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## Discriminating Deliberate Self-Harm (DSH) in Young Prison Inmates Through Personality Disorder

**ABSTRACT:** This study investigated deliberate self-harm (DSH) in young inmates. The objectives are twofold: first, to identify the social and clinical characteristics of inmates who commit DSH; and secondly, to ascertain the types of personality who are vulnerable in order to be able to predict future inmates who may harm themselves. A cross-sectional design was used to study psychosocial correctional personality characteristics and clinical pictures in inmates with DSH versus a control group without DSH. The measures used to evaluate different variables were a standard protocol and a self-report questionnaire (MCMI-II). Although the two groups compared are homogeneous and similar in terms of different psychosocial variables, inmates with DSH presented a significant background of maltreatment. Borderline, passive-aggressive, and antisocial personality disorders best discriminated both groups.

The detection of borderline, negativistic, and antisocial disorders may help the medical services of penitentiary centers to predict youths with a possible risk of DSH. Despite the results obtained, longitudinal studies are needed to help clarify other risk factors, as well as other risk factors leading to self-harm behavior.

**KEYWORDS:** forensic science, personality, deliberate self-harm, prison

Episodes of deliberate self-harm (DSH) are a problem in the clinical and penitentiary setting and are difficult to predict. In the opinion of Isacson and Rich (1), DSH is defined as any act by an individual with the intent of harming himself physically and that may result in some harm. The behavior is diverse and includes the intake of foreign liquids or bodies, overdose, self-stabbing with sharp objects or weapons, wounding in the arms and abdomen, and blows with different degrees of severity that comprise a continuum ranging from minor lesions to mutilation and hospital admission. The reasons for these episodes vary. DSH is a dysfunctional way of handling stress and attempting change.

The period of greatest risk is the juvenile phase, since according to some results (2) in young male inmates, episodes of DSH are on the increase. DSH episodes beginning in adolescence may coincide with certain personality disorders and appear with more frequency in youth as a reflection of the complexity of this period of development. In the correctional population, such behavior is not uncommon. In Catalonia (Spain) in 1998, a total of 71 episodes of DSH were recorded at the Penitentiary Center for Young People of Barcelona. Ninety-four percent were minor self-inflicted lesions, while 6% were major lesions (3). DSH occurs in associa-

tion with various mental disorders, including personality disorders (4,5). Episodes of DSH appear frequently among antisocial youths in correctional settings (1). In DSH inmates it is regarded as a risk factor for suicide attempts (6–8).

The aim of this research is twofold: first, to compare social and penitentiary characteristics, personality disorders, and clinical symptomatology in inmates with one or more episodes of DSH versus a control group of inmates with no record of DSH; second, to identify personality disorders that best discriminate the two groups so as to predict future self-harm in young inmates.

### Methods

#### Subjects

The selection of subjects was done through a search of consecutive cases in the Penitentiary Center for Young People of Barcelona (Spain). Twenty-six subjects were identified with one or more episodes of DSH. DSH was defined as *injurious acts upon one's own body without the apparent intent to kill* (1,6). All nonfatal DSH episodes were included and recognized by the medical services of the Penitentiary Center with a desire to self-wound but without suicidal tendencies. No subject in our study presented self-mutilation behavior. The methods used in DSH were wounds ( $n = 17$ ), intake of foreign liquid ( $n = 1$ ), intake of foreign body ( $n = 4$ ), overdose ( $n = 1$ ), and a combination of types ( $n = 3$ ).

The DSH sample was compared to 81 inmates who were in the penitentiary center with no DSH episode. In both groups, subjects who had been admitted to the psychiatric department were excluded. Moreover, subjects who lacked a sufficient level of comprehension to answer different questionnaires (severe learning disabilities, organic brain syndrome, and severe disturbance of mental state) were also excluded. The final sample for the questionnaires was 95 inmates, 80% ( $n = 76$ ) of whom included non-DSH inmates, with the remaining 20% ( $n = 19$ ) being DSH inmates.

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### Assessment

A standard protocol was used to collect data on psychosocial, penitentiary, and cognitive information from each inmate. The psychosocial characteristics collected were age, ethnic background, and a record of maltreatment in childhood. No distinction was made between physical or psychic ill treatment, abandonment, or negligence. Penitentiary characteristics included criminal record, current penal situation, and the number of disciplinary offenses. The criminal record was classified in three sections: first offenders, comprising those who had only been to prison once; repeat offenders, inmates with two prison terms; and, finally, persistent offenders who had spent more than two terms in prison. The current penal situation was classified as already sentenced inmates or inmates on remand. Disciplinary offenses refer to behavior punished in prison for failing to observe the rules and regulations of the penitentiary center. Cognitive characteristics included data on basic education and intelligence assessed by means of the Culture Fair Intelligence Test (9), second version, since it is a classic test in "culture-free" intelligence assessment and is supposedly not contaminated by formal school learning.

The data pertaining to episodes of DSH were collected from the computerized records of the emergency service of the medical department of the penitentiary center.

Personality disorders and clinical symptomatology were measured by the Millon Clinical Multiaxial Inventory II questionnaire (MCMI-II) (10). This questionnaire comprises 175 items grouped into different scales that evaluate personality disorders and others measuring clinical syndromes. This instrument was designed on the basis of theoretical and empirical considerations, and their scales coordinated with the DSM nosology, which makes it possible to discriminate persistent characteristics (traits) from other transitory ones (states).

The questionnaire was given individually to ensure that data collection was carried out with the utmost guarantee and rigor. The order of the tests was counterbalanced.

### Statistics

The data were analyzed by means of the Statistical Package for the Social Sciences (SPSS), version 10.0 for Windows. The Chi Square, Mann Whitney U-test, and Analysis of Variance (ANOVA) statistics were used for the first aim. For the second aim, the Stepwise Discriminant Analysis method was used. The level of significance proposed was  $p < 0.05$ .

### Results

#### Sample Description and Psychosocial Characteristics

Of a total of 107 male inmates, 26 (24%) had had one or more episodes of DSH, and the remaining 81 (76%) had had no episode. Age in this study ranged from 18 to 25 years old. The sample description is shown in Table 1.

No differences were found between the two groups in terms of age ( $U = 960.5$ ;  $p > 0.05$ ). Ethnic background did not discriminate between both groups ( $X^2 = 3.220$ ;  $p > 0.05$ ), although the group of DSH contained no Arabian or South American subjects. A background of maltreatment discriminated between both groups ( $X^2 = 3.982$ ;  $p < 0.05$ ).

Criminal record ( $X^2 = 3.014$ ;  $p > 0.05$ ) and the current penal situation ( $X^2 = 2.343$ ;  $p > 0.05$ ) did not discriminate between inmates with DSH and inmates without DSH episodes. Mean confinement time ( $U = 941.0$ ;  $p > 0.05$ ) did not discriminate between the groups. Youths with self-harm behavior presented a significantly greater number of disciplinary infringement ( $U = 941.0$ ;  $p < 0.05$ ).

No significant differences were found between both groups of inmates in intelligence ( $F = 0.020$ ;  $p > 0.05$ ) nor level of educational studies ( $X^2 = 1.236$ ;  $p > 0.05$ ).

#### Personality and Clinical Syndrome Differences between the Two Groups of Inmates

Significant differences were found in the scales of schizoid, avoidant, dependent, passive-aggressive, self-defeating, schizotypal,

TABLE 1—Psychosocial, penitentiaries, and cognitive characteristics of the two groups of inmates.

		Non-DSH	DSH	
Psychosocial Characteristics	Age	$M = 19.975$ $SD = 1.565$	$M = 19.615$ $SD = 1.022$	
	Ethnic			
	Caucasian	$N = 52$ (65%)	$N = 19$ (73%)	
	Gypsy	$N = 9$ (11%)	$N = 4$ (15%)	
	Mixed Caucasian and Gypsy	$N = 4$ (5%)	$N = 3$ (12%)	
	Arab	$N = 2$ (2%)	$N = 0$ (0%)	
	South American	$N = 4$ (5%)	$N = 0$ (0%)	
	Missing	$N = 10$ (12%)	$N = 0$ (0%)	
	Maltreatment			
	No	$N = 70$ (86%)	$N = 18$ (69%)	
	Yes	$N = 11$ (14%)	$N = 8$ (31%)	
Penitentiaries Characteristics	Criminal Records	First offender	$N = 53$ (66%)	$N = 16$ (61%)
		Repeat offender	$N = 17$ (21%)	$N = 3$ (12%)
		Persistent offender	$N = 9$ (11%)	$N = 6$ (23%)
		Missing	$N = 2$ (2%)	$N = 1$ (4%)
	Current Penal			
	Sentenced	$N = 46$ (57%)	$N = 10$ (38%)	
	On remand	$N = 34$ (42%)	$N = 15$ (58%)	
	Missing	$N = 1$ (1%)	$N = 1$ (4%)	
	Disciplinary Misdemeanor	$M = 1.974$ $SD = 2.616$	$M = 3.730$ $SD = 3.863$	
Cognitive Characteristics	Educational Studies	No	$N = 45$ (56%)	$N = 17$ (65%)
		Yes	$N = 30$ (37%)	$N = 7$ (27%)
		Missing	$N = 6$ (7%)	$N = 2$ (8%)
	Intelligence. Test Factor G.	$M = 28.89$ $SD = 4.69$	$M = 28.73$ $SD = 5.75$	

TABLE 2—Means, standard deviation, and ANOVA of MCMI-II.

	Non-DSH (n = 76)		DSH (n = 19)		F	p
	M	SD	M	SD		
<i>Personality Patterns</i>						
Schizoid*	19.88	7.07	25.05	8.08	7.669	0.007
Avoidant*	20.76	8.99	33.58	12.06	26.772	0.000
Dependent*	26.57	7.47	31.58	8.71	6.395	0.013
Histrionic	38.79	9.49	37.89	10.31	0.131	0.719
Narcissistic	43.92	10.33	44.11	10.19	0.005	0.945
Antisocial	44.05	14.20	42.21	14.20	0.256	0.614
Aggressive/sadistic	40.12	11.29	40.21	8.99	0.001	0.974
Compulsive	37.01	7.96	35.37	7.08	0.676	0.413
Negativistic*	34.64	12.97	45.68	14.25	10.582	0.002
Self defeating*	19.66	8.90	32.74	12.52	27.570	0.000
Schizotypal*	20.01	9.87	29.74	13.28	12.745	0.001
Borderline*	34.71	14.87	52.68	20.60	18.861	0.000
Paranoid	38.43	11.00	41.89	10.70	1.520	0.221
<i>Clinical Syndromes</i>						
Anxiety*	10.49	9.09	21.37	11.20	19.805	0.000
Somatoform*	15.22	8.17	25.16	10.29	20.172	0.000
Bipolar manic	30.21	9.42	31.05	10.17	0.117	0.732
Dysthymia*	13.28	9.84	31.79	18.37	36.290	0.000
Alcohol dependence*	25.034	8.60	30.21	11.02	4.892	0.029
Drug dependence	43.36	15.56	45.73	18.21	0.332	0.566
Thought disorder*	17.55	7.00	23.95	10.10	8.714	0.004
Major depression*	11.08	8.37	26.63	14.43	38.000	0.000
Delusional disorder	19.57	6.67	20.68	6.81	0.424	0.517

\*p < 0.05.

TABLE 3—Results of classification by borderline, negativistic, and antisocial personalities.

Real Inmates Groups		Predicted Inmates Groups	
		Non-DSH	DSH
Non-DSH	Non-DSH	75 (98.7%)	1 (1.3%)
	DSH	5 (26.3%)	14 (73.7%)

and borderline personality, and on the scales measuring symptomatology of anxiety, somatoform, dysthymia, alcohol dependence, thought disorder, and major depression, with higher mean scores for the group of youths with DSH episodes (Table 2).

*Risk Personality Disorders in Inmates with Episodes of DSH*

The second aim was for a forward stepwise procedure to be used to examine the set of variables that produces the best predictors in personality. Only the scales that measure personality were used, since the subjects were not evaluated following the DSH episode and since personality measurements have greater time stability (10). The discriminating function was significant (Wilks  $\lambda = 0.564$ ;  $X^2 = 52.363$ ;  $DF = 3$ ;  $p < 0.000$ ). This model explained 43.56% of the variance (canonical  $r = 0.44$ ) and is the percentage of prediction of DSH episodes by the discriminating variables. The scales accepted by the model to discriminate against both groups were borderline, passive-aggressive, and antisocial personality disorders. These three predictor variables were able to classify correctly 98.68% of the two groups (Table 3).

Because of the relatively small number of participants, splitting the sample into analysis and cross-validation sub-samples was not attempted. A U-method procedure was used, estimating the disc model computed, leaving one case out, and predicting this case

TABLE 4—Indexes of the predictive value.

(1) Sensitivity	74%
(2) Specificity	99%
(3) Positive Predictive Power	93%
(4) Negative Predictive Power	94%

NOTE: (1) Sensitivity is the percentage of DSH inmates who are classified as such by predictor variables. (2) Specificity is the percentage of non-DSH inmates who are identified by such predictors. (3) Positive predictive power is the percentage of inmates predicted to have DSH episodes who actually had these behaviors. (4) Negative predictive power is the percentage of inmates predicted to have no DSH episodes who actually did not have these behaviors.

with the estimated model for each subject. The internal validation revealed a correct classification of 92.6% of the inmates.

In order to assess the operational characteristics of our results, different indexes were calculated with regard to the predictive value of our findings. These indexes are shown in Table 4. The findings indicate that borderline, antisocial, and passive-aggressive personalities had a good specificity.

**Discussion**

*DSH Episodes and Psychosocial Characteristics*

Ethnic, cultural level, and intelligence did not discriminate young inmates with DSH episodes from the group of inmates without DSH episodes. A background of maltreatment in childhood as an indicator of family dysfunction discriminated the group of DSH inmates from the rest of the inmates. Other investigators have reported similar findings. DSH episodes in the general population are more frequent among young people with social fragmentation and family disruption (11).

Regarding penitentiary aspects, the mean incarceration time, criminal record, and penitentiary situation does not distinguish inmates with DSH from those without DSH episodes. The young inmates with DSH episodes presented a greater number of disciplinary offenses in prison. The greater frequency of disciplinary offenses between prisoners with DSH may be an indicator of external aggressiveness, concealed aggressiveness, or an indicator reflecting impulsiveness, poor adjustment to the penitentiary setting, and poor coping strategies in the face of different stress-inducing events characteristic of confinement.

*Clinical Symptomatology and DSH*

Young inmates with DSH episodes presented more clinical symptomatology on the scales measuring anxiety, somatoform, dysthymia, alcohol dependence, thought disorder, and major depression. The results are similar to those obtained by other investigators (12). In the opinion of Pattison and Kahan (6), anxiety, depression, and alcohol dependence are reported to be common concomitants of DSH. The results indicate greater prevalence of anxiety and depression among DSH inmates replicating previous findings in hospital patients. This is similar to the greater prevalence of thought disorder (4,13,14).

The results indicate a greater prevalence of alcohol dependence and low prevalence of drug dependence. These findings replicate those of Souminen et al. (6) and Haw et al. (14).

*Personality Disorder Risk*

Young inmates with DSH episodes presented greater prevalence of personality disorders. Schizoid, avoidant, dependent,

passive-aggressive, self-defeating, schizotypal, and borderline personality significantly differentiated both groups. Our results replicated those of other studies with hospital samples (4,5,14).

Through the borderline, passive-aggressive, and antisocial personalities of these two groups of inmates, 96.68% are correctly classified. These personality disorders are presented as the factors that best predict risk factors or vulnerability to DSH episodes during confinement. Our findings corroborated the idea held by several authors that the majority of self-injuries can be found in patients belonging to the borderline personality disorder (4,5,14). One of the diagnostic characteristics is recurring threats or acts of self-harm. Liebling (8) reported that inmates with DSH presented greater difficulties in their interpersonal relationships than the other inmates, reflected in borderline and passive-aggressive personality disorders. Haw et al. (14) and Schaffer et al. (15) concluded that subjects with DSH are more frequently diagnosed as borderline personality disorder cases. For Pattison and Kahan (6), violent and antisocial youth in institutional settings is a risk factor in DSH. The results corroborate the findings of Nordentoft and Rubin (16), who concluded that borderline and antisocial personality were the two disorders present in DSH.

#### *Implications for Practice and Future Studies*

The findings indicated that there are differences in personality disorders and clinical syndromes between DSH inmates and non-DSH inmates. An important gateway to DSH by inmates is to assess personality and clinical syndromes. Borderline, passive-aggressive, and antisocial personalities can predict future DSH in inmates. However, there are other factors that were not analyzed in this study, such as length of sentence, the reasons prompting the self-harm, or coping strategies. We did not compare the different types of self-harm nor compared inmates with a single DSH episode to those repeating these episodes due to the fact that the sample was small. Some studies have witnessed differences between subjects with a single episode of DSH and those presenting more than one. DSH repeaters present more passive coping strategies, more depressive symptoms (17), psychiatric record, disorders related to alcohol and drug abuse, antisocial personality, lack of social support, and criminal record (18–20).

The findings point to the need to replicate the study with longitudinal and prospective designs using specific measures and the need to study the interaction between DSH and adverse life circumstances in determining the risk of precipitants of DSH in the penitentiary setting with a view to adopting preventive and treatment measures.

While the management of DSH is a very difficult task because there is still considerable uncertainty as to which forms of psychosocial and physical treatment of patients are most effective (21), there is conclusive data on the treatment of DSH episodes. In their meta-analysis, Townsend et al. (22) concluded the efficacy of problem-solving treatment in DSH patients. Stevenson and Meares (23) and Raj et al. (24) provided data as to the efficacy of cognitive behavior therapy in the management of borderline patients and DSH patients.

Assessment of inmates at risk of DSH in correctional settings is difficult. However, in this study, the borderline, passive-aggressive, and antisocial personality disorders measured by the MCMI-II correctly classified DSH inmates with good specificity and sensitivity. Inmates who deliberately harm themselves should be assessed as comprehensively as possible, including these personality variables.

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