

## HEALTH PSYCHOLOGY

# Axis IV of the DSM: Origins, Evolution and Utility

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### ABSTRACT

Since its inception, Axis IV of the Diagnostic and Statistical Manual of the American Psychiatric Association has undergone several revisions to improve the understanding of the role of stressors on patients' psychiatric illnesses. Poor reliability data and mixed data on validity of Axis IV resulted in slow acceptance of this diagnostic tool in clinical practice. The element of subjectivity in assessing stressors decreases the inter-rater reliability in stressor evaluation, a pitfall of this approach, and lack of interest by the research community in studying Axis IV suggests a need for modification of the system. Despite these criticisms, the system allows for inter-clinician communication, identification and understanding of etiologic factors, and a better selection of non-pharmacological approaches in treatment of our patients.

### INTRODUCTION

The incorporation of the multi-axial diagnostic system into the American Psychiatric Association's Diagnostic and Statistical Manual (DSM) in 1980 started the reporting of patients' psychosocial stressors as part of their psychiatric assessment. Axis IV of the DSM, created as an opportunity to portray patients' psychosocial stresses in their diagnosis, has been touted by proponents to be a worthwhile aspect of a psychiatric diagnosis in order to achieve a greater understanding of a patient's state and to direct therapeutic decisions.<sup>1</sup> Since its inception, it has undergone significant criticism and reform, and while many criticisms remain, it constitutes a valuable tool for diagnosis and management of psychiatric illness. This article recounts the historical development of the psychosocial stressor component of the multi-axial diagnostic design, and elucidates some of its strengths and drawbacks.

### Key Points

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#### The DSM multi-axial assessment model (2000) includes:

- Axis I – Clinical Disorders
- Axis II – Personality Disorders and Mental Retardation
- Axis III – General Medical Concerns
- Axis IV – Psychosocial and Environmental Problems
- Axis V – Global Assessment of Functioning

#### Strengths of Axis IV:

- Valuable tool for diagnosing and managing psychiatric illnesses
- Aids in identification of different etiologies for the same diagnosis
- Provides medium for inter-clinician communication of patient stressors

#### Weaknesses of Axis IV:

- Requires a subjective assessment with poor inter-rater reliability
- Creates confusion between V Codes on Axis I and Axis IV coding, which may alter the course of patient therapy

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Source: American Psychiatric Association. (2000). Diagnostic and Statistical Manual of Mental Disorders, Text-Revised 4th edition, American Psychiatric Association: Washington DC.

## RATIONALE FOR DEVELOPMENT OF AXIS IV

Prior to the advent of the multi-axial diagnostic format adopted by the authors of the DSM-III, published in 1980, the model for psychiatric diagnosis was comparatively simple, involving only translation of patients' signs and symptoms into a diagnosis. In the 1960s and 1970s, however, some practitioners began to point out the deficiencies of a single-axis diagnostic system. Namely, it was suggested that the typological approach did not accurately capture each patient's experience; that is, that the patients' symptoms were being pigeon-holed into categorical diagnosis without due consideration of potential etiological factors.<sup>2</sup> While the single-axis model allowed a high inter-assessor reliability, it failed to differentiate two patients with the same diagnosis but with remarkably different etiologies and prognoses.

In response to these criticisms, the DSM diagnostic format was overhauled to include a total of five axes. Among these were included the primary clinical diagnosis, personality disorder diagnosis, medical diagnoses, and a global assessment of functioning on a numeric scale. The fourth axis of the model was created to communicate the psychosocial stressors faced by each patient. The rationale was that such descriptions would aid in identifying potential etiologic factors affecting each patient's psychological disorder and in helping to predict the patient's outcome. The authors of DSM-III went so far as to hypothesize that the greater the psychosocial stress afflicting a given patient, the more likely they would be to have a positive outcome, given that psychosocial stressors were potentially seen as either temporary or resolvable.<sup>1</sup> While this was eventually disproved when it was shown that greater stress is associated with poorer patient outcomes,<sup>3</sup> the stage was set for psychiatric diagnoses that described a great deal more about the patient's experiences and function.

## EVOLUTION OF AXIS IV OVER TIME

In its original form, Axis IV of the DSM was termed "Severity of Psychosocial Stressors".<sup>1</sup> Diagnosticians were charged with the task of rating the severity of a patient's overall external stress. In so doing, assessors were required to identify the patient's "greatest stressor", as it related to the psychiatric disorder of concern, and plot its impact on a continuum between one (no impact) and seven (catastrophic). Assessors were instructed to judge the quality of a patient's stress through the lens of an outsider, and were to rate the severity of these stressors as they would impact someone without psychological illness. The intent of the latter was two-fold: firstly, to avoid rating all patients with an anxious disposition a high stress load because of the way their vulnerabilities affect the manner in which they perceived their environment; and, secondly, to objectively rate events or situations of a patient's life that would be deemed universally distressing to any person with or without comorbid psychological issues.

This model of severity rating suffered severe criticism for failing to achieve both reliability and construct validity. First, with regards to inter-rater reliability, the system failed to give full instructions on the way in which a patient's stressors should be elicited and how they should be interpreted as either "desired" stressors versus "undesired" (e.g., an unwanted pregnancy often induces stress, but the overall desirability of the expected child can have a great influence on perception of the stress). Furthermore, the DSM-III gave no instructions on how to judge chronic versus acute stressors, and how to consider many small stressors as opposed to a single catastrophic one.<sup>4</sup> Not surprisingly given these ambiguities, it was difficult for independent assessors to initially agree on the patient's "greatest stressor" as it would apply to that individual and their clinical diagnosis and then to agree on a number in the scale from "no stress" to "catastrophic."<sup>5</sup> Studies measuring the inter-rater reliability demonstrated intra-class reliability coefficients as low as 0.25,<sup>5-7</sup> and several authors proposed that the information coded in such a manner would therefore be "almost worthless".<sup>5</sup>

Furthermore, the validity of Axis IV was also challenged, albeit less successfully. Most critics found the practice of ignoring patient's perspective on their life stressors to negate the very purpose of determining its etiologic value.<sup>6,8,9</sup> In addition, a common source of error committed by less experienced clinicians and new learners (interns and residents) was to be unsure of whether an identified stressor was in fact impacting or in some way influencing the psychiatric presentation.<sup>6</sup> Notwithstanding these concerns, it was soon proven that a patient's severity score was indeed correlated to prognosis. In contrast to what the authors of DSM-III had hypothesized, however, higher scores did not predict an improved outcome for a psychiatric patient, but were in fact correlated with a longer course in hospital and overall poorer outcome for depressed patients.<sup>3</sup> The severity rating was also shown to be correlated with a higher likelihood of irregularities in dexamethasone-suppression testing (DST), suggesting that the Axis IV coding could predict abnormalities in the hypothalamic-pituitary-adrenal gland (HPA) axis, a key component of the physiologic stress response.<sup>4</sup>

Poor reliability and mixed data on validity of Axis IV resulted in a slow acceptance of this diagnostic tool in clinical practice. At its introduction, only 38% of assessors stated their wish to make use of it without amendment,<sup>6</sup> and several years after its introduction, a mere 14% of psychiatrists had integrated its use into their daily practice.<sup>10</sup>

It became evident in the lead up to the revision of the DSM-III that Axis IV would require amendment if it was to become universally accepted. Some modifications were made in the Revised DSM-III in 1987 which included a recommendation to list up to four of the significant stressors and to identify each as either acute or enduring.<sup>11</sup> It was not until 1994, however, that significant changes were made to Axis IV in

DSM-IV. The authors of the fourth edition abolished the psychosocial stressor severity rating system in favour of a listing of “Psychosocial and Environmental Problems”.<sup>12</sup> Assessors were no longer instructed to identify the most distressing environmental issues and to rate them on a scale, but were instead invited to list all stressors affecting the patient in the previous year. The authors provided a categorization for “problems” (Table 1) and encouraged clinicians to list as many under each category as they deemed appropriate. DSM-IV, and its subsequent Text Revision (DSM-IV-TR), re-emphasized the need to list the majority of stressors impacting on the patient in the previous year and de-emphasized the description of these stressors as acute or chronic. Importantly, the authors eliminated the requirement for the stressors to be judged from an outsider’s perspective and allowed the listing of both stressors that contributed to the psychiatric presentation and stressors that may have arisen from those. Also recognized was the need to capture the impact of chronic illness on a patient’s social, financial, psychological and emotional disposition and thus stressful consequences of chronic illnesses began to be recorded on Axis IV, as an important validation of the struggles of patients with such conditions.

**Table 1.** Categories of Psychosocial and Environmental Problems in Axis IV

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- Family
  - Social/living situation
  - Education
  - Employment
  - Housing
  - Financial
  - Health care access
  - Legal/criminal
  - Other
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Source: American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition, American Psychiatric Association: Washington DC.

### UTILITY OF AXIS IV TODAY

Since the adaptation of Axis IV in DSM-IV, there has been a relative paucity of its discussion in the literature, presumably due to its now inherent subjectivity and thus disinclination for clinical research. Having removed a numerical scale from the axis, there is little opportunity for researchers to apply a statistical approach to its analysis, and only a handful of studies have investigated the utility of the Axis in the past decade. A discussion of its benefits and continued drawbacks, however, is still worthwhile.

Psychiatric illnesses are now largely formulated on a biopsychosocial model. Psychophysiological dysregulation underlies the “Stress-Diathesis model” of psychiatric illnesses (in which the physiologic stress response is proposed to

alter an individual’s future perception and response to stress through the HPA axis), and it is thus appropriate to identify such variables in an individual’s diagnosis. The opportunity to portray a patient’s stressors in the form of a multi-axial diagnostic system encourages interviewers to fully assess the psychosocial history surrounding the patient and, in particular, surrounding their clinical presentation.<sup>13</sup> A higher stress load may be indicative of a non-endogenous etiology<sup>14</sup> and, as discussed above, has been shown to correlate to DST abnormalities and predict poorer outcome.<sup>3,4</sup> The knowledge of these factors should certainly aid in the management of patients, especially when considering non-pharmacologic therapies. The nature and type of stressors help better identify whether solution-focused, interpersonal or psychodynamic therapy may be more appropriate in managing the illness in the patient. Axis IV, therefore, plays a crucial role in encouraging clinicians to consider more than a list of signs of symptoms when making diagnoses in favour of attempting to grasp the patient’s overall experience.

Despite these benefits, there are limitations to the use of Axis IV and, in particular, the prospect of evaluation of stressors from an objective perspective.<sup>15</sup> While there is no longer the requirement to completely ignore the patient’s perspective in determining which events should qualify as “problems”, DSM-IV-TR continues to require that an assessor determine aspects of stress in another person’s life. As discussed above, the assessor’s own bias towards certain life circumstances is certain to influence these determinations. For example, one study investigating the evaluation of psychosocial stressors in Hispanic patients demonstrated that non-Hispanic evaluators recorded significantly more psychosocial stressors surrounding patients’ educational and family situations than did Hispanic clinicians.<sup>16</sup> The clinician’s biases are thus clearly represented in Axis IV. What remains unclear is whether a patient’s primary disorder (Axis I diagnosis) may also affect the clinician’s assessment of their Axis IV psychosocial stressors. For example, are clinicians more likely to probe for or record the psychosocial stressors of patients with anxiety or affective disorders than they are for patients with first-episode psychosis? This presents a set of veritable unknowns afflicting the Axis IV coding system and has not been studied in a systematic manner.

An additional shortcoming of the psychosocial stressor aspect of psychiatric diagnosis through DSM is the blurring of boundaries between the use of V Codes and Axis IV. Since the creation of DSM-IV in 1994, V Codes have been emphasized to identify “other conditions that may be the focus of clinical attention.”<sup>17</sup> V Codes may be listed on either Axis I (if it is deemed to be a primary disorder) or on Axis IV (if it is deemed to be a secondary condition or unrelated to the patient’s clinical disorder). For example, a history of child abuse may be recognized as a condition independent of a patient’s clinical disorder and from which sep-

arate objectives for therapy could be derived. This would receive a V Code on Axis I. If, however, a condition is identified that is either attributable to a "clinical disorder" or is not a candidate for focussed therapy, it is coded on Axis IV. For example, the unemployed status of a depressed patient in a poor job market is sure to cause psychological stress, but that unemployed status is neither attributable to the depression itself or likely to become the focus of therapy, and is thus represented on Axis IV.

The choice between coding psychosocial stressors on Axis IV as opposed to assigning them a V Code in Axis I may drastically alter the therapy received. To exemplify the importance of this distinction, consider a hypothetical patient scenario. A 44-year-old male accountant with no past psychiatric history begins to suffer from sleep disturbance, decreased energy and difficulty concentrating. His family physician makes a diagnosis of major depressive disorder and begins treatment with a selective serotonin reuptake inhibitor (SSRI). Despite treatment, the patient's symptoms worsen and he begins to take an over-the-counter (OTC) sleep aid to alleviate his insomnia. Meanwhile, he is given responsibility for an important file at work, which he struggles to maintain. He begins to take the OTC medications with greater frequency and at higher doses. When he is finally confronted by one of his superiors at work who scolds him for his recent incompetence, he leaves work early, overdoses on his OTC sleep aid, and is admitted to the psychiatric ward by emergency services.

In this example, the diagnostic formulation may have a dramatic impact on the patient's disposition. If, for example, the patient is deemed no longer to be a risk to self and the work stressors are identified as the immediate precursors to the overdose, they may be emphasized through V Coding on Axis I along with OTC substance dependence. This "adjustment disorder" formulation as the principal focus of attention will direct the spotlight of therapy on the psychosocial situation, leading to a brief hospital stay and outpatient referral to rehabilitation and employee assistance programs. In contrast, if the major depressive disorder is identified as the initiating event and coded on Axis I along with substance abuse, and Axis IV is employed to represent the work stressors, a "clinical disorder" formulation may take precedence. This patient's hospital stay may subsequently be significantly longer and could include medical investigation, mood disorder specialist consultation, and intensive pharmacologic intervention. The placement of psychosocial stressors in the diagnostic model, therefore, can have significant impact on the course of a patient's therapy.

### **FUTURE DIRECTIONS**

The incomplete acceptance of Axis IV by clinicians and the apparent lack of interest on behalf of psychiatric researchers herald the need for some reform to the current model. Working groups, including those recently appointed

by the DSM-V committee, should be influenced to design a system that lends itself to a quantitative analysis of the data; only then is the research community likely to accept it more comprehensively. There may also be some utility in re-emphasizing both the timeline of noted stressors, as well as a coding system for stressor severity from the patient's perspective in order to better convey their estimated impact.

An equally important issue requiring resolution, though, is the current subjectivity surrounding the representation of a stressor on either Axis IV or as a V Code in Axis I. While the impact of this discrepancy on treatment interventions and patient outcomes needs to be more systematically studied, further objectification of this question will increase inter-rater reliability and add clarity to the appropriate treatment approach options.

The relative success of the current model or at minimum a relative lack of current criticism may not, however, lead to immediate amendment and could, in fact, influence further development of the multi-axial diagnostic system. There have been long-standing requests for its expansion to include such axes as a "Defensive Functioning Scale" which would identify a patient's commonly employed defence mechanisms, and a "Social and Occupational Functioning Assessment Scale (SOFAS)" to identify a patient's level of function in their social environment.<sup>12,18</sup> Even before the introduction of Axis IV and Axis V, some authors suggested an axis dealing with genetic factors, which may have once been considered to deal with ethnicity but may now be reconsidered to include such aspects as pharmacogenetics.<sup>2</sup> Caution should be advised, however, in over-expanding the multi-axial diagnostic system for fear that it may become ever more burdensome in the clinical setting while becoming only marginally more useful in patient treatment.

### **CONCLUSION**

As described above, the fourth axis of the multi-axial diagnostic method has undergone significant adaptation from its original presentation in 1980. The American Psychiatric Association has responded to criticisms surrounding its construct validity and reliability, and criticisms in the literature have been relatively scarce since its overhaul in DSM-IV-TR. Concerns over inter-rater reliability and the subjectivity of assessment are still valid, but in the diagnosis of psychiatric disorders, an overly inclusive list of potential etiologic factors is presumably better than ignorance. After all, although statistical reliability may be formally advantageous, increasing reliability does not necessarily equate to increased clinical utility, and it may even come at its expense.<sup>13</sup> On balance, Axis IV continues to assist in inter-clinician communication, identification and understanding of potential etiological factors, better selection of non-pharmacological interventions and direction of future management, and will likely thus continue to be a valuable tool to psychiatric clinicians. †

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