try to reestablish this needed contact, not out of fear that they will be unable to do their jobs effectively, but because they are afraid they will cease to exist.

Because borderline individuals may desperately cling to the people who are most important and central to defining them, it is at times assumed that this represents a form of "over-idealization" of others; indeed, this notion is incorporated into the *DSM* criteria. However, to some extent this description misinterprets the behavior of the borderline individual, confusing a profound need for others with an idealization of those others. Many times, this need will not necessarily be manifest in idealization; in fact, borderline individuals are likely to have constant conflicts with the people closest to them. Nonetheless, even through this conflict with important others, the borderline individual can continue to maintain an identity as an extension of these others, as a spouse, a friend, an offspring, or even as an enemy. It is the urgent necessity of these relationships, rather than their idealized quality, that is characteristic of the borderline individual.

One implication of the problems in identity and sense of self reflected by *BOR-I* is that the self-concept is unstable and inconsistent. At any particular moment, a borderline individual may have an overriding life ambition that he or she can describe with great earnestness, but by the next week, the ambitions are likely to be totally different. No matter how deep an attachment to some particular course of action may appear, within a short period of time a design of equal intensity may emerge in an entirely different direction. Individuals with elevations on *BOR-I* are likely to be prone to these sudden shifts in ambitions and goals.

In sum, scores above 70*T* represent uncertainty about major life issues and difficulties in developing and maintaining a sense of purpose. Such uncertainty is more common in younger adults, and *BOR-I* is correlated with age: The average

score for persons 18 to 29 years of age is 55*T*, whereas it is 46*T* for those above age 60. Nonetheless, scores above 70*T* are reflective of identity issues beyond what is expected during adulthood, regardless of age. With more extreme scores (i.e., > 80*T*) this may involve quite sudden and unpredictable reversals in life plans and directions; more modest elevations suggest feelings of emptiness, lack of fulfillment, and boredom. Elevations also suggest a fair degree of anxiety around identity issues and disruption or dysfunction within the family of origin is a possibility to be explored. Scores at the low end of *BOR-I* (i.e., < 45*T*) suggest a more stable and fixed self-concept. In many cases, this represents a strength, but it can also involve a therapeutic challenge if there are strongly fixed negative elements to the person's identity.

BOR-N: Negative Relationships

The concept of "negative relationships" involves the interpersonal presentation of borderline personality: a tendency to repeatedly become involved in relationships that are very intense and chaotic. High scores on *BOR-N* are an indication that the person's closest attachment relationships are likely to be stormy; these relationships might include one's family, spouse or partner, or therapist. Part of the storminess revolves around the borderline individual's experience that important other people have not met his or her needs. They approach such relationships with a great deal of longing and hope (which may be where the supposed "idealization" originates); invariably, however, the borderline individual eventually comes away feeling not just disappointed, but betrayed and exploited. To some extent, this stems from the general affective reactivity of the borderline personality described earlier (i.e., a fairly small slight can generate a very catastrophic response). However, the research literature indicates that borderline patients have extremely high rates of physical and sexual abuse during childhood (Herman, Perry, & Van der Kolk, 1989). With this background, it is easy to understand the borderline individual's fear that the people who are closest are likely to exploit him or her. The *BOR-N* items tap this perception of betrayal in past relationships, as well as a distrust and pessimism surrounding future relationships.

Considered in isolation, the *BOR-N* scale reflects a history of involvement in ambivalent, intense, and unstable relationships. At extreme scores (i.e., > 80*T*), the person is quite bitter and resentful about the way past relationships have gone, feeling betrayed by the people who were once closest and preoccupied with fears of abandonment or rejection by those who are currently important to him or her. Scores between 70*T* and 80*T* suggest numerous problems and failures in past attachment relationships, although intense feelings of past exploitation are less likely in this range than in higher scores.

The concept of "ambivalence" is often raised in discussions of borderline personality, usually in reference to the putative defense of "splitting." In splitting, the person is presumably unable to integrate the positive and negative elements of another person, and this results in alternating periods of extreme idealization and devaluation of important others. However, as discussed in relation to *BOR-I*, the ambivalence that seems more central to the borderline personality is not one between good and bad, but one between need and fear. The *BOR-I* and *BOR-N* scales together capture this latter, fundamental ambivalence in borderline individuals: the profound need for others in order to establish who they themselves are, a tremendous distrust of these critically important people, and an expectation that they are going to be exploited or abused. Obviously, a person entering a relationship with this set of expectations is likely to experience problems, both in nonclinical interpersonal relationships and in therapeutic ones. If both *BOR-I* and *BOR-N* are elevated upon entering therapy, the treating clinician is likely to be taken aback by both the intensity of the client's need for the therapist and his or her readiness to perceive in the clinician signs of rejection, disinterest, or abuse, including any efforts the therapist might make to set limits on the relationship.

BOR-S: Self-Harm

The final borderline subscale reflects a tendency to act impulsively without much attention to the consequences of those acts. Such acts will thus be viewed by others as self-damaging or self-destructive (e.g., substance abuse, sexual recklessness, or quitting a job suddenly with no future job prospects). *BOR-S* is sometimes mistaken for a direct indicator of suicidal behaviors or self-mutilation. Although a person with a high score on *BOR-S* would be expected to more at risk for such behaviors than someone with a low score, the scale is more directly reflective of impulsivity than of either suicide risk or self-mutilation. Although a sample of self-mutilators did yield elevated *BOR-S* scores (Morey, 1991), not all elevations on *BOR-S* will involve self-mutilation. Similarly, whereas persons currently on suicide precautions scored above the mean on *BOR-S*, their average scores were only around 60*T* (Morey, 1991). Because many completed suicides are quite premeditated and are not impulsive acts, *BOR-S* is probably neither sensitive nor specific if used in isolation as a suicide indicator.

Extreme elevations on *BOR-S* (e.g., above 85*T*) reflect hazardous levels of impulsivity and recklessness. These individuals are impulsive in areas that have high potential for negative consequences (e.g., spending money, sex, substance abuse). Such behavior has typically interfered repeatedly with effective social or occupational performance, or both. High scorers may also be at increased risk for

self-mutilation and suicidal behavior, and accompanying *SUI* elevations may indicate a risk for impulsive suicide gestures.

BOR Full Scale Interpretation

The configuration of the *BOR* subscales is critical in assigning *DSM*-based diagnoses of borderline personality; if three or four of the subscales are elevated, the person is likely to meet the criteria for the disorder. However, a similar conclusion should not be drawn from elevations of the full scale. The full scale score is probably better considered in line with Kernberg's (1975) view of borderline personality as a level of personality organization or adaptation that ranges somewhere between neurosis and psychosis. Thus, low scorers will tend to be fairly healthy with respect to personality issues, whereas high scorers will present with fairly primitive concerns, perhaps across many different variants of personality disorder as they are categorized in the *DSM* manuals. Diagnostically, if the full *BOR* scale is elevated, it is a sign of problems in the personality realm, whereas the configuration of the subscales can confirm whether the problems are classically borderline (i.e., elevations on three or four subscales) or circumscribed problems associated with other issues (e.g., *BOR-N* reflecting relationship problems stemming from posttraumatic stress disorder).

Average scores on *BOR* (i.e., < 60*T*) reflect a person who reports being emotionally stable and who also has stable relationships. Scores between 60*T* and 70*T* are indicative of a person who may be seen as moody, sensitive, and having some uncertainty about life goals; scores in this range are not uncommon in young adults. Toward the upper end of this range, individuals may be increasingly angry and dissatisfied with their interpersonal relationships. Individuals with scores above 70*T* are likely to be impulsive and emotionally labile; they tend to feel misunderstood by others (who often perceive them as egocentric) and find it difficult to sustain close relationships. They tend to be angry and suspicious and, at the same time, anxious and needy, making them quite ambivalent about interactions with others. However, scores in this range do not necessarily suggest a diagnosis of borderline personality disorder unless there are prominent elevations on each of the four *BOR* subscales, because individual features are common to other disorders.

BOR scores that are markedly elevated (i.e., > 90*T*) are typically associated with personality functioning within the borderline range. These individuals typically present in a state of crisis, often regarding difficulties in their relationships. With elevations in this range, respondents are invariably hostile and feel angry and betrayed by the people around them. Symptomatically, they often report being

very depressed and anxious in response to their circumstances. They are impulsive and will act in ways that appear to others to be quite self-destructive; for example, they seem to sabotage their own best intentions with acting-out behaviors. These behaviors can include alcohol or drug abuse, suicidal gestures, or aggressive outbursts; scores on *ALC*, *DRG*, *SUI* and *AGG* should be consulted to identify potential problem areas of this type.

BOR Subscale Configurations

The following sections describe the implications of particular combinations where two or more *BOR* subscales are elevated together.

BOR-A high, BOR-I high, BOR-N high, BOR-S high

This pattern of scale elevations suggests difficulties in numerous areas: emotional instability, volatile interpersonal relationships, anger, identity disturbance, and impulsivity. The respondent is likely to be quite emotionally labile, manifesting fairly rapid and extreme mood swings, and, in particular, is probably quick to display intense and poorly controlled anger. There is also uncertainty about major life issues, with little sense of direction or purpose in life. A history of involvement in intense and volatile relationships is likely, as well as preoccupations with fears of being abandoned or rejected by those important to the respondent. The individual's response to these perceived interpersonal rejections is likely to involve impulsive acts that are likely to be self-harmful or self-destructive (e.g., spending money, sex, substance abuse). This pattern of behaviors is consistent with a diagnosis of Borderline Personality Disorder.

BOR-A high, BOR-I high, BOR-N high, BOR-S average

This subscale configuration suggests difficulties with emotional instability, volatile interpersonal relationships, underlying anger, and identity issues. Such individuals are likely to be quite emotionally labile, manifesting fairly rapid and extreme mood swings and reactive anger. There is likely to be much uncertainty and ambivalence surrounding major life issues, goals, values, and close relationships. These latter relationships are likely to be intense and volatile, with ruminative fears of abandonment, rejection, or exploitation. The comparatively lower score on *BOR-S* is a positive sign in that it suggests that, although such people may respond dramatically to affectively arousing situations, this response does not typically involve self-destructive impulsive acts.

BOR-A high, BOR-I high, BOR-N average, BOR-S high

This pattern suggests difficulties with emotional instability, anger, identity disturbance, and impulsivity. Such individuals are likely to be quite emotionally

labile, manifesting fairly rapid and extreme mood swings; in particular, they tend to experience episodes of poorly controlled anger. There also appears to be uncertainty about major life issues and little sense of direction or purpose in life at this time. They are also quite impulsive and prone to behaviors that are likely to be self-harmful or self-destructive (e.g., spending money, sex, substance abuse); there also may be increased risk for self-mutilation or suicidal behavior, and scores on *SUI* should be examined. The relatively lower score on *BOR-N* suggests that these individuals may be devoting considerable efforts to maintaining their relationships in the face of their anger and impulsivity; they may experience considerable guilt following impulsive or angry acts, and their contrition may serve to sustain relationships that would otherwise crumble.

BOR-A high, BOR-I average, BOR-N high, BOR-S high

This configuration of *BOR* subscales suggests difficulties in emotional control, volatile interpersonal relationships, and notable impulsivity. Such individuals are likely to be quite emotionally labile, manifesting fairly rapid and extreme mood swings and, in particular, episodes of poorly controlled anger during which they lash out at the persons closest to them. It is likely that, as a result, they have a history of involvement in intense and volatile relationships that may lead to a preoccupation with fears of being abandoned or rejected by important others. They also are likely to be impulsive in other areas, prone to behaviors that are likely to be self-harmful or self-destructive (e.g., spending money, sex, substance abuse); they may also be at increased risk for self-mutilation or suicidal behavior, and the score on *SUI* should be examined. The comparative lack of elevation on *BOR-I* may suggest that this is a relatively fixed (as opposed to a reactive) pattern of behavior and, thus, may be quite difficult to change.

BOR-A average, BOR-I high, BOR-N high, BOR-S high

This pattern suggests a history of involvement in volatile interpersonal relationships, a poorly formed personal identity, and noteworthy impulsivity. The history of relationship problems may have left such individuals preoccupied with consistent fears of being abandoned or rejected by those around them. Such preoccupations are worsened by an uncertainty about major life issues and a lack of sense of direction or purpose indicated by the elevation on *BOR-I*; such individuals are not certain what to do without important others to guide them. The pattern also includes marked impulsivity, suggesting a tendency to display behaviors likely to be self-harmful or self-destructive (e.g., spending money, sex, substance abuse). These behaviors are likely to be most prominent following disruptions or crises in close interpersonal relationships and may reflect "acting-out" as a way of warding off the experience of unpleasant affects.

BOR-A high, BOR-I high, BOR-N average, BOR-S average

This configuration suggests that issues of affect control and identity formation are important personality problems for such individuals. They are likely to be quite emotionally labile, manifesting fairly rapid and extreme mood swings; in particular, their anger may be poorly controlled. There is also an uncertainty about major life issues, and their sense of direction or purpose in life probably vacillates in relation to their mood. The comparative lack of impulsivity or severe interpersonal disruption may indicate that much of their anger is directed internally, rather than impulsively expressed toward the people around them.

BOR-A high, BOR-I average, BOR-N high, BOR-S average

This subscale configuration suggests that the person is likely to be quite emotionally labile and moody, with anger management likely to be an issue. This emotionality and hostility probably have contributed to an apparent history of involvement in stormy and volatile relationships. The comparative lack of impulsivity may suggest that, during most normal situations, a fair amount of effort to control emotions is being expended. However, during times of stress, particularly during heated interpersonal conflict, the person is likely to react with sudden emotional outbursts.

BOR-A average, BOR-I high, BOR-N high, BOR-S average

This configuration represents the *BOR* "splitting" duo of interpersonal need (represented by *BOR-I*) and interpersonal conflict and distrust (represented by *BOR-N*). There is uncertainty about major life issues and a lack of direction or purpose in life. This uncertainty is likely to extend to the arena of interpersonal relationships, as such individuals may have a very unstable sense of what they desire from these interactions. As a result, a history of involvement in intense, needy, and short-lived relationships is likely, and they tend to be preoccupied with consistent fears of being abandoned or rejected in these relationships. As a result, they are quick to perceive in others any sign of real or imagined rejection, disinterest, or abuse, often including any efforts another person might make to put limits on the relationship.

BOR-A high, BOR-I average, BOR-N average, BOR-S high

This pattern indicates emotional lability, with fairly rapid and extreme mood swings and, in particular, episodes of poorly controlled and impulsively expressed anger. However, rather than being directed at others, the anger may be self-directed, resulting in behaviors likely to be self-harmful or self-destructive (e.g., irresponsible spending, sex, substance abuse). Any angry gestures that are outwardly directed may be followed by considerable guilt, and their contrition may

serve to sustain relationships that would otherwise suffer. Such individuals may be at increased risk for self-mutilation or suicidal behavior during times of affective turmoil, and the score on *SUI* should be examined.

BOR-A average, BOR-I high, BOR-N average, BOR-S high

This configuration indicates pronounced uncertainty about major life issues and a lack of direction or purpose in life as it currently stands. This is likely to be exacerbated by impulsivity, such that frequent and impulsive changes of direction in vocational interests, hobbies, religion, or other social roles may be the norm. There may also be some more overtly self-harmful or self-destructive behaviors (e.g., spending money, sex, substance abuse).

BOR-A average, BOR-I average, BOR-N high, BOR-S high

This subscale pattern suggests a history of involvement in intense and short-lived relationships. These relationships may be impulsively ended, or they may dissolve due to the respondent's tendency to engage in behaviors likely to be self-harmful or self-destructive (e.g., spending money, sex, substance abuse). This pattern makes such individuals pessimistic about relationships, and they may be preoccupied with fears or expectations of being abandoned or rejected. The pattern of impulsivity and volatile relationships may place such individuals at increased risk for self-mutilation or suicidal behavior, particularly during times of marked conflict in relationships, and scores on *SUI* should be examined.

Antisocial Features (*ANT*)

The *ANT* scale is the second of the two scales (*BOR* being the other) that specifically assess character pathology. These two constructs were selected for the PAI because, together, they account for nearly all empirical research that has been conducted on personality disorders. However, it is important to note that the representation of antisocial personality on *ANT* departs more than the *BOR* scale from the *DSM* conceptualization of the disorder.

The history of this construct is an interesting one. The origins of the concept of Antisocial Personality Disorder are generally traced back to Pinel's notion of *manie sans delire* (madness without delirium) described at the turn of the 19th century. This concept was one of the first to describe a mental disorder that did not include a defect in reasoning; for this reason, Pinel's concept has been described as the forerunner of all modern theory on personality disorders (Mack, 1975). Gradually the concept acquired an element of defects in morality, and it eventually evolved into a notion resembling one of the "born criminal"; Koch (1891) selected

Table 2-1
Cleckley's (1941) 16 Diagnostic Indicators of Psychopathy

1. Superficial charm and good "intelligence"
2. Absence of delusions and other signs of irrational thinking
3. Absence of "nervousness" or psychoneurotic manifestations
4. Unreliability
5. Untruthfulness and insincerity
6. Lack of remorse or shame
7. Inadequately motivated antisocial behavior
8. Poor judgment and failure to learn by experience
9. Pathologic egocentricity and incapacity for love
10. General poverty in major affective reactions
11. Specific loss of insight
12. Unresponsiveness in general interpersonal relations
13. Fantastic and inviting behavior with drink and sometimes without
14. Suicide rarely carried out
15. Sex life impersonal, trivial, and poorly integrated
16. Failure to follow any life plan

the term *psychopathic inferiority* for this condition to emphasize its purported constitutional basis, and this term served as the foundation of the term "psychopath."

Perhaps the most influential development in the evolution of this concept was the publication of *The Mask of Sanity* by Cleckley (1941). This book made explicit the personological features that set the psychopathic personality apart from criminality. Among the features Cleckley stressed as pathognomonic of this personality constellation were a lack of guilt, a general absence of anxiety or depression, and a seeming inability to learn from experience. For assistance in diagnosis, Cleckley described 16 signs that have become firmly embedded in the clinical lore surrounding this syndrome; these 16 features are presented in Table 2-1.

The *DSM-III* (1980) conceptualization of Antisocial Personality Disorder represented a substantial departure from the notion of psychopathy. The *DSM-III* definition was based extensively on a history of delinquent or antisocial behavior, in contrast to the personality elements described by Cleckley and others. To a large extent, these behaviors were derived from the well known study by Robins (1966), which attempted to establish the adolescent antecedents of antisocial behavior in adults. However, these criteria seem to tap a somewhat different population than did the older "psychopathic personality" concept.

One difficulty with the representation of this construct in the *DSM-III* (1980) and its successors is that, in failing to include the more personological elements of the construct, it misses critical motivational differences for antisocial behavior. Some have criticized the *DSM* definition as being practically synonymous with criminal behavior; for example, at least half (if not more) of inmates will meet such criteria for the disorder (Hart & Hare, 1989). Others have expressed the concern that the *DSM* focus on delinquent behaviors leads to an overapplication of the diagnosis to lower socioeconomic groups, missing "white-collar" variants of the disorder. Finally, there is some support for the conclusion that the concept of psychopathy may be more valid than the *DSM* representation of this disorder. For example, some studies (e.g., Hart, Kropp, & Hare, 1988; Serin, Peters, & Barbaree, 1990) indicate psychopathy ratings are more useful than the *DSM* concept of antisocial personality in predicting recidivism in prisoners.

Hare's approach (Hare et al., 1988) to the representation of psychopathy has been found to have two different components or factors. One of these is a behavioral component that involves a variety of antisocial acts; this factor corresponds reasonably closely to the *DSM-III* (1980) conceptualization. However, the second factor involves a component of psychopathy that incorporates personality traits, such as tendencies to be unempathic, callous, or egocentric. The inclusion of such traits in the conceptualization of the disorder increases predictive validity; for this reason, the PAI was constructed to assess each of these facets. The final version of the *ANT* scale included a total of three facets, one (*ANT-A*) assessing antisocial behaviors, and the remaining two (*ANT-E*, *ANT-S*) tapping antisocial traits.

ANT-A: Antisocial Behaviors

The items comprising the *ANT-A* subscale inquire about antisocial acts during both adolescence and adulthood. High scorers are likely to have manifested a conduct disorder during adolescence, and during adulthood they may have been involved in illegal occupations or engaged in criminal acts involving theft, destruction of property, and physical aggression toward others. This subscale of *ANT* is the one that corresponds most closely to the more behavioral *DSM-III* (1980) and *DSM-III-R* (1987) definition of the disorder, as it reflects an individual who commits antisocial acts. The subscale in isolation does not, however, indicate psychological attributes underlying these acts. Such behaviors could arise from impulsivity, from egocentricity or entitlement, from environmental presses, or from anger-management problems. Inspection of other PAI scales and subscales can shed light on each of these potential sources.

Scores above 70*T* on *ANT-A* reflect a history of difficulties with both authority and social convention. A pattern of antisocial behavior was probably first evident

in adolescence, and, with scores in this range, it is likely that the pattern has continued into adulthood. Scores in the moderate range (i.e., 60 to 69*T*) may be more likely than more elevated scores to reflect historical problems. However, because many of the questions on the subscale are historical in nature, a past history of such acts can lead to elevations that may not reflect current functioning. For example, the item "I've done some things that weren't exactly legal" might be referring to behaviors that occurred 30 years earlier. Scores that are very low (i.e., ≤ 40*T*) could indicate a very conforming, perhaps moralistic individual, or perhaps, a person motivated to deny any history of mischievous behavior whatsoever.

ANT-E: Egocentricity

The items comprising the *ANT-E* subscale tap a callousness and lack of empathy in interactions with others. It is this personological component that is probably closest to the classic definition of the "psychopath," yet, in isolation, this scale does not imply psychopathy. Instead, it suggests a certain self-centeredness that also could be suggestive of a histrionic or narcissistic personality pattern. However, in combination with acting-out behavior (*ANT-A*) and anger-management problems (*AGG*), the likelihood of psychopathy as opposed to other issues increases considerably. It should also be recognized that higher scores are obtained in younger people; the average score for individuals 18 to 29 years of age is 56*T*.

High scorers on *ANT-E* (i.e., ≥ 70*T*) tend to be seen as egocentric, with little regard for others or for the opinions of the society around them. In their desire to satisfy their own goals and impulses, they may take advantage of others, even those who are closest to them. They feel little responsibility for the welfare of others and have little loyalty to their acquaintances. Such individuals would be expected to place little importance in their social role obligations (e.g., as a spouse, parent, or employee). Although they may describe feelings of guilt over past transgressions, they are not likely to feel much remorse of any lasting nature, as their inflated sense of self and their feelings of entitlement would make them unlikely to believe that they were in the wrong. Such people may be perceived by others as hostile, but, aside from irritability, there may be little affective involvement in their interactions with others. More marked anger and hostility, if present, will be identified by elevations on *AGG* and *PAR*, rather than on *ANT-E*.

Moderate elevations on *ANT-E* (i.e., 60*T* to 69*T*) suggest a person who tends to be self-centered and pragmatic in interactions with others. Such people feel relatively little social anxiety or guilt, and, therefore, they may be quite effective in superficial social contacts. However, long-lasting relationships may be less successful, as these individuals rarely will place others' needs before their own. In

contrast, scores that are very low (i.e., ≤ 40*T*) suggest a person who may repeatedly place others' needs first and, as such, have difficulty getting his or her own needs met. In combination with below-average scores on *MAN-G*, this suggests a humility that is driven by low self-esteem.

ANT-S: Stimulus Seeking

The *ANT-S* items tap a personality component associated with a willingness to take risks and a desire for novelty. Although individuals with antisocial personality score considerably above the average on most sensation-seeking scales, this trait is certainly not specific to this diagnostic group, nor is it in isolation a pathological, or even an undesirable, characteristic. However, in combination with other traits (e.g., lack of empathy, poor impulse control, or anger management problems), this characteristic can lead to a variety of problem behaviors, because the inhibiting effects of anxiety are minimized. Thus, in relation to other PAI scales, *ANT-S* has a disinhibition component that might heighten the impact of elevations beyond what might be expected otherwise. As is true of the other *ANT* subscales, *ANT-S* scores tend to be higher in younger individuals (i.e., the average score is 56*T* in 18- to 29-year-olds), perhaps lending empirical support to the notion of "the recklessness of youth."

High scorers on *ANT-S* (i.e., ≥ 70*T*) are likely to manifest behavior that is reckless and potentially dangerous to themselves and/or those around them. They crave novelty and stimulation; easily bored by routine and convention, they may act impulsively in an effort to stir up excitement. Their desire for new experiences may lead to periods of nomadic wandering and make any long-term commitments unlikely. They also tend to be less anxious than most people, even in situations where anxiety should be expected. More moderate elevations (i.e., 60*T* to 69*T*) suggest a more controlled, but still potentially reckless, individual. In this range, however, the trait may not have led to difficulties. However, accompanying elevations on *ANT-A*, *AGG*, *BOR-S*, *ALC*, or *DRG* are all signs that novelty is being sought in self-destructive, acting-out ways.

Very low scores on *ANT-S* (i.e., ≤ 40*T*) suggest a person who is very timid and avoidant of novelty. These people are likely to feel uneasy over disruptions in routine, and *ARD-P* should be examined for the possibility of phobic avoidance behaviors.

ANT Full Scale Interpretation

At the full scale level, the *ANT* scale provides an assessment of personality and behavioral features relevant to the constructs of antisocial personality and psychopathy. As noted earlier, *ANT* item content ranges from indicators of egocentricity, adventuresomeness, and poor empathy to items addressing antisocial

attitudes and behaviors; as a result, individuals with average-to-moderate elevations can have quite different constellations of features. It is the conjunction of elevations on the three subscales that is suggestive of the psychopath; however, a person with antisocial behaviors, but without psychopathic personality features, may achieve a full scale elevation on *ANT* solely through the elevated *ANT-A*.

Average scores on *ANT* (i.e., < 60*T*) reflect individuals who report being considerate and warm in their relationships with others; these individuals also typically exhibit reasonable control over impulses and behavior. Scores between 60*T* and 70*T* are indicative of individuals who may be seen as somewhat impulsive and risk-taking; scores in this range are fairly common in young adults, particularly in young men (i.e., the average *T* score for such a group approaches 60*T*). Toward the upper end of this range, individuals may be increasingly self-centered, disinhibited, skeptical of other's intentions, and unsentimental in their interpersonal relationships. With scores above 70*T*, the respondent is likely to be impulsive and hostile, and there may be a history of reckless or antisocial acts. Such individuals may be seen by others as callous in their relationships, and long-lasting friendships tend to be the exception to the rule.

When *ANT* scores are markedly elevated (i.e., > 82*T*) individuals typically display the prominent features of antisocial personality disorder. They are likely to be unreliable and irresponsible and probably have had little sustained success in either social or occupational realms. They tend to have a coldly pragmatic approach to relationships and will exploit such interactions to suit their own needs. Such people tend to be impulsive in their approach to life and have a history of conflicts with authority figures.

ANT Subscale Configurations

The following sections describe the implications of particular combinations where two or more *ANT* subscales are elevated simultaneously.

ANT-A high, ANT-E high, ANT-S high

This triumvirate represents the pattern associated with the classic formulation of the psychopath. There is a history of antisocial behavior that likely began during adolescence, and, given the personality attributes of egocentricity and sensation seeking, this pattern has probably persisted to the present time. Such people tend to have little regard for others or for the opinions of society. In order to satisfy their own impulses, they will take advantage of others, and there is likely to be little sense of loyalty, even to those who are closest to them. Such people approach life in a reckless manner, entertaining risks that are poorly motivated

and potentially dangerous to themselves and to those around them. Social-role responsibilities are likely to be neglected in favor of pursuing novelty and excitement; old occupations and old relationships lose their appeal quickly for such individuals. Although feelings of guilt over past transgressions may be reported, it is unlikely that there is real remorse of any lasting nature.

ANT-A high, ANT-E high, ANT-S average

This subscale pattern suggests a history of antisocial behavior reflecting more of a callous disregard for others than a desire for excitement. Conduct problems probably date back to adolescence, and are most likely to represent a pattern of illegal occupations or acts motivated by personal gain. Such acts may involve planful exploitation, rather than impulsive acting-out, particularly if *BOR-S* reveals no elevation. People with this pattern are likely to be egocentric, with little regard for others or for the opinions or conventions of the society. Substantial feelings of loyalty or remorse are unlikely, and responsibility for the history of behavioral difficulties is likely to be projected outward, especially with above-average scores on *PAR-R*.

ANT-A high, ANT-E average, ANT-S high

This pattern suggests a history of impulsive and poorly motivated antisocial acts and behaviors, likely beginning with a conduct disorder during adolescence. Such people display reckless and risky behaviors that are potentially dangerous to themselves and to those around them. Some of these behaviors may have involved destruction of property, and physical aggression toward others may have been part of the picture (i.e., inspect for elevated scores on *AGG-P*). As many of the acts may have been impulsive, rather than premeditated, respondents may experience genuine remorse for their behavior, but feel unable to control or prevent repeat occurrences.

ANT-A average, ANT-E high, ANT-S high

This pattern suggests an individual who may appear successful and effective, but who is ultimately likely to be self-centered and irresponsible in dealing with social and vocational obligations. Although the individual may be able to conform to social convention in order to avoid negative consequences, this pattern reflects a lack of empathy or respect for others. In their desire to satisfy their own impulses or needs, such people may exploit others, regardless of the closeness of the relationship. For this reason, relationships with others are predictably short lived due to the predatory and manipulative behavior that characterizes such people. Although guilt over past transgressions may be professed, it is unlikely that there is remorse of any lasting nature. Dangerous risks may be taken, resulting from the

desire for personal gain as well as the sheer excitement of the danger, and such people may not hesitate to expose others to similar risks.

Substance Abuse Scales

The PAI includes two scales pertinent to substance abuse, one measuring alcohol problems (*ALC*) and one related to drug use and abuse (*DRG*). Alcohol and drug problems are common among patients with mental disorders, but, at times, these problems are overlooked when more dramatic psychological problems are evident. The frequency of such problems merited the inclusion of this scale within a broad-band diagnostic instrument. As is true of the other clinical scales, items for *ALC* and *DRG* vary along a continuum of severity. The measurement model for *ALC* and *DRG* was patterned after the approach taken by Edwards and Gross (1976), who emphasized two facets of alcohol problems: core features of alcohol dependence, such as withdrawal symptoms and loss of control over drinking, and alcohol-related disabilities, such as social or legal consequences of drinking. Subsequent work (e.g., Edwards, Arif, & Hodgson, 1982) suggested that a similar pattern could be found in the drug abuse area. Because of the high interrelationship between dependence and disability, *ALC* and *DRG* were designed as unitary scales without subscales; however, this is not meant to imply that alcohol-related problems are either unitary or homogeneous. The *ALC* and *DRG* scale items were written to identify the presence and severity of alcohol and drug-related problems. Once such a problem has been identified, a more specialized assessment device (i.e., one predicated on the assumption that the respondent has problems with substance abuse) may be used to further pinpoint the nature and pattern of alcohol or substance use.

The *ALC* and *DRG* scales share certain features that are critical in evaluating respondents' scores on these scales. First, a good deal of the information gathered on these scales is historical (i.e., inquiries are made about events that may have happened in the past). These historical items reflect major milestones or major markers that exist in the development of a substance abuse behavior pattern (e.g., Jellinek, 1960), and it is these markers that are critical in assigning diagnoses under most widely used diagnostic systems, including the *DSM*. As such, *ALC* or *DRG*, or both, can be elevated in people who have had a substance abuse problem in the past, but who are not currently drinking or using drugs. An individual who has a current substance abuse problem will tend to have scores that are quite elevated. However, it is certainly possible for a person to score in the vicinity of 70*T* on either scale largely through historical information. A "recovering" alcoholic who has been abstinent for 10 years still might obtain an elevated score on *ALC* if, for

example, he or she has lost jobs or has experienced withdrawal symptoms during past episodes of heavy drinking. Thus, moderate elevations on these scales should be followed up with some inquiry about current or recent substance consumption patterns.

In rare instances, respondents may refuse to answer *ALC* items and, particularly, *DRG* items, claiming the items are not relevant because they do not use alcohol or drugs. This has been most commonly observed in individuals who approach the test in a suspicious or legalistic manner; for instance, such responses are sometimes found in preemployment screening applications of the test. For example, such people will not answer an item such as, "My drug use has never caused problems for me," because they feel this would be admitting to using drugs. In such instances, it is recommended that the respondent be asked to consider all types of drugs, not just illegal or street drugs: prescription medication, over the counter preparations, and so forth. A refusal to respond to these items is most likely not to indicate hidden substance abuse; rather, it suggests that the test is being approached in a very careful and guarded manner, and this may be of use in evaluating the test results.

Examining Substance Abuse Denial

A feature shared by the *ALC* and *DRG* scales is that both address substance use and problems directly related to substance use. In other words, the item content is not subtle; hence, the scales are susceptible to denial, a problem of concern to many professionals in the substance abuse field. This direct method of inquiry is potentially problematic in a population noted for denial and dishonesty, and a number of writers have questioned the validity of such self-reports (Fuller, Lee, & Gordis, 1988). However, the general results of studies support the direct questioning method used in the PAI. For example, Sobell and Sobell (1975) found that the self-report of alcoholics about information (later verified through contact with agencies such as the FBI, the Department of Motor Vehicles, and state and county hospitals) was quite accurate, and that overestimates of problems by the patients were more frequent than underestimates. Another study of this issue (Hesselbrock et al., 1983) found that self-reported drinking estimates were supported by collateral informants and also were good predictors of post-discharge drinking. Furthermore, strategies that rely on a covert assessment of substance abuse tend to have dubious validity. Physiological markers of alcoholism (e.g., use of various liver function tests) generally have much lower sensitivity and specificity than self-report measures (Bernadt et al., 1982; Skinner et al., 1986). Indirect psychological markers of substance abuse have also been of limited utility. For example, the MacAndrew scale (1965), which was designed to covertly identify alcohol use

from the MMPI item pool, has been found to correctly identify only 25% of alcoholics in inpatient treatment programs (Colligan et al., 1990). Given such findings, the direct content-based approach was taken in the PAI. However, if a person is motivated to deny substance use or the problems associated with such use, this will affect scores on these scales. It is easy to imagine why, in certain contexts, someone would deny use of illegal drugs, and the test user must be aware of this potential factor.

To some extent, the problems in identifying denial of alcohol and/or drug abuse are similar to those of defensiveness in general. As such, the general strategies for identifying defensive responding on the PAI (described in chapter 5) can be useful within the specific domain of substance use. For example, Fals-Stewart (1996) evaluated the ability of the *PIM* score to identify individuals attempting to deny substance abuse problems. He compared patients receiving treatment for drug abuse and normal controls with two "questionable responding" groups, one a group of drug abuse patients instructed to respond defensively, the second a group of respondents receiving the PAI as part of a forensic assessment, who were referred by the criminal justice system and who had positive urinalysis testing for recent drug ingestion but had denied drug use during the past 6 months. Fals-Stewart (1996) found that the optimal cutting score for *PIM* ($T > 56$) described in the *PAI Professional Manual* (Morey, 1991) successfully identified 88% of the individuals in the "questionable responding" groups while incorrectly identifying 20% of controls (both patients and nonclinical respondents) as "questionable." In other words, individuals motivated to deny substance abuse problems were more than four times as likely to score above 56*T* on *PIM* than individuals without such motivation. This result demonstrates that *PIM* is a useful starting point in evaluating substance abuse denial; chapter 5 provides a more detailed discussion of this scale and other strategies for identifying general defensiveness that may also be of use in identifying such individuals.

However, individuals may be specifically motivated to deny alcohol or drug abuse (for example, in the context of pre-employment screening) although not necessarily being defensive in describing other domains of their lives. Such individuals will tend to obtain very low raw scores on *ALC* and *DRG* (e.g., 0 or 1), reporting that they are teetotalers, that they neither drink nor use drugs of any sort. Although persons motivated to deny substance use will obtain scores in this range, so will large numbers of adults in the community, and thus, in most instances, such low scores are accurate reflections of their use of substances. However, these low scores should be regarded with some suspicion if the person has other characteristics that would lead one to expect the person to have at least experimented with alcohol or controlled substances. Although this approach has

limitations (e.g., witness the limited efficacy of the MacAndrew scale), to a certain extent these characteristics may be inferred from PAI scale scores. In particular, five scales demonstrate substantial correlations with both *ALC* and *DRG*; these scales are *BOR-S* (indicating impulsivity), *ANT-S* (sensation-seeking), *ANT-A* (history of antisocial behavior), *ANT-E* (interpersonal callousness), and *AGG-P* (history of physical aggression). If these five scales are elevated, one would expect *ALC* or *DRG*, or both, to also be elevated, as such behaviors are part of this constellation. These features represent a personality style that is particularly prone to use of alcohol or other substances, and *ALC* and *DRG* scores that are markedly low in such individuals are rare.

To systematize this possibility, simple linear regression estimates of predicted scores on *ALC* and *DRG* using the sum of *T* scores from these five scales were derived from the clinical normative data (n = 1,246). The following regression equations were obtained:

Estimated *ALC T* score = [0.162184 x (sum of *BOR-S*, *ANT-A*, *ANT-E*, *ANT-S*, *AGG-P*)] + 14.39

Estimated *DRG T* score = [0.199293 x (sum of *BOR-S*, *ANT-A*, *ANT-E*, *ANT-S*, *AGG-P*)] + 3.07

For convenience, the predicted estimates for *ALC* and *DRG* scores based upon the sum of these five scales are presented in Table 2-2; this sum correlates at .46 with the *ALC* scale and .59 with the *DRG* scale. Obtained scores on the substance abuse scales that are markedly lower than the estimates provided in Table 2-2 raise the possibility that some denial of substance problems may be operating. For example, Figure 2-1 presents the mean PAI profiles of the two "questionable responding" groups from the study by Fals-Stewart (1996)[1] described earlier. There were two such groups in that study. One was a "forensic" group consisting of 59 individuals referred for evaluation by the criminal justice system; these individuals (a) reported no illicit drug use or alcohol abuse during the 6 months prior to the evaluation; (b) expressly refused treatment for substance abuse; and (c) tested positive on urine assays or breath tests conducted at the time of evaluation, suggesting that one or more psychoactive substances had been recently ingested. The second group was a "positive dissimulation" group of 59 patients in treatment for substance abuse problems who had been instructed to deny substance abuse problems in responding to the PAI. A variety of scenarios were presented to these patients, such as child custody evaluation, applying for a job, avoiding unwanted

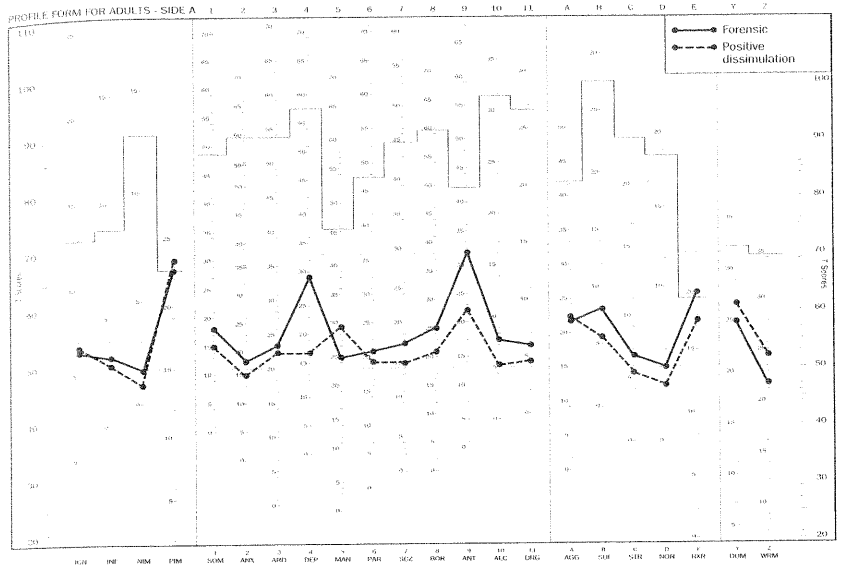
[1] The author would like to thank Dr. W. Fals-Stewart (personal communication) for providing the complete PAI means for all scales from the Fals-Stewart (1996) article.

Table 2-2
Predicted *ALC* and *DRG* Scores From the Sum of *BOR-S, ANT-A, ANT-E, ANT-S,* and *AGG-P*

Sum of 5 predictor scales (*T* scores)	Expected *ALC* *T* score	Expected *DRG* *T* score
0	14	3
25	18	8
50	22	13
75	27	18
100	31	23
125	35	28
150	39	33
175	43	38
200	47	43
225	51	48
250	55	53
275	59	58
300	63	63
325	67	68
350	71	73
375	75	78
400	79	83
425	83	88
450	87	93
475	91	98
500	95	103

substance abuse treatment, or undergoing a court-ordered presentencing evaluation. The "positive dissimulation" patients were offered movie passes if they could avoid detection as having engaged in positive dissimulation and of having problems with substance use.

The characteristics of the profiles in Figure 2-1 confirm many of the observations noted in the preceding paragraphs. For example, the *PIM* elevation in these groups should immediately raise questions of defensiveness. Also, as will be seen in chapter 5, the prominent *RXR* scores seen in these profiles are also an indicator of generally defensive responding. More specifically, however, this figure demonstrates that the five substance predictor scales all display some relative elevations in these groups. Table 2-3 provides a summary of the actual and estimated *ALC*



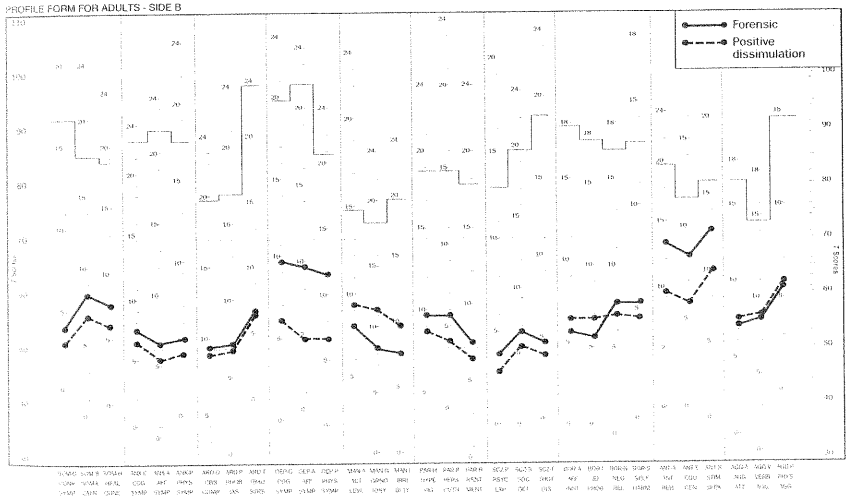


Figure 2-1. Mean profiles for groups denying substance abuse problems, adapted from Fals-Stewart (1996).

Table 2-3
Observed and Estimated *ALC* and *DRG* Scores for Groups From the Fals-Stewart (1996) Study

Group	*N*	Sum of mean scores for *BOR-S, ANT-A, ANT-E, ANT-S, AGG-P*	Est *ALC* *T* score	Obs *ALC* *T* score	Est *DRG* *T* score	Obs *DRG* *T* score
Forensic	59	324.8	67	55	68	54
Positive dissimulation	59	299.3	63	50	63	51
Substance abuse patients	59	349.2	71	74	73	85

Note. Est = Estimated; Obs = Observed.

and *DRG* scores for these two groups, as well as for the "standard instruction" substance abuse treatment group from the Fals-Stewart (1996) study, using the regression estimates described earlier. For both of the "questionable responding" groups, the estimated scores on the substance abuse scales exceeded the observed scores by a considerable margin. The group of substance abuse patients who completed the test under standard instructions obtained *ALC* and *DRG* scores equal to or above their predicted scores.

The results of these analyses support the conclusion that in instances where the estimated substance abuse score from Table 2-2 exceeds the observed score by 10*T* or more, there is reason to suspect that some denial of substance use may be operating. When this occurs, discussing substance use with some type of collateral informant (e.g., a spouse or family member) might be worthwhile. It should be recognized that any indirect method of ascertaining substance abuse has limited ability to circumvent denial issues, and asking directly about use of substances is the most straightforward and most accurate means of obtaining such information in most cases. Nonetheless, there are situations that provide powerful motivation to deny such problems, as in forensic situations, custody evaluations, or preemployment screenings. In such circumstances, an overall evaluation of of the profile for defensiveness (as discussed in chapter 5) followed by a specific evaluation of the possibility of substance abuse denial (as described earlier) should be conducted.

Alcohol Problems (ALC)

The *ALC* scale provides an assessment of behaviors and consequences related to alcohol use, abuse, and dependence. The item content ranges from statements

of total abstinence through frequent use to the severe consequences of drinking, loss of control, and alcohol-related cravings. Questions inquire directly about the use of alcohol; thus, prominent denial of alcohol problems can suppress scores on the scale. If *ALC* raw scores are very low and there are elevated scores on the five predictor scales mentioned earlier, some follow-up inquiry about alcohol use might be appropriate. However, in general, direct inquiry about alcohol use will usually provide more accurate data than making inferences from indirect sources of information.

Average scores on *ALC* (i.e., < 60*T*) reflect a person who reports a moderate alcohol intake and few adverse consequences related to drinking. Scores between 60*T* and 70*T* are indicative of a person who may drink regularly and who may have experienced some adverse consequences as a result. Toward the upper end of this range, there is increasing likelihood that alcohol has caused or is causing problems for the person. With scores above 70*T*, the respondent is likely to meet criteria for alcohol abuse. Such a score indicates that use of alcohol has had a negative impact on the respondent's life. Alcohol-related problems are likely, including difficulties in interpersonal relationships, difficulties on the job, and possible health complications; the respondent's current functioning is probably compromised.

ALC scores that are markedly elevated (i.e., above 84*T*, which is the average score for individuals in alcoholism treatment centers), are typically associated with severe alcohol dependence. Such a score indicates that alcohol use has resulted in a number of adverse consequences for the individual. Numerous alcohol-related problems are likely, including difficulties in interpersonal relationships, difficulties on the job, and possible health complications. Such individuals are likely to be unable to cut down on their drinking despite repeated attempts at sobriety. They typically feel quite guilty about their drinking, but report little ability to control the effect it has on their lives. They probably have a history of social and occupational failures that were related to drinking and have had episodes when they were intoxicated for prolonged periods. Blackouts and physiological signs of dependence and withdrawal are probable with scores in this range.

Drug Problems (DRG)

The *DRG* scale provides an assessment of behaviors and consequences related to drug use, abuse, and dependence. The item content ranges from statements of total abstinence through frequent use to the severe consequences of drug use. Questions inquire directly about the use of drugs (both prescription and illicit); thus, prominent denial of drug use can suppress scores on the scale. As with *ALC*, if *DRG* raw scores are very low and there are elevated scores on the five predictor

scales described earlier, some follow-up inquiry about drug use might be appropriate. However, in general, direct inquiry about a history of drug use will usually provide reasonably accurate data in the absence of strong situational pressures (e.g., in forensic settings or pre-employment screenings) to deny drug use.

Average scores on *DRG* (i.e., < 60*T*) reflect a person who reports using drugs infrequently, if at all. Scores between 60*T* and 70*T* are indicative of a person who may use drugs on a fairly regular basis and who may have experienced some adverse consequences as a result. Toward the upper end of this range there is increasing likelihood that drug use has caused, or is causing, problems for the person. With scores above 70*T*, the respondent is likely to meet criteria for drug abuse. It is likely that drug use has caused difficulties in interpersonal relationships or in work performance, and the individual's current functioning is probably compromised.

DRG scores that are markedly elevated (i.e., > 80*T*, which is the average score for individuals in treatment for drug abuse) are typically associated with drug dependence. Such individuals are likely to be unable to cut down on drug use despite repeated attempts and have little ability to control the effect that the desire for drugs has on their lives. They probably have a history of social and occupational failures related to drug use. Depending on the primary substance of abuse, physiological signs of dependence and withdrawal are probable with scores in this range.

CHAPTER 3
TWO-POINT CODETYPES IN PROFILE INTERPRETATION

The use of two-point codes in profile interpretation has become somewhat of a tradition in the assessment field. Although two-point codes provide a starting point for the configural interpretation of the PAI profile, it is important to note that such a code provides a severely limited summary of the information contained in the profile. First, the two-point code obviously ignores the wealth of information provided by the other test scales. Second, because of the subscale structure of the PAI scales, meaningful differences on even the two scales that comprise the code can be observed between individuals who have identical codes. Finally, the reliability of the small differences that can determine a two-point code on any psychological instrument is often suspect. For example, consider a profile where *DEP* is at 85*T*, *ANX* is at 82*T*, and *BOR* is at 81*T*. Although this is nominally a *DEP-ANX* two-point code, the difference between *ANX* and *BOR* is considerably less than one standard error of measurement, and that difference is not interpretively significant. Yet, the *DEP-BOR* codetype has different implications than the *DEP-ANX* codetype. Given these limitations, it is best to (a) consider the following descriptions of codetypes as a rough beginning to interpretation, and (b) examine *all* relevant descriptions (e.g., *DEP-ANX*, *DEP-BOR*, *ANX-BOR* in the present example) when scales determining the codetype fall within one standard error of each other.

The following sections describe the major features and interpretive significance of the 55 possible PAI two-point codes. Inclusion in one of these codetypes is based upon the two highest scores on the 11 PAI clinical scales, with each of the 2 scales involving scores of at least 70*T*. No distinction is provided in these sections with respect to order of the scales within the code: For example, the *DEP-ANX* codetype applies to all profiles for which *DEP* and *ANX* have the two highest clinical scale scores, regardless of which is higher, with both at least 70*T*. Reported frequencies and diagnostic correlates of these profiles were derived from Appendix A of the *PAI Professional Manual* (Morey, 1991).