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Case Report

Use of the PAI-A in the Diagnosis and Treatment of Psychiatric Disorders: A Clinical Application

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Abstract

Psychological assessment is an important aspect in the diagnosis and treatment of psychiatric conditions. The focus of this article is to describe how the Personality Assessment Inventory- Adolescent (PAI-A) can be integrated into psychological assessment and treatment planning. The PAI-A is a self-report measure used to assess psychopathology, interpersonal styles (e.g., warmth or dominance), and treatment related issues (e.g., stress, treatment rejection). The author also presents a clinical case example of an adolescent patient diagnosed with Attention Deficit Hyperactivity Disorder and Mood Disorder to demonstrate the clinical utility of the PAI-A.

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INTRODUCTION

Psychological assessment is an important part of psychiatric diagnosis and treatment. In clinical practice, assessment has many purposes: to determine whether there is a problem (i.e., to differentiate normal and aberrant behavior), to delineate the individual's strengths and weakness, to predict future behavior or course of the disorder, to classify the problem, and to provide guidelines for intervention [1]. Some scholars have emphasized that in the current mental health system mental health professionals face a challenge of providing effective treatment and delivering treatment in a time-limited manner [2,3]. Psychological assessment may provide one potential benefit to mental health professionals who provide services to adolescents and their families. According to Quirk and colleagues [3], in the age of managed mental health care, psychological assessment may contribute to behavioral health care's capacity to provide positive payoffs such as reduced medical cost and improved treatment outcomes. However, insurance companies often prevent psychologists from incorporating lengthy assessments into the treatment process. Although this isn't the scope of this article, billing issues unfortunately impact the treatment process in many ways. In order to survive in the era of managed mental health care, psychologist (specifically) must market themselves on the basic of the clinical utility of a comprehensive assessment within psychological practice [3].

Tiegreen and colleagues [4] describe psychological assessment as "a tool for clinicians to gather information from clients". The most widely used assessment measures among adolescents to screen for psychopathology and personality characteristics are the Minnesota Multiphasic Personality Inventory – Adolescent (MMPI-A) [5], the Millon Clinical Multiaxial Inventory (MACI) [6], and the Adolescent Psychopathology Scale (APS) [7]. More recently, the Personality Assessment Inventory – Adolescent (PAI-A) [8] was developed as a comparable measure to examine adolescent behavior and psychopathology. The PAI-A reflects advances in test-construction methods and measures unique areas relative to the above mentioned [2].

The PAI-A is a self-report measure used to assess psychopathology, interpersonal styles, and treatment related issues [8]. The PAI-A is an extension of the adult version, the Personality Assessment Inventory (PAI) [9]. The PAI-A was standardized using a community sample of 707 adolescents ages 12-18 who were attending junior high, high school, or college; and a clinical sample of 1,160 adolescents who were being treated in clinical or correctional settings (see Morey [8] for complete details related to test development). The PAI-A, similar to the parent measure (the PAI), is intended to reflect clinical constructs that are important in diagnosis of psychiatric disorders. The measure includes 264-items that are rated on a 4-point Likert scale ranging from "not at all true" and "slightly true" to "mainly true" and "very true". The PAI-A contains 22 non-overlapping scales: 4 validity scales, 11 clinical scales, 5 treatment consideration scales, and 2 interpersonal scales. See Table 1 for a brief description of the PAI-A clinical scales and subscales.

Although the PAI-A is a fairly recent assessment instrument, the parent measure (i.e., PAI) has shown considerable clinical utility. Extensive research has been conducted with the PAI demonstrating the validity and clinical utility in numerous groups

Table 1: PAI-A Clinical Scales and Subscales.

Scale/Subscale	Description
Somatic Complaints (SOM)	Measures concerns with health matters and somatic complaints that may be associated with somatization and conversion disorders.
Conversion (SOM-C)	Focuses on symptoms associated with conversion disorder such as sensory or motor dysfunctions.
Somatization (SOM-S)	Focuses on physical symptoms and complaints of ill health and fatigue.
Health Concerns (SOM-H)	Focuses on a preoccupation with heath status and physical problems.
Anxiety (ANX)	Measures concerns with phenomenology and observable signs of anxiety.
Cognitive (ANX-C)	Focuses on ruminative worry and concern about issues that result in impaired concentration and attention.
Affective (ANX-A)	Focuses on the experience of tension, difficulty in relaxing, and the presence of fatigue as a result of high-perceived stress.
Physiological (ANX-P)	Focuses on overt physical signs of tension and stress (e.g., sweaty palms, shortness of breath).
Anxiety-Related Disorders (ARD)	Measures symptoms and behaviors related to specific anxiety disorders such as phobias, traumatic stress, and obsessive-compulsive symptoms.
Obsessive-Compulsive (ARD-O)	Focuses on intrusive thoughts or behaviors, rigidity, indecision, perfectionism, and affective constriction.
Phobias (ARD-P)	Focuses on common phobic fears such as social situations, public transportation, heights, or other specific objects.
Traumatic Stress (ARD-T)	Focuses on the experience of traumatic events that cause continuing distress and that are experienced as having left the adolescent changed or damaged in some way.
Depression (DEP)	Measures symptoms and phenomenology of depressive disorders.
Cognitive (DEP-C)	Focuses on thoughts of worthlessness, hopelessness, and personal failure, as well as indecisiveness and difficulties in concentration.
Affective (DEP-A)	Focuses on feelings of sadness, loss of interest in normal activities, and anhedonia.
Physiological (DEP-P)	Focuses on levels of physical functioning, activity, and energy, including disturbance(s) in sleep pattern and changes in appetite and/or weight loss.
Mania (MAN)	Measures affective, cognitive, and behavioral symptoms of mania and hypomania.
Activity Level (MAN-A)	Focuses on overinvolvement in a variety of activities in a somewhat disorganized manner and the experience of accelerated thought processes and behavior.
Grandiosity (MAN-G)	Focuses on inflated self-esteem, expansiveness, and the belief that one has special and unique skills or talents.
Irritability (MAN-I)	Focuses on the presence of strained relationships due to frustration with the inability or unwillingness of others to keep up with his or her plans, demands, and possibly unrealistic ideas.
Paranoia (PAR)	Measures symptoms of paranoid disorders and more enduring characteristics of paranoid personality.
Hypervigilance (PAR-H)	Focuses on suspiciousness and the tendency to monitor the environment for real or imagined slights by others.
Persecution (PAR-P)	Focuses on the beliefs that one has been treated inequitably and that there is a concerted effort among others to undermine one's interests.
Resentment (PAR-R)	Focuses on bitterness and cynicism in interpersonal relationships, and a tendency to hold grudges and externalize blame for any misfortunes.
Schizophrenia (SCZ)	Measures symptoms relevant to the broad spectrum of schizophrenic disorders.
Psychotic Experiences (SCZ-P)	Focuses on the experiences of unusual perceptions and sensations, magical thinking, and/or other unusual ideas that may involve delusional beliefs.
Social Detachment (SCZ-S)	Focuses on social isolation, and discomfort and awkwardness in social interactions.
Thought Disorder (SCZ-T)	Focuses on confusion, concentration problems, and disorganization of thought processes.
Borderline Features (BOR)	Measures attributes indicative of a borderline level of personality functioning, including unstable and fluctuating interpersonal relations, impulsivity, affective lability and instability, and uncontrolled anger.
Affective Instability (BOR-A)	Focuses on emotional responsiveness, rapid mood changes, and poor emotional control.
Identity Problems (BOR-I)	Focuses on uncertainty about major life issues, feelings of emptiness and unfulfillment, and an absence of purpose.
Negative Relationships (BOR-N)	Focuses on history of ambivalent, intense relationships in which one has felt exploited and betrayed.
Self-Harm (BOR-S)	Focuses on impulsivity in areas that have high potential for negative consequences.
Antisocial Features (ANT)	Measures history of illegal acts and authority problems, egocentrisim, lack of empathy and loyalty, instability, and excitement-seeking.
Antisocial Behaviors (ANT-A)	Focuses on history of antisocial acts and involvement in illegal activities.
Egocentricity (ANT-E)	Focuses on lack of empathy or remorse and a generally exploitative approach to interpersonal relationships.
Stimulus-Seeking (ANT-S)	Focuses on a craving for excitement and sensation, a low tolerance for boredom, and a tendency to be reckless and risk taking.

Alcohol Problems (ALC)	Measures problematic consequences of alcohol use and features of alcohol dependence.
Drug Problems (DRG)	Measures problematic consequences of drug use (i.e., prescription, illicit) and features of drug dependence.
Text adapted from Morey (2007)	
Aggression (AGG) [a]	Measures characteristics and attitudes related to anger, assertiveness, hostility, and aggression.
Aggressive Attitudes (AGG-A)	Focuses on hostility, poor control over anger expression, and a belief in the instrumental utility of aggression.
Verbal Aggression (AGG-V)	Focuses on the verbal expression of anger ranging from assertiveness to abusiveness, and a readiness to express anger to others.
Physical Aggression (AGG-P)	Focuses on the tendency towards physical displays of anger, including damage to property, physical fights, and threats of violence.
Suicidal Ideation (SUI) [a]	Measures suicidal ideation, ranging from hopelessness to thoughts and plans for suicidal acts.
Stress (STR) [a]	Measures the impact of recent stress on major life areas (e.g., home, school).
Nonsupport (NON) [a]	Measures a lack of perceived social support, considering both the level and the quality of available support.
Treatment Rejection (RXR) [a]	Focuses on attributes and attitudes indicative of a lack of interest and motivation to make personal changes of a psychological or emotional nature.
Dominance (DOM) [b]	Assesses the extent to which a person is controlling and independent in personal relationships. A bipolar dimension, with a dominant style at the high end and a submissive style at the low end.
Warmth (WRM) [b]	Assesses the extent to which a person is interested in supportive and empathic personal relationships. A bipolar dimension, with a warm outgoing style at the high end and a cold, rejecting style at the low end.
Text adapted from Morey (2007); Treatment Considerations Scale[a], Interpersonal Scale[b]	

such as veterans with chronic pain [10], traumatic brain injury patients [11], psychiatric populations [12], college students [13], and rural populations [14]. Emerging research using the PAI-A provides promising finding for the use of the measure in diagnosis and treatment of adolescents [15,16]. A recent study examined PAI-A indicators of response distortion among adolescents instructed to fake having a diagnosis of Attention-Deficit Hyperactivity Disorder (ADHD) [15]. Overall, the study indicated that participants who feigned ADHD tended to report more psychopathology across diverse areas than those actually receiving an ADHD diagnosis.

CASE EXAMPLE

The following description presents an actual patient that received outpatient psychotherapy provided by the author (referred to as the clinician throughout the remainder of this section). The patient's name and personal information has been removed to maintain confidentiality. The PAI-A data was obtained through an assessment that was completed to assist the clinician with treatment planning.

Background information and presenting concerns

John is 13-year old Caucasian male referred by his legal guardians for treatment to address concerns with oppositional/rule-breaking behavior, and mood dysregulation (e.g., irritability and depressed mood). At the time of the referral, John was not receiving outpatient psychotherapy and had not attended therapy for approximately a year. However, he was prescribed medications (methylphenidate and oxcarbazepine) to manage his symptoms. John presented with a diagnosis of Attention-Deficit Hyperactivity Disorder (ADHD) and Mood Disorder, NOS (based on DSM-IV-TR criteria). He previously attended therapy for about 5-months and did not have any history of inpatient hospitalization. The PAI-A was administered at the second appointment and procedures were followed consistent with a therapeutic assessment approach for test administration [17,18]. Prior to the administration, the patient provided the clinician with several questions he wanted to answer from the assessment (these questions will not be discussed in this article due to the clinical nature). Following the test administration, the clinician provided feedback at the next therapy session with the patient and his parents to discuss the results as described below.

PAI-A results and clinical interpretation

Before determining whether a PAI-A profile can be interpreted, the item responses should be inspected for missing items. Per the PAI-A manual [8], profiles should not be interpreted if 14 or more items were omitted by the respondent. Of note, John did not omit any item responses. Subsequently, the PAI-A validity scales are examined for elevated scores. In general, the interpretation manual states that validity scale scores more than 2 *SD* above the mean suggest serious attempts by the respondent to distort the profile. All PAI-A scales and subscales have a mean score of 50*T* and standard deviation of *10T.* Per the PAI-A manual [8], scores greater than 50*T* suggest that the respondent endorsed items to a greater extent than typical for his/her age group. In clinical decision making, it is important to note the importance of these problems confronting the respondent [8]. According to Morey [8], in clinical settings the majority of adolescents will score below the "clinical skyline" [provided on the PAI-A profile form]; any score that approaches or exceeds the skyline represents a marked elevation. Furthermore, scores do not need to be greater than 70*T* to warrant clinical attention. Given the nature of this article, readers are referred to the PAI-A manual [8] for a complete description of the interpretation guidelines. Tables 2 and 3 present the PAI-A results for John.

On the PAI-A, John's validity profile (ICN, INF, NIM, and PIM scales) suggested that he attended to the item content; and responded in a candid and forthcoming manner. Furthermore, he did not attempt to overly present himself in a negative or positive light. Validity scale *T* scores ranged from 47*T* to 55*T*. Given John's scores on the validity scales, there are no problems with interpreting the PAI-A profile.

Table 2: PAI-A Clinical Scale and Subscale Scores for John.

Scale	T score	Scale	T score	Scale	T score
Inconsistency (ICN)	55	Depression (DEP)	53	Borderline Features (BOR)	52
Infrequency (INF)	53	*Cognitive (DEP-C)*	58	*Affecive Instability (BOR-A)*	56
Negative Impression (NIM)	48	*Affective (DEP-A)*	53	*Identity Problems (BOR-I)*	50
Positive Impression (PIM)	47	*Physicological (DEP-P)*	50	*Negative Relationship (BOR-N)*	44
Somatic Complainces (SOM)	57	Mania (MAN)	48	*Self-Harm (BOR-S)*	60
Conversion (SOM-C)	56	*Activity Level (MAN-A)*	48	Antisocial Features (ANT)	56
Somatization (SOM-S)	48	*Grandiosity (MAN-G)*	46	*Antisocial Behaviors (ANT-A)*	48
Health Concerns (SOM-H)	63	*Irritability (MAN-I)*	50	*Egocentricity (ANT-E)*	60
Anxiety (ANX)	51	Paranoia (PAR)	43	*Stimulus Seeking (ANT-S)*	58
Cognitive (ANX-C)	47	*Hypervigilance (PAR-H)*	46	Alcohol Problems (ALC)	42
Affective (ANX-A)	65	*Persecution (PAR-P)*	44	Drug Problems (DRG)	52
Physicological (ANX-P)	43	*Resentment (PAR-R)*	46		
Anxiety-Related Disorders (ARD)	41	Schizophrenia (SCZ)	52		
Obsessive-Compulsive (ARD-O)	47	*Psychotic Experiences (SCZ-P)*	55		
Phobias (ARD-P)	39	*Social Detachment (SCZ-S)*	47		
Traumatic Stress (ARD-T)	45	*Thought Disorder (SCZ-T)*	53		

On the PAI-A clinical scales, John's profile revealed no elevations above the clinical skyline that would indicate the presence of clinical psychopathology in the areas that are tapped by the individual clinical scales. The interpretation in this section is based on subscale scores given full-scale scores were below 60*T*. Based on interpretation of John's scores, he reported some preoccupation with physical symptoms and bodily complaints (*elevated SOM-H*); it is possible that he may express his psychological distress through somatic symptoms. John reported high perceived stress, a great deal of tension, and having difficulty relaxing (*elevated ANX-A*). He appears to have a tendency to be impulsive and his impulsive behaviors may interfere with interpersonal problems and school functioning (*elevated BOR-S*). As a result of his desire for excitement and stimulation, John may often become easily bored by routine activities (*elevated ANT-S*). Furthermore, John's profile suggests that he tends to be egocentric and have little regard for others. Although he may feel guilt over past misbehaviors, he may feel little long standing remorse (*elevated ANT-E*). On the treatment consideration scales, John's NON score suggests that he generally feels his family is a source of social support. However, he may have few close interpersonal relationships. Finally, John's RXR score suggests that he acknowledges the need to make changes and reports having a generally positive attitude towards making personal change. Given the patient's diagnosis of ADHD and Mood Disorder, the patient's PAI-A profile appears to explain some of his classic symptoms such as concentration difficulties, stimulus seeking, irritability, and impulsive behavior.

Future directions for research and practice

The current article describes the clinical utility of the PAI-A in the diagnosis and treatment of psychiatric disorders in adolescents. To date, limited research on the PAI-A exists to demonstrate its external validity and use in clinical settings. However, promising findings on the PAI-A has shown its potential to improve the diagnosis and treatment of psychiatric conditions [16,17]. Given the limited research available on the PAI-A, future studies should examine the validity of the measure in both community and clinical samples. For example, Farwell [19] completed a literature review on PAI-A scales that may describe adolescent male behavior in forensic populations and reported that forensic adolescent males tended to score higher on PAI scales measuring aggression, alcohol and drug use, and antisocial behaviors. However, this has not been empirically studied using the PAI-A. Given the vast amount of research on the parent measures (PAI), there are endless possibilities to develop research examining the use of the PAI-A in a variety of settings and populations.

In clinical practice, good treatment begins with a thorough assessment. The PAI-A can provide clinicians with an opportunity to obtain important information to assist with treatment and examine potential risk behaviors (e.g., substance use, suicidal ideation, and aggression). As noted in the case example, the patient's PAI-A profile not only allowed the clinician to assess the patient's level of insight but also provided a gauge for the level of

Table 3: PAI-A Treatment Consideration and Interpersonal Scale Scores for John.

Scale	T score
Aggression (AGG)	49
Aggressive Attitude (AGG-A)	52
Verbal Aggression (AGG-V)	49
Physical Aggression (AGG-P)	47
Suicidal Ideation (SUI)	42
Stress (STR)	46
Nonsupport (NON)	57
Treatment Rejection (RXR)	46
Dominance (DOM)	51
Warmth (WRM)	46

social support and interest in the therapy process. Furthermore, it has been noted that the PAI-A has several advantages compared to comparable measures such as improved test development (combines rational, empirical, and statistical approaches), minimal demands on reading ability, and administration time is typical to an actual clinical session [2]. Although the PAI-A has limited independent research available, the research on the PAI bodes well for PAI-A utility given its downward extension from the parent measure.

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