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Personality Traits in Juvenile Maladjustment

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ABSTRACT: The aim of this study was to establish the role of some personality traits, measured by psychological tests, in minors and adolescents experiencing problems in their social integration. We studied 189 subjects (110 male, 79 female) ranging in age from 11 to 18 years. All the subjects were from centers under the administration of the juvenile court of Murcia, Spain. Each subject underwent individual clinical psychological examination as well as psychometric and psychological studies. Our results show a statistically significant association between the scores on some of the tests used and variables related to familial and social maladjustment. These personality traits define a set of individuals with a characteristic profile, for whom unfavorable biographical events have made integration in, and adaptation to, the established social milieu difficult.

KEYWORDS: psychiatry, human behavior, juvenile delinquency, jurisprudence

The principal criminological theories underline the importance of individual personality traits in the genesis of social maladjustment. Criminological classification thus requires the use of psychological tests to formulate a prognosis, albeit with certain reservations, of an individual's dangerousness.

Without entering into the controversy of whether there is a personality profile that predisposes a person toward maladaptive behavior, the development of personality, together with a number of sociofamilial and cultural factors, undoubtedly influences the appearance of criminal behavior. Familial conflict can lead to maturational problems and can limit a person's ability to adapt to the environment.

In the present study, the authors investigated adolescents and children—that is, persons who are still in the process of psychosocial maturation and hence highly vulnerable to numerous biographical and environmental factors, as difficult to define precisely as they are to predict. In practical terms, we attempted to determine whether certain personality traits were significantly associated with juvenile maladjustment and whether these traits could be used in the individual diagnosis and treatment of maladaptive behaviors. We must note, however, the difficulties encountered in attempting to systematize and standardize personality traits in a sample of minors and adolescents, who are still maturing under the influence of a large number of different variables. Our goal was to establish the role of some personality traits—measured by psychological tests—in minors and adolescents experiencing problems in their social integration.

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Material and Methods

We studied a total of 189 subjects (110 male and 79 female) ranging in age from 11 to 18 years inclusive [mean age, 13.50; standard deviation, (SD) 0.09 years]. All the subjects were from centers under the administration of the juvenile court of the province of Murcia, Spain.

Each of the subjects underwent individual clinical psychological examination as well as psychometric and psychobiological studies. Information was obtained on the school background, history of maladjusted behavior, patterns of drug use, and sociofamilial background. A series of psychological and psychometric tests was administered to each subject. The Eysenck Personality Inventory (EPI-QJ) evaluates three dimensions of personality (neuroticism, extroversion, and psychoticism) and also includes a sincerity scale [1]. The State-Trait Anxiety Inventory (STAI), developed by Spielberger et al. [2], includes separate scales of self-evaluation for measuring anxiety state and anxiety trait. The Culture Fair Intelligence Test by Cattell and Cattell [3] is a useful instrument for assessing individual intelligence. This test is composed of perceptive elements designed to reduce the effects of verbal fluency in the measurement of pure intelligence.

The Attention-Perception Test of Toulouse and Piéron [4] was provided by TEA Ediciones S.A., Madrid, Spain. Described in 1911 by Toulouse and Piéron in their studies of experimental psychology, it consists of 1600 small pictures arranged in 40 rows. One fourth of the pictures (10 in each row) are identical to each of the models shown at the top of the page. The subject's task is to mark in 10 min all those pictures that match the model indicated by the tester. This instrument is of use in assessing resistance to fatigue, speed, and persistence of perception and concentration.

The Gibson Spiral Maze Test (Gibson's test) [5] was first used in 1964 [6]. It consists of a 235-cm-long spiral maze drawn in thick black lines. The route contains obstacles (small circles) at various points, and the variables are counted as the number of errors made and the time needed to complete the test. Gibson's test is a psychomotor instrument designed to evaluate speed, precision, and other general features of muscular expression in response to a controlled stimulus.

The examination concluded with an individual assessment, carried out independently by two tutors, of various areas of behavior (impulsiveness, peer sociability, conflict, and overall behavior during confinement). Statistical treatment of the data was performed using the following BMDP programs (biomedical computer programs): simple analysis of frequencies, association between variables, multivariate analysis, and discriminant analysis.

Results

The analysis of sociofamilial variables in our sample showed our subjects to be minors and adolescents from poor families beset with serious family problems. Among these families, 53.4% had five or more children. Of the adolescents interviewed, 28.6% had a background of parental separation and 48.1% mentioned family conflicts, the most frequent being physical abuse.

Regarding the history of social maladjustment, 41.1% of these adolescents had appeared in juvenile court on a previous occasion.

The scores obtained on the EPI-QJ, Toulouse-Piéron, and Gibson's tests are shown in Tables 1, 2, 3a, and 3b, respectively. Of our subjects, 56.7% had an intelligence quotient (IQ) of less than 80. Variables demonstrating a statistically significant association with scores on psychological tests, as shown by the chi-square test, are presented in Table 4.

Our evaluations of behavioral areas revealed high levels of impulsivity in 56.1% of the subjects, conflict in 34.4%, and uncooperativeness in 32.8%. The statistically significant

TABLE 1—*Eysenck Personality Inventory (EPI-QJ) percentiles.*

Percentile	Extroversion		Neuroticism		Psychoticism	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
1–25	80	42.1	67	35.4	40	21.1
26–49	39	20.7	30	15.9	27	14.3
50–54	16	8.5	12	6.4	16	8.5
55–75	42	22.3	44	23.2	20	10.6
>75	11	5.8	35	18.5	85	44.9
No answer	1	0.5	1	0.5	1	0.5
Total	189	100.0	189	100.0	189	100.0

associations between the subject's behavioral patterns and other variables are summarized in Table 5.

The anxiety scores fell within a range compatible with normality. Of our sample, 59% scored below the 47th percentile, although high scores were obtained for the anxiety trait, 57.4% placing above the 55th percentile.

The correlation matrix (Table 6) includes data for the 29 minors placed in protection and rehabilitation centers. In this table, only variables relating to the test scores, criminal background, sociofamilial background, and behavior during confinement are included. This matrix shows a statistically significant correlation between the test scores and social maladjustment, and between the test scores and the general conduct (begging, a number of arrests, a previous juvenile court record, alcohol consumption, and escapes from centers of confinement) and behavior during confinement.

For the discriminant analysis we chose "begging" as the grouping variable (Table 7). The variables that allowed us to classify individuals on the basis of the groups established were the following: variables related to social maladjustment (a previous juvenile court record, running away from home, the age at which the subject first consumed inhalants, and the age of first appearance in juvenile court), antecedents of parental separation, the individual's age, and scores on the Attention-Perception and Gibson's tests and on the STAI.

In the discriminant analysis presented in Table 8, we used the "pattern of impulsivity-reflexivity" as the grouping variable and found that assessment of behavior, the age at which the subject started smoking, the STAI score, attention-perception score, IQ measured by the Cattell and Cattell test, and drug use associated with maladaptive behavior were the variables that best classified subjects as very reflexive, reflexive, impulsive, or very impulsive.

TABLE 2—*Toulouse-Piéron Attention-Perception Test scores.*

Score	<i>N</i>	%
≤60	74	39.1
61–120	67	35.5
121–180	39	20.5
181–220	6	3.0
>220	2	1.0
No answer	1	0.5
Total	189	100.0

TABLE 3a—Gibson's Test—the numbers of errors.

Number of Errors	Number of Subjects	%
0-4	32	17.0
5-10	63	33.3
11-16	41	21.7
17-25	32	17.0
26-30	3	1.5
>30	18	9.5

TABLE 3b—Gibson's Test—the times.

Time, s	Number of Subjects	%
0-35	33	17.5
36-45	59	31.3
46-55	56	29.6
>55	41	21.6

TABLE 4—Relationships between the test scores and other variables.

Association	χ^2	Degrees of Freedom	Probability
Neuroticism/parental separation	6.13	2	0.046
Neuroticism/previous juvenile court record	15.76	4	0.003
Extroversion/running away from the home	6.25	2	0.043
Extroversion/running away from the center	11.17	2	0.003
Psychoticism/begging	6.31	2	0.042
Psychoticism/conflictive behavior at school	13.93	2	0.000
State anxiety/conflictive behavior at school	6.05	2	0.048
State anxiety/parental separation	6.73	2	0.034
Trait anxiety/parental separation	6.42	2	0.040
Trait anxiety/conflictive behavior at school	9.51	2	0.008
Trait anxiety/previous juvenile court record	10.97	4	0.026
Gibson errors/conflictive behavior at school	10.34	2	0.005
Gibson time/main causes leading to confinement	9.38	3	0.024

TABLE 5—Relationships between the subject's behavior (by assessment of the tutors) and other variables.

Association	χ^2	Degrees of Freedom	Probability
Impulsiveness/family conflict	13.17	5	0.021
Impulsiveness/parental separation	7.91	3	0.047
Impulsiveness/conflictive behavior at school	20.52	3	0.000
Impulsiveness/previous juvenile court record	12.92	3	0.004
Conflict/conflictive behavior at school	25.79	3	0.000

TABLE 6—Correlation matrix for the 189 subjects studied.

	Sex	Age	Begging	Parental Separation	Alcohol Inhalant	Previous Juvenile Court Record	Number of Arrests	Neuroticism	Extroversion	State Anxiety	Trait Anxiety	Toulouse-Piéron	Gibson Errors	Gibson Time	IQ	Impulsiveness	
Sex	1.000																
Age	-	1.000															
Begging	-	-	1.000														
Parental separation	-	-	-0.298	1.000													
Alcohol Inhalant	0.433	-	0.465	-	1.000												
Previous juvenile court record	-	-	-0.338	-	-0.507	1.000											
Number of arrests	-	-	-	-	-	-	1.000										
Neuroticism	0.270	-	-	-	0.368	0.260	-	1.000									
Extroversion	-0.478	-0.301	-	-0.350	-0.288	-	-	-	1.000								
State anxiety	0.337	0.395	-	0.275	-	-	-	0.680	-0.385	1.000							
Trait anxiety	0.473	-	0.245	-	0.352	-	-	-	-0.251	0.534	1.000						
Toulouse-Piéron	-0.244	0.329	0.349	-	-0.254	-	-	-	-	-	-	1.000					
Gibson errors	-	-0.261	-	-	0.250	-	-0.285	-	-	-0.324	-0.311	-	1.000				
Gibson time	-	-	0.374	-	-	-	-	0.238	-	0.325	0.445	-0.331	-0.639	1.000			
IQ	-	0.306	0.299	0.280	0.328	-	-0.474	0.289	-	-	-	0.348	-	-	1.000		
Impulsiveness	0.332	0.308	-	0.262	0.274	-	-	-	-0.468	-	0.271	-0.308	-	0.312	0.308	1.000	

TABLE 7—Summary of the discriminant analysis data with "begging" as the grouping variable.

Variable Entered	Variable Removed	F Value	Approximate F Statistic	Degrees of Freedom
Previous juvenile court record		31.19	31.19	1.00 187.00
Running away from home		12.70	22.92	2.00 186.00
Toulouse-Piéron		7.28	18.22	3.00 185.00
Age of the time of first arrest		5.85	15.49	4.00 184.00
Age of consumption of inhalant		6.30	14.01	5.00 183.00
Parental separation		7.02	13.24	6.00 182.00
Age		7.37	12.79	7.00 181.00
State anxiety		5.50	12.16	8.00 180.00
Trait anxiety	Toulouse-Piéron	3.96	13.11	7.00 181.00
Gibson errors		4.81	12.32	8.00 180.00
		4.76	11.71	9.00 179.00

TABLE 8—Summary of the discriminant analysis data with "pattern of impulsivity-reflexivity" as the grouping variable.

Variable Entered	F Value	Approximate F Statistic	Degrees of Freedom	
Assessment of behavior	107.88	107.88	1.00	187.00
Age of consumption of tobacco	16.37	66.56	2.00	186.00
Conflictivity	16.26	53.44	3.00	185.00
Trait anxiety	5.07	42.23	4.00	184.00
Toulouse-Piéron	4.13	35.18	5.00	183.00
IQ	5.58	30.99	6.00	182.00
Drug use and criminal behaviour	4.55	27.73	7.00	181.00

Discussion

Before we discuss our results, one should recall that any intense, prolonged aggression by environmental factors against the individual will have a destabilizing effect on personality development, leading to the appearance of anomalous traits which, in turn, will create or potentiate existing problems of social adjustment and integration. It is therefore not possible to speak of a linear cause-and-effect relationship. The results of the discriminant analysis are clear enough to make detailed commentary superfluous. In our sample, begging is associated with a set of variables which, to a great extent, summarize the factors at work in juvenile maladjustment: family problems, such as antecedents of parental separation and running away from home; development of maladaptive behavior patterns, reflected in the number of appearances before the juvenile court; and the age at which inhalants were first consumed. The relationship between these variables reflects a highly significant statistical association between a set of variables that define social maladjustment and personality traits such as impulsivity, anxiety, and attention-perception. These individuals encounter problems in integrating reality and in modulating their responses to the environment.

Many studies that have related juvenile maladjustment to an intelligence deficit [7-10] may correctly identify part of the problem in a subpopulation who, owing to developmental and maturational problems, attained scores lower than they might have in a more favorable environment. However, we should be wary of generalizations from this model.

In the most problematic individuals, IQ was directly related to a number of personality variables, including neuroticism, impulsivity, and the Toulouse-Piéron test score, a finding which suggests that subjects of greater intellectual ability were able to analyze their environment more accurately and showed higher levels of anxiety over their milieu, with a higher prevalence of maladaptive behaviors, especially escape from the center of confinement and use of psychoactive substances. The IQ was inversely related to the number of arrests. By showing these behaviors, minors and adolescents are expressing their rejection of the environment, where deviant behavior is the most effective means of obtaining immediate gratification. This, in turn, favors psychosocial maladjustment in a society that does not meet the juvenile's expectations, and in a culture that does not fit the individual's scale of values.

Our entire sample showed a high prevalence of anxiety, with values near the top of the scale (28.4% were above the 75th percentile). In consonance with this finding were the results for the variables of psychoticism and neuroticism, as measured by the EPI-QJ. Earlier studies have documented that anxiety is a common trait in institutionalized juvenile delinquents. We believe anxiety is a response to a hostile environment and that, together with a strong tendency toward impulsivity, it increases the likelihood of inap-

propriate responses, thus creating a spiral of maladjustment wherein the subject's analysis of reality, defined by a high IQ and attentive-perceptive capacity, may reinforce the individual's rejection of the "rules" of socially acceptable behavior, especially in subjects with unfavorable antecedents.

As the association between variables shows, there was a statistically significant association between the scores on some of the tests used and the variables related to familial and social maladjustment. These personality traits define a set of individuals with a characteristic profile, for whom unfavorable biographical events have made integration in and adaptation to the established milieu difficult [11–15]. In this connection, Le Blanc and colleagues [16] proposed a theory, based on the postulates of Hirschi [17], that social maladjustment develops in association with weakness in the mechanism of behavior control. This failure of the control mechanism can be formulated in terms of the tenuous links with society, the development of psychosocial functioning, and insufficient social constraints. The failure of one component of behavior control leads, directly or indirectly, to a process of alienation and difficulties in adapting to the adolescent role.

As noted in an earlier study by two of the authors of this paper [18], we believe that social maladjustment is the result of a complex group of factors, among which individual personality plays a predominant role and in which an unfavorable biographical and social background are determining factors.

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References

- [1] Eysenck, H. J. and Eysenck, S. B. G., *Manual of the Eysenck Personality Questionnaire (Junior & Adult)*, Hodder and Stoughton, London, 1975.
- [2] Spielberger, C. D., Gorsuch, R. L., and Lushene, R. E., *STAI: Manual for the State-Trait Anxiety Inventory (Self Evaluation Questionnaire)*, Consulting Psychologists Press, Palo Alto, CA, 1970.
- [3] Cattell, R. B. and Cattell, A. K. S., *Measuring Intelligence with the Culture Fair Tests*, Institute for Personality and Ability Testing, Champaign, IL, 1973.
- [4] Toulouse, E. and Piéron, H., *Techniques de Psychologie Experimentale*, Editions du Centre de Psychologie Appliquee, Paris, 1911.
- [5] Gibson, H. B., *Manual of the Spiral Maze*, Hodder and Stoughton, London, 1965.
- [6] Gibson, H. B., "The Spiral Maze: A Psychomotor Test with Implications for the Study of Delinquency," *British Journal of Psychology*, Vol. 54, No. 2, 1964, pp. 219–225.
- [7] Kashani, J. H., Horwitz, E., and Daniel, A. E., "Diagnostic Classification of 120 Delinquent Boys," *Bulletin of the American Academy of Psychiatry and Law*, Vol. 10, 1982, pp. 51–60.
- [8] Yeudall, L. T., Fromm-Auch, D., and Davies, P., "Neuropsychological Impairment of Persistent Delinquency," *Journal of Nervous and Mental Diseases*, Vol. 171, 1982, pp. 257–265.
- [9] Tarter, R. E., Hegedus, A. M., Alterman, A. I., and Katz Garris, L., "Cognitive Capacities of Juvenile Violent, Non-violent and Sexual Offenders," *Journal of Nervous and Mental Diseases*, Vol. 171, 1983, pp. 564–567.
- [10] Ouston, J., "Delinquency, Family Background and Educational Attainment," *British Journal of Criminology*, Vol. 24, 1984, pp. 2–26.
- [11] Howard, R. C., Fenton, G. W., and Fenwick, P. B. C., "The Contingent Negative Variation, Personality and Antisocial Behavior," *British Journal of Psychiatry*, Vol. 144, 1984, pp. 463–474.
- [12] Moffit, T. E. and Silva, P. A., "Self-Reported Delinquency, Neuropsychological Deficit, and History of Attention Deficit Disorder," *Journal of Abnormal Child Psychology*, Vol. 16, 1988, pp. 553–369.
- [13] Morrison, D., Mantzicopoulos, P., and Carte, E., "Preacademic Screening for Learning and Behavior Problems," *Journal of the American Academy of Child and Adolescent Psychiatry*, Vol. 28, 1989, pp. 101–106.

- [14] Osuna, E. and Luna, A., "Impulsivity and Attention-Perception Features in Relation to Juvenile Delinquency," *Journal of Forensic Sciences*, Vol. 34, No. 5, Sept. 1989, pp. 1235-1245.
- [15] Osuna, E. and Luna, A., "Behavior at School and Social Maladjustment," *Journal of Forensic Sciences*, Vol. 34, No. 5, Sept. 1989, pp. 1230-1234.
- [16] Le Blanc, M., Quimet, M., and Tremblay, R. E., "An Integrative Control Theory of Delinquent Behavior: A Validation, 1976-1985." *Psychiatry*, Vol. 51, 1988, pp. 164-176.
- [17] Hirschi, T., *Causes of Delinquency*, University of California Press, Berkeley, CA, 1969.
- [18] Osuna, E. and Luna, A., "Family Conflictivity and Social Maladjustment," *Medicine and the Law*, Vol. 7, 1988, pp. 371-376.

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