Exploring Diagnostic Formulations for Violent Delinquent Adolescents: Conceptual Considerations

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The condition of the violent delinquent adolescent and its context involves a multiplicity of intricate and complex factors. In fact, a variety of literature reports indicate the pertinence of the following concerns: psychiatric;[1,2] genetic and physiological;[3] developmental;[4,5] demographic;[6,7] neurological;[2,8,9] intellectual;[10,11] social;[12] environmental;[13,14] and legal.[15]

The consideration of the informational complexity of many conditions has motivated in recent years the development of multiaxial diagnostic systems. The multiaxial model typically consists in the systematic formulation of the subject's condition and associated factors in terms of several variables, aspects or axes, that are presumed to have high clinical information value and are conceptualized and rated as quasi independent from each other. This model would ensure a comprehensive description of the condition and its context as well as allow the opportunity of conceptually clarifying its key aspects to facilitate their study.

The multiaxial diagnostic model has been increasingly used for the description of general psychiatric disorders, starting with the pioneering proposal of Essen-Möller and Wohlfahrt[16] and continuing to recent nosologies such as DSM-III,[17] the new U.S. psychiatric diagnostic system. Also the model seems to be particularly pertinent to childhood and adolescence behavior disorders, where frequently it is desirable to specify the type of psychiatric disorder, developmental delays, intellectual level, associated physical illness, and psychosocial stressors. In fact, these are the components of a multiaxial diagnostic system for children and adolescents developed by Rutter, *et al.*[18] as a refinement of earlier versions prepared under the auspices of the World Health Organization.[19] Furthermore, the multiaxial model has found useful applications in special areas such as the diagnosis of family dysfunction through a triaxial system developed by Tseng and McDermott,[20] and the comprehensive description of mentally retarded individuals through the work of Tarjan *et al.*[21]

If the multiaxial model has been found suitable for general clinical description, it would seem to be even more suitable and promising for the comprehensive description of such complex conditions as that of the violent delinquent adolescent. In this case, in addition to general clinical concerns, other clearly important aspects are adaptive functioning and legal status.

Thus, the purpose of this report is to present a multiaxial diagnostic system specifically aimed at providing a comprehensive description of the condition of the violent delinquent adolescent.

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A Multiaxial Diagnostic System

A review of the literature on violent delinquent adolescents was conducted in search for variables with potential or demonstrated descriptive value (useful to efficiently organize clinical, adaptive functioning, and legal information and to contribute to the exploration of other key variables) and/or predictive value (useful to predict important aspects of course and outcome). On this basis, a multiaxial diagnostic model specifically addressed to the description of violent delinquent adolescents was developed and is proposed here.

Axis I. Psychiatric Syndromes

Psychopathological syndromes or symptomatology has been widely considered as central to the description of psychiatric patients, and consequently this aspect has been included in all reported multiaxial psychiatric diagnostic systems.[17,18,22–27] Given that clinical psychiatric characterization is considered a crucial element in the comprehensive characterization of violent delinquent adolescents, this aspect is included in the proposed multiaxial system.

Although this axis can be formulated and assessed according to various procedures, it seems preferable to use DSM-III Axis I (clinical psychiatric syndromes) as defined by explicit diagnostic criteria, given the standard status of this system.

Axis II. Personality and Specific Developmental Disorders

The concept of personality disorder is considered in several multiaxial psychiatric systems including Essen-Möller's "habitual abnormalities,"[22] Ottosson and Perris's "personality disturbances,"[24] and von Cranach's "personality disorder."[27] Likewise, the concept of specific developmental disorders is included in the system developed by Rutter *et al.*[18]

DSM-III[17] encompasses both personality and specific developmental disorders in its Axis II, and given its wide application, it seems the preferable format to assess this aspect in the proposed multiaxial system.

Axis III. Physical Disorders

This axis corresponds to nonpsychiatric medical disorders that are either relevant to the causation of the behavioral disorder or need to be considered in the treatment plan. This axis is considered in most of the multiaxial psychiatric systems proposed to date including those of Essen-Möller,[22] Wing,[23] Rutter *et al.*,[18] Strauss,[26] and DSM-III.[17]

In the proposed multiaxial system, physical disorders are formulated according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM).[28]

Axis IV. Severity of Psychosocial Stressors

Environmental and psychosocial factors have been included in some multiaxial systems developed for general psychiatric patients, as reflected in Rutter *et al.*'s[18] "abnormal psychosocial situations," Strauss's[26] "environmental stresses," and DSM-III's "severity of psychosocial stressors."

Although considerable problems have been noted in the assessment of psychosocial stressors, many clinicians seem to consider this a very important area for comprehensive psychiatric diagnosis.

The procedure used for assessing this axis in the multiaxial system presented here involves first identifying specific stressors to which the subject has been exposed in the past year and then rating the overall stress severity according to DSM-III's 7-point scale from none (1) to catastrophic (7).

Axis V. Adaptive Functioning

The consideration of social functioning and performance of expected roles has been a distinct American contribution in the history of multiaxial psychiatric systems. First, Strauss[26] proposed the formal assessment of current work functioning and personal relations. Later DSM-III[17] considered highest level of adaptive functioning (occupational performance, social relations, and use of leisure time) during the past year. The assessment of current functioning seems to have mainly management value, and highest level of functioning in the past year mainly prognostic value. The importance of adaptive functioning is not restricted to general psychiatric patients, as it is also apparent for the assessment of juveniles, especially if functioning with legal authorities is included.

Adaptive functioning is assessed in the present multiaxial system taking into consideration school/work performance and functioning with family, with peers, and with legal authorities; and it is formulated in terms of both highest level in the past year and current functioning. In each case, a 7-point scale (from 1=superior to 7= grossly impaired) is used.

Axis VI. Intelligence Level

This provides a description of the individual's current level of general intellectual functioning. It corresponds to the third axis of Rutter *et al.*'s[18] multiaxial system for child psychiatric disorders. The importance of intellectual level in criminal behavior was studied by Hirschi and Hindeland,[29] who reported that IQ had an effect on delinquency independent of social class and race, with the less intelligent individuals being more likely to be delinquent. Moffitt *et al.*[30] recently confirmed this relationship in two longitudinal studies in which intelligence was assessed years before criminal behavior occurred. Furthermore, McGarvey *et al.*[31] studied the interrelationships among rearing, socioeconomic class, intellectual performance, and criminal behavior and found that intellectual performance appeared to mediate the relationship between socioeconomic class and criminality.

Intelligence level is assessed in the multiaxial system presented here using either the WISC-R or the WAIS-R, according to the individual's age.

Axis VII. Social Class

The paramount importance of social class in the comprehensive assessment of general psychiatric patients was documented by Strauss *et al.*[32] in a study of first admissions for functional psychiatric disorder, which showed that social class correlated with a larger number of clinical characteristics

than did symptom and functioning measures. More specifically on delinquent adolescents, the study by Wolfgang *et al.*[6] found that social class was the background variable having the second highest correlation with offender status. Also, the longitudinal Cambridge Study on Delinquent Development[33,34] found a high correlation between low family income and delinquency. Furthermore, Douglas *et al.*[35] and Wadsworth,[36] through their National Survey of Health and Development, found that social class differences existed in regard to overall incidence of offenses, recidivists' age at first offense, and types of offenses committed.

Social class is assessed in the present multiaxial system according to the Hollingshead scale,[37] which is based on the occupation and education of the head of household.

Axis VIII. Index of Mental Illness and Criminality in the Family

Support for the inclusion of this axis is provided by Glueck and Glueck's study[38] that found that parents of male delinquents, compared to controls, manifested more severe psychopathology, criminality, and alcoholism. Also, Lewis and Balla[39] found that serious criminality in the parents and psychiatric treatment of the fathers were associated with significantly younger age at first juvenile court appearance of their delinquent offspring. Offord *et al.*[14] compared 59 families with delinquent daughters with 59 families with non-delinquent daughters and found that parental mental illness played a significant part in such distinction, particularly when mental illness was associated with a broken home. Robins,[40] in her study on deviant children grown up, found that both broken homes and parental mental illness and criminality contributed to the determination of both age at first offense and severity of offense.

This aspect is evaluated in the proposed multiaxial system in terms of the proportion of members of the subject's nuclear family presenting a history of criminality and/or psychiatric disorders.

Axis IX. Chronicity of Legal History

The importance of this factor has been documented by Hamparian *et al.*[15] in their longitudinal study of violent delinquent adolescents in Columbus, Ohio. Five year birth cohorts (1956-60) were selected because they included individuals who would have completed their delinquent careers as juveniles in 1977. They found that the delinquent adolescents who committed very violent offenses tended to start their delinquent careers at an age younger than 13. Also, Wolfang *et al.*[6] found that chronic offenders, defined as those committing five or more violations, constituted one third of the subjects, were responsible for nearly 45 percent of all crimes against the person and continued committing offenses after their 18th birthdays. They also found that, regarding age of onset, those individuals whose contacts with the police began when they were 6 to 12 years old, tended to commit a large number of offenses of very serious nature before they reached 18 years of age.

In the present multiaxial system, chronicity of legal history is assessed in

terms of (A) age at first offense, and (B) recidivism or number of delinquent adjudications, each involving one or more offenses.

Axis X. Magnitude of Offenses

In addition to their chronicity or time frame, consideration of the number and severity of the offenses seems to be an important component of their characterization. Hamparian *et al.*[15] documented this point through their longitudinal study of violent delinquent adolescents.

In the proposed multiaxial system, severity of offenses is assessed in terms of (A) number of offenses in lifetime committed either at the same time or at separate times, and (B) severity of the most serious offense as measured with Coombs' scale.[41]

Comment

The multiaxial diagnostic system proposed for violent delinquent adolescents attempts to provide a comprehensive description of the condition of these individuals in which not only psychiatric disorders are considered but also the individual's level of intelligence, adaptive functioning, legal status, and familial background. The identification and conceptual differentiation of important aspects of the condition of the violent juveniles allows the opportunity to separately rate and study the various aspects involved. Furthermore, the model provides the possibility of implementing an interdisciplinary and holistic approach to the conceptualization of this condition.

The comprehensiveness of the information provided in the model should enhance a more complete solution and rational planning of treatment and rehabilitation interventions for the juvenile. Also, it should facilitate the formulation of a prognosis for the juvenile in terms of clinical, adaptive functioning, and legal outcomes.

Because of the enumeration of key informational aspects presented on the multiaxial model, it may be helpful as a guideline for the assessment of the violent juveniles, and therefore it has a potential educational role. Pertaining to research, the demarcation of the various components of the condition at hand may facilitate the study of specific biological and psychosocial factors underlying them.

In due course, the systematic consideration of clinical, adaptive functioning, and legal aspects included in the model may lead to and facilitate the development and evaluation of more differentiated mental health treatment, placement, and vocational training programs for this complex population.

Empirical research on the various components of the proposed multiaxial system should clarify their worth and point out adjustments required in the model to improve its usefulness to meet the needs of violent delinquent adolescents and the objectives of the clinical and legal professionals working with them.

References

1. Lewis DO and Shanok SS: Delinquency and the schizophrenic spectrum of disorders. J Am Acad Child Psychiatry 17:263-276, 1978
2. Lewis DO, Shanok SS, Pincus JH & Glaser GH: Violent juvenile delinquents. J Am Acad Child Psychiatry 18:307-319, 1979
3. Mednick SA & Hutchings B: Genetic and psychophysiological factors in asocial behavior. J Am Acad Child Psychiatry 17:209-223, 1978
4. Murray CA: The link between learning disabilities and juvenile delinquency: Current theory and knowledge. Washington, D.C.: U.S. Government Printing Office, 1976
5. Keilitz I, Zaremba BA & Broder PK: The link between learning disabilities and juvenile delinquency: some issues and answers. Learning Disability Quarterly 2:2-11, 1979
6. Wolfgang ME, Figlio RN & Sellin T: Delinquency in a Birth Cohort. Chicago: The University of Chicago Press, 1972
7. Landau B: The adolescent female offender: Our dilemma. Canadian Journal of Criminology and Corrections, 17:146-153, 1975
8. Elliott FA: Neurological factors in violent behavior. In Sadoff RL (Ed.), Violence and Responsibility, New York: Sp. Medical & Scientific Books, 1978
9. Pincus JH & Tucker G: Violence in children and adults. J Am Acad Child Psychiatry 17:277-288, 1978
10. Saccuzzo DP & Lewandowski DG: The WISC as a diagnostic tool. J Clin Psychol 32:115-124, 1976
11. Robins LN & Ratcliff KS: Risk factors in the continuation of childhood antisocial behavior into adulthood. Int J Ment Health 1:96-116, 1979
12. Wadsworth MEJ: Delinquency prediction and its issues: the experience of a 21-year follow-up study. Int J Ment Health 7:43-62, 1979
13. Bagley C, Jacobson S & Palmer C: Social structure and the ecological distribution of mental illness, suicide and delinquency. Psychol Med 3:1977-1978, 1973
14. Offord DR, Abrams N, Allen N & Poushinsky M: Broken homes, parental psychiatric illness, and female delinquency. Am J Orthopsychiatry 49:252-264, 1979
15. Hamparian DM, Schuster R, Dinitz S & Conrad JP: The Violent Few, A study of Dangerous Juvenile Offenders. Lexington, D.E., Heath and Co., 1978
16. Essen-Möller E and Wohlfahrt S: Suggestions for the amendment of the official Swedish classification of mental disorders. Acta Psychiatr Scand [Suppl], 47:551-555, 1947
17. American Psychiatric Association—Task Force on Nomenclature and Statistics: Diagnostic and Statistical Manual of Mental Disorders (3rd Ed.) (DSM-III), Washington, D.C., 1980
18. Rutter ML, Shaffer D & Sturge C: A Guide to a Multi-Axial Classification Scheme for Psychiatric Disorders in Childhood and Adolescence. London: Institute of Psychiatry, 1975
19. Rutter ML, Lebovici S, Eisenberg L: A tri-axial classification of mental disorders in childhood. J Child Psychol Psychiatry 10:41-61, 1969
20. Tseng W, McDermott J Jr: Tri-axial family classification. J Am Acad Child Psychiatry 18:22-43, 1979
21. Tarjan G, Tizard J, Rutter M: Classification and mental retardation: Issues arising in the fifth WHO Seminar of Psychiatric Diagnoses, Classification and Statistics. Am J Psychiatry 128 (Suppl.): 34, 1972
22. Essen-Möller E: Suggestions for further improvement of the international classification of mental disorders. Psychol Med 1:308-311, 1971
23. Wing L: Observations on the psychiatric section of the International Classification of Diseases and the British Glossary of Mental Disorders. Psychol Med 1:79-85, 1970
24. Ottosson JO and Perris C: Multidimensional classification of mental disorders. Psychol Med 3:238-243, 1973
25. Helmchen H: Schizophrenia. Diagnostic concepts in the ICD-8. In Lader, M.H. (Ed.) Studies in schizophrenia. Br J Psychiatry, Special Publication No. 10:10-18, 1975
26. Strauss JS: A comprehensive approach to psychiatric diagnosis. Am J Psychiatry 132:1193-1197, 1975
27. Von Cranach M: Categorical vs. multiaxial classification. Paper presented at the VI World Congress of Psychiatry, Honolulu, Hawaii, 1977
28. Commission on Professional and Hospital Activities: The International Classification of Diseases, 9th Revision, Clinical Modification. Michigan, Commission on Professional and Hospital Activities, 1978
29. Hirschi T & Hindeland MJ: Intelligence and delinquency: a revisionist review. Am Sociol Rev 42:571-587, 1977
30. Moffitt TE, Gabrielli WF, Mednick SA & Schulsinger F: Socioeconomic status, IQ and delinquency. J Abnorm Psychol 90:152-156, 1981
31. McGarvey B, Bentler PM, Gabrielli WF & Mednick SA: Rearing social class, education, and criminality: A multiple indicator model. J Abnorm Psychol 90:354-364, 1981

32. Strauss JS, Kokes RF, Ritzler BA, Harder DW & VanOrd A: Patterns of disorder in first admission psychiatric patients. J Nerv Ment Dis 166:611-623, 1978
33. West DJ: Who becomes delinquent? London: Heineman, 1973
34. West DJ & Farrington DP: The Delinquent Way of Life. New York: Crane Russok, 1977
35. Douglas R, Ross J, Hammond W, et al: Delinquency and social class. Br J Crim 6:294-302, 1966
36. Wadsworth M: Delinquency in a national sample of children. Br J Crim 15:167-174, 1975
37. Hollingshead AB: Two factor index of social position. Unpublished manuscript, Yale University, 1957
38. Glueck S, Glueck E: Unraveling Juvenile Delinquency. New York: The Commonwealth Fund, 1950
39. Lewis DO & Balla DA: Delinquency and Psychopathology, New York: Grune and Stratton, 1976
40. Robins LN: Deviant children grown up. Baltimore: Williams & Wilkins, 1966
41. Coombs CH: Thurstone measurement of social values revisited forty years later. J Pers Soc Psychol 6:85-92, 1967 □