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# ANTISOCIAL BEHAVIOR – DIMENSION OR CATEGORY(IES)?[1]

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*Classificatory systems (DSM-IV, ICD-10) use different criteria for defining a rather common antisocial disorder, traditionally referred as psychopathy. Most empirical studies of this phenomenon use Cleckley's operational definition that was applied and amended in Hare's revised Psychopathy Checklist (PCL-R). In modern literature, the fact that there is less than a perfect correspondence between classificatory systems and Hare's PCL-R is often cited as an indication that antisocial behavior is not confined to a distinct category of people but is rather a continuous personality dimension. In order to further elucidate the nosology of antisocial behaviors, a Psychopathy Assessment Questionnaire (PAQ) based on Cleckley – Hare's criteria and consisting of 40 binary items was administered to 339 men (135 prisoners and 204 members of the general population). Four distinct clusters of respondents were identified by means of hierarchical cluster analysis: Psychopathic type (characterized by high positive scores on dimension of Unemotionality; Antisocial type (characterized by high positive scores on Social deviance dimension); Adapted type (characterized by negative scores on all dimensions); and Hyper-controlled type (characterized by extremely negative scores on dimension Social deviance accompanied with positive scores on Unemotionality dimension). Additional comparison with MMPI profiles which classified prison sample in two groups ("Psychopathic profiles" and "Non-Psychopathic profiles") shows that there is no expected compatibility between MMPI and PAQ. We conclude that Antisocial type can be treated as a distinct category, while Psychopathic type displays characteristics of dimensional distribution.*

***Key words:*** *psychopathy, antisocial personality disorder, cluster analysis*

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## INTRODUCTION

Current debate about categorial vs. dimensional approach to personality disorders conflicts juxtaposes medical and psychological models of psychopathology. Although there is an increasing number of empirical studies supporting the dimensional approach (Clark, 1999), some have argued that the two competing approaches should not be treated as conflicting theoretical paradigms, but rather as balancing aspects of psychology of individual differences (Loranger, 1999; Smederevac et al., 2005). Meehl (1999) criticized inflexible dimensional approach, stating that this sort of dogmatism originated from refusal to accept typologies that were formulated before the advance of multivariate quantitative revolution in psychology, and also from contemporary methodological domination of factor analysis and factor analysis-derived statistical procedures. The clash between the categorial and dimensional approach is best illustrated by difficulties encountered while operationalizing psychopathy, a traditional psychological construct.

Current characterizations of psychopathy have for the most part stemmed from Cleckley's description of "psychopathic personality" as defined by his 16 main criteria. Cleckley's criteria mostly referred to personality traits and typical behaviors such as impulsivity, impatience, insincerity, irresponsibility, inability to love, lack of guilt and shame, poor affectivity, lack of anxiety, etc. (Cleckley, 1976).

These criteria formed a starting point for the Hare's Psychopathy Checklist (PCL), the best known and the most widely used clinical questionnaire for assessment of psychopathy. Hare's list consists of original Cleckley's criteria, but also the criteria that were included following Hare's own research of the topic (Hare, 1970; Harpur et al., 1989). The list was revised in 1991 (Psychopathy Checklist – Revised, PCL-R; Hare, 2003). Factorial structure of PCL-R's 18 items is depicted in Table 1.

***Table 1. Structure of Hare's PCL – R***

| **Interpersonal/Affective** | | **Social Deviance** | |
|---|---|---|---|
| ***Interpersonal*** | ***Affective*** | ***Lifestyle*** | ***Antisocial*** |
| Glibness/ Superficial charm | Lack of remorse or guilt | Need for stimulation | Poor behavioral controls |
| Grandiose self-worth | Callous/ Lack of empathy | Parasitic lifestyle | Early behavioral problems |
| Pathological lying | Shallow affect | Impulsivity | Juvenile delinquency |
| Conning/Manipulative | Failure to accept responsibility for actions | Lack of realistic long-term goals | Revocation of condition, release |
| | | Irresponsibility | Criminal versatility |

Ensuing research has demonstrated that Hare's revised checklist consists of two highly correlated factors. The first entails personality traits and typical affective features. The second factor involves behavioral traits, antisocial and delinquent behavior, and a typical manner of interpersonal relationships and impulsivity (Harpur et al., 1989). In a recent refinement of his model Hare (2003) proposed a 4-factor solution (Table 1). Two psychopathic traits were not correlated with any factors: promiscuous sexual behavior and many short-term sexual relationships.

On the other hand, contemporary classification systems of mental disorders use different terminology for people with pronounced tendency for disrespect of socially established norms of conduct. DSM-IV (APA, 1994) uses the term Antisocial Personality Disorder (APD), while ICD-10 (WHO, 1992) uses the term Dissocial Personality Disorder (DPD). However, the difference among APD, DPD and Hare's psychopathy are not only terminological. DSM-IV defines APD as a pervasive pattern of disregard for, and violation of, the rights of others that begins in childhood and is diagnosed in early adolescence. APD is indicated by presence of at least three of the following characteristics: failures to confirm to social norms, deceitfulness, impulsivity, irritability, reckless disregard for safety self and others, consistent irresponsibility and lack of remorse. Each of these characteristics is behaviorally operationalized. For instance, deceitfulness is indicated by repeated lying, use of aliases, or conning others for personal profit or pleasure (Barlow & Durand, 1995).

Although rather similar to Cleckley-Hare's characteristics, criteria for APD – probably due to behavioral operationalization – are somewhat different from their original concept of psychopathy. Reducing original Cleckley-Hare's criteria only to those that can be objectively recorded (to behavioral manifestations of the disorder) had both theoretical and practical consequences. For instance, there are 3-5 times more prison mates who meet the APD criteria than those who meet Cleckley-Hare's criteria (50-80% vs. 15%, respectively; cf. Ogloff, 2006). This indicates that DSM-IV criteria place more emphasize on behavioral history of a patient than to his/hers personality traits that were traditionally associated with psychopathy.

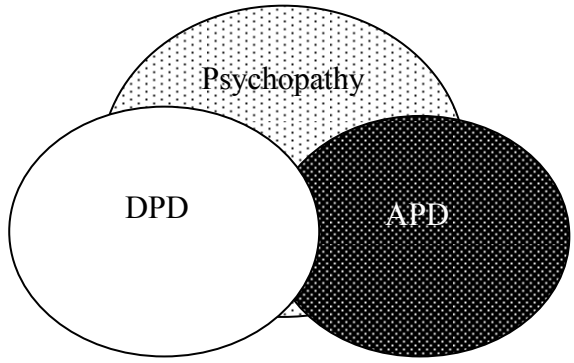
Direct comparison of APD with Cleckley-Hare's criteria shows that only one third of DSM-IV criteria correspond to interpersonal and affective factors. That is, most of DSM-IV criteria are closely related to manifestations of socially deviant behavior. In specific, only one APD symptom closely relates to Hare's affective dimension. Thus, many affective features of psychopathy (shallow affect, unconcern for the feelings of others and lack of guilt, remorse and empathy) are indeed omitted from DSM-IV classification (Ogloff, 2006).

ICD-10's Dissocial Personality Disorder (DPD) is more in line with Cleckely-Hare's concept of psychopathy. Defining criteria of DPD are: unconcern for the feelings of others, irresponsibility and disregard of social norms, incapacity to maintain enduring relationships, persistent irritability, very low frustration tolerance, blaming others and offering rationalizations for bringing him/her into conflict (WHO, 1992).

Thus, DPD is more closely related to traditional view of psychopathy. Nevertheless, none of the criteria from interpersonal relationships –the first of four

Hare's factors (Table 1) – is present in ICD-10. In the final analysis, correspondence between Cleckley-Hare's notion of psychopathy and DPD is not any better than the correspondence between Cleckley-Hare's notion of psychopathy and APD. There is only a one third overlap between DPL criteria and interpersonal/affective criteria of Cleckley and Hare (Figure 1); DPD places its emphasis on affective but not on interpersonal characteristics of the disorder. The discrepancy becomes even more obvious when one compares APD and DPD with Cleckely-Hare's characteristics of socially deviant behavior (Figure 1). ICD-10's definition of DPD consists of only 20% of life style characteristics and behavioral antisocial items (Ogloff, 2006).

***Figure 2. Relationship among classificatory attributes of Psychopathy, APD and DPD***




Therefore, we see that indeed there is not much overlap among disorders denotated by three different terms that are in current use. Notions of APD and DPD comprise fewer disorder characteristics and are consequently less diagnostically stringent. That is, Hare's criteria practically involve all pathological characteristics involved in APD and DPD in addition to some criteria that are unique to Hare's model. Precisely, irritability is the only ICD-10 symptom that was not included in Hare's criteria.

Practical implications of such theoretical disorder are not hard to predict. Outcomes of many empirical studies that were based on Hare's PCL-R cannot be directly generalized to APD and DPD. Also, epidemiological data on incidence of psychopathy in different populations and subpopulations vary far and wide, as was already illustrated by the data relating to the prison population above (Ogloff, 2006). There are numerous studies indicating that psychopathy and APD are genuinely diverse disorders, differing not only in symptoms, but also in terms of comorbidity with other personality disorders, inclinations to types of criminal activity, potential etiological factors and recommended treatments (Waren & South, 2006).

The existing terminological and conceptual disarray was largely responsible for the fact that APD, DPD and antisocial behavior in general are cited as an illustration of questionable definitions of disorder criteria and disorder borderlines in contempo-

rary clinical psychology. In spite of revolutionary turnaround that was brought about by categorial classification of mental disorders in the 1980's, the last three decades were marked by numerous suggestions coming from psychiatrists and clinical psychologists alike, that mental disorders should be subjected to dimensional approach not only relative to normality but also among themselves[3]. Blurred borderline between personality disorders and the similar, but less intense personality characteristics that are normally distributed in the general population, has encouraged dimensional approach to antisocial/dissocial/psychopathy disorder in the newest revisions of classificatory systems.

Indeed, there are dimensional models that conceptualize antisocial disorder as an extreme position along the dimension of normal behavior. Krueger's „dimensional-spectrum model", assumes not only the continuum between antisocial behavior and normality, but also antisocial behavior's connection with other externalizing behaviors such as drug abuse, impulsiveness, aggression and childhood behavioral disorders (Krueger et al., 2005). This theoretical model is based on empirical data on comorbidity (Armstrong & Costello, 2002, cf. Krueger et al., 2005), and the statistical analyses of phenotypic and biometric data indicating that all externalizing behavioral disorders share the same underlying dimension (Grove et al., 1990, cf. Krueger et al., 2005).

Numerous studies using taxometric procedures have confirmed dimensional nature of psychopathy (Marcus et al., 2008). Nevertheless, there were also studies reporting that psychopathy is distributed as taxon in different samples (Vasey et al., 2005).

There were fewer studies aimed at resolving categorial vs. dimensional nature of APD. Initial taxometric analysis of Hare's PCL-R has indicated the existence of a taxon. However, a more detailed analysis revealed that it only the second Hare's factor (antisocial behavior) contributed to taxon formation (Harris et al., 1994). Consequently, some authors assumed, and this assumption was later confirmed by others, that only APD, but not psychopathy is a taxon (Skilling et al., 2001; Skilling et al., 2002). Again, there were contradicting, although infrequent, reports on dimensional nature of APD (Marcus et al., 2008).

Such state of affairs led to conclusion that psychopathy is a pattern of personality characteristics which is normally distributed in the population, while APD is a distinct category, an independent entity. Thus, empirical studies have confirmed conjectures made by some of the most prominent authors in the field: that there are "successful psychopaths" among us who are not necessarily violent, and who do not display marked indications of antisocial behavior (Cleckley, 1976; Lykken, 1995).

Browsing through the literature, one cannot escape the impression that Hare's revised checklist is still the most frequently used psychodiagnostic tool. Its main

[3] Substantial portion of *Journal of Abnormal Psychology, Vol. 114(4)* in 2005 dealt with dimensional models of mental disorders and the arguments for or against their inclusion in the new, DSM-V classification.

shortcomings are, being an objective assessment scale, that it requires a skilled and well trained interviewer and collection of hetheroanamnestic data that are not always available. Therefore, its administration is often time consuming. In the last decade two self-descriptive scales for general population were developed and validated on student samples: Levenson's Psychopathy Scale (Levenson et al., 1995) and Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996).

Assuming that psychopathy is an equally interesting research topic whether one studies a normal or a clinical population, we have designed the Psychopathy self-assessment questionnaire (PAQ; Novović et al., 2006). We were primarily guided by Cleckley – Hare's criteria, as the most comprehensive. However, DSM-IV and ICD-10's operational definitions of APD and DPD, respectively, were also taken into account. The questionnaire was further refined following relevant psychometric analyses (Novović et al., 2007).

The main objective of this study was to determine whether PAQ can identify clusters of psychopaths in the general and/or prison population; and if so, whether the personality characteristics of these clusters will be similar enough so that we can conclude that psychopathy is a normally distributed dimension or whether the personality characteristics of these clusters will be dissimilar enough so that we can conclude that psychopathy is a separate category, disconnected from general population. By including the prison sample (assumed to consist of many people with antisocial personality disorders) we hoped to create favorable research conditions for distinguishing between psychopathy and antisocial personality disorder.

# METHODS

## Sample

There were a total of 339 male participants. One part of sample comprised 135 prisoners incarcerated in the county jail of Novi Sad, Serbia. Their average age was 32.09 years; 26% have completed elementary school, 61% have completed high school, while 13% had college education. Majority was sentenced for theft and embezzlement (32.6%), and the remainder was sentenced for robbery (25.2%), distribution of illegal drugs (20%), serious traffic violations (12.6%), and human trafficking (3.7%). A relatively small proportion (5.9%) of subjects were sentence-wise classified as 'others' since numerous types of their sentences could not be subsumed into any of the aforementioned categories.

The second part of the sample was composed of 204 men, drawn from the general population. They average age was 33.82 years; 6.2% have completed elementary school, 51.5% have completed high school while 42.4% had college education.

## Instruments

*Psychopathy Assessment Questionnaire* (PAQ; Novović, Gavrilov & Smederevac, 2006), consist of 40 items that are scored in a binary fashion (Yes or No; Appendix 1). This questionnaire was constructed in compliance with Cleckley – Hare's criteria for assessment of four dimensions of psychopathy. In the questionnaire, each Hare's dimension of psychopathy was operationalized with a subscale consisting of 10 items. Subscale *Interpersonal relationships* includes items corresponding with poor control of aggression, lack of scruples, callous belief in personal charm, and being manipulative. Subscale *Psychopathic affect* includes items of callousness/unemotionality, superficial affect and lack of empathy, guilt and remorse. Subscale *Life style* includes items indicating increased need for stimulation, irresponsibility, proneness to abuse of psychoactive drugs, etc. Subscale *Antisocial behavior* includes items that indicate physical aggression, clashes with law, childhood family problems and tendency for criminal behavior. Composite scores on each subscale were used in the ensuing statistical analysis. PAQ was administered to groups of respondents with the assurance that their anonymity will be protected and that the data will be used for research purposes only.

*MMPI Pd scale* and the total MMPI profile were used for the categorization of the prison male population in two categories: „Psychopathic profile" and „Non-psychopathic profile".

# RESULTS

Composite scores for each of 4 subscales of psychopathy were calculated by summing their 10 respective indicators. Descriptive statistics for 4 PAQ subscales were summarized in Table 1.

***Table 2. Descriptive statistics of 4 PAQ subscales***

| | Min | Max | M | SD | Skewness (SE) | Kurtosis (*SE*) |
|---|---|---|---|---|---|---|
| Interpersonal relationships | 10 | 20 | 14.19 | 2.54 | .450 (0.132) | -.598 (0.264) |
| Life style | 10 | 20 | 12.84 | 2.52 | .779 (0.132) | -.312 (0.264) |
| Antisocial behavior | 10 | 20 | 11.97 | 2.32 | 1.193 (0.132) | .661 (0.264) |
| Psychopathic affect | 10 | 20 | 15.05 | 2.28 | -.007 (0.132) | -.789 (0.264) |

*Note: Min = minimum; Max = maximum; M = mean; SD = standard deviation; Skewness = standardized coefficient of asymmetry of probability distribution; Kurtosis = standardized coefficient of elongation of probability distribution; SE = standard error*

In accordance to the prevailing criteria, skewness and kurtosis are well within acceptable range. Although only subscale *Psychopathic affect* closely approximated symmetrical distribution (Skewness = -0.007), other subscales were not significantly skewed from normal distribution. The skewness of distribution was rather pronounced on the subscale *Antisocial behavior,* as data were skewed towards the lower portion of the scale. This is the first fact that suggests categorical nature of the behavioral aspects of psychopathy.

In order to identify an optimal number of clusters, matrices of squared Euclidean distances between respondents' composite scores on four PAQ subscales were subjected to Ward's hierarchical cluster analysis (Statsoft, 2008). A 4-cluster solution was selected, following inspection of the dendogram and the anglomeration diagram. The data indicate that most of the respondents were grouped in the third cluster (Adapted type) while the group membership is more equally distributed among three remaining clusters (Table 3).

***Table 3. Number of respondents in different clusters***

| | Frequency | % |
|---|---|---|
| Psychopathic type | 50 | 14.75 |
| Antisocial type | 68 | 20.06 |
| Adapted type | 136 | 40.12 |
| Hyper-controlled type | 85 | 25.07 |
| Total | 339 | 100 |

Clusters were identified by means of canonical discriminative analysis; cluster membership was predicted by 4 composite scores on PAQ subscales. Clusters were named after examining the configuration of differences among them.

***Table 4. Characteristics and significance of discriminative functions***

| Func. | Eigen value | % variance | Canonical cor. | Wilks' lambda | Chi-square | df |
|---|---|---|---|---|---|---|
| 1 | 3.884 | 78.1 | .892 | .094 | 790.440* | 12 |
| 2 | .997 | 20.0 | .707 | .458 | 260.748* | 6 |
| 3 | .093 | 1.9 | .292 | .915 | 29.740* | 2 |

*p < 0.01

***Table 5. Structure of discriminative functions***

| | Function | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| Antisocial behavior | .746* | .286 | -.283 |
| Life style | .600* | .109 | -.242 |
| Psychopathic affect | -.219 | .956* | -.144 |
| Interpersonal relationships | .495* | .276 | .823* |

The first discriminative function, explaining 78.1% of variance, is significantly determined by subscales *Antisocial behavior* and *Life style* and somewhat by the subscale *Interpersonal relationships*. Extreme positions on both *Antisocial behavior* and *Life style* are signs of failure to confirm with social norms and point towards problems with impulsivity and behavior control, inclination for risk taking, and antisocial orientation accompanied with increased aggression, and manipulative behavior. Consequently, this discriminative function was named *Social deviance*.

The second discriminative function, explaining 20% of variance, is principally determined by *Psychopathic affect*. It involves indicators of cold blooded behavior and lack of empathy, guilt and remorse. Such emotional profile, in combination with susceptibility to socially deviant behavior puts one at great behavioral risks. Keeping in mind its dominant affective component, this discriminative function was named *Unemotionality*.

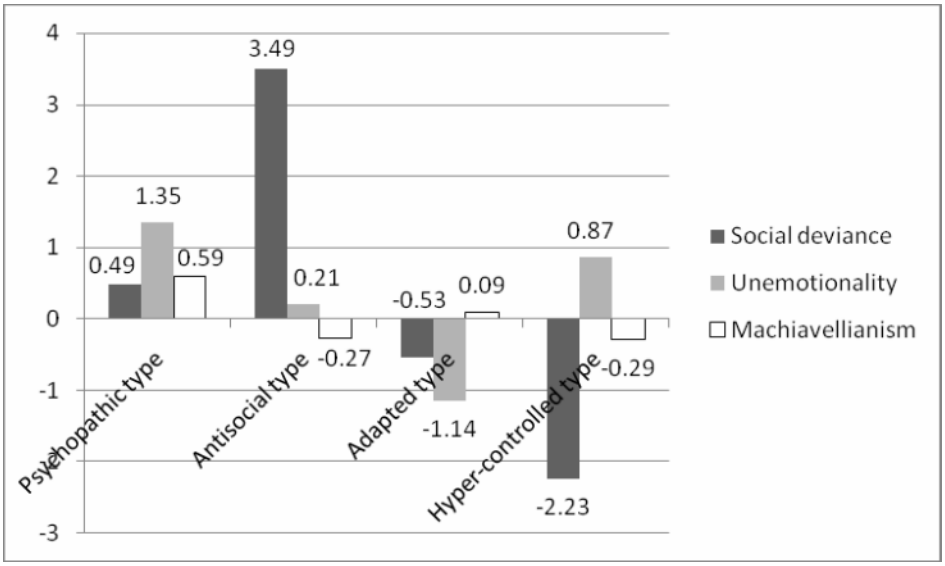
The third discriminative function, explaining only 1.9% of variance, is principally determined by *Interpersonal relationships* and its indicators: tendency for manipulative behavior, lack of scruples and superficial charm. It is interesting that contribution of 3 remaining PAQ subscales (*Antisocial behavior, Life style and Psychopathic affect*) although statistically non-significant, all have a negative sign. It may indicate that this discriminative function is dominated mostly by problems of interpersonal relationships and not by broader aspects of adaptation to social norms that was so prominent in the first discriminant function. Therefore, this function was named *Machiavellianism.*

Achieving high scores on all 3 discriminative functions was the prominent characteristic of respondents who were grouped in Cluster 1 (Figure 2). Those are people who display striking cold bloodedness, low empathy and lack of guilt feeling. This characteristic pattern may shape a basis for various forms of criminal, aggressive and risk-taking behaviors. Cluster 1 was named *Psychopathic type*. This type mostly corresponds to Hare's criteria for Psychopathy.

Cluster 2 consisted of participants who had extremely high scores on the first discriminant function (*Social deviance*), moderately high but positive scores on the second discriminative function (*Unemotionality*) and somewhat lower scores on the third discriminative function (*Machiavellianism*, Figure 2). This group of subjects is best described by their aggressive behavior, readiness to take risks and their

deficiency in conventional socialization. Cluster 2 was named *Antisocial type.* This type mostly corresponds to DSM criteria for APD.

***Figure 2. Group centroids***




Participants who were classified in Cluster 3 had low scores on two discriminative functions (*Social deviance* and *Unemotionality*) and average scores on *Machiavellianism* (Figure, 2). This cluster relates to people who do not show a patent inclination for display of antisocial behavior. Members of this group avoid risks, show empathy and have a strong feeling of guilt. Cluster 3 was named *Adapted type.*

Members of Cluster 4 had exceptionally low scores on the first discriminative function (*Social deviance*), somewhat lower than average scores on *Machiavellianism*. Their scores on discriminative function *Unemotionality* were higher than the average (Figure 2). This cluster is unique for its marked tendency to avoid conflicts, observation of conventional social norms of behavior, and affective stability. Although *Unemotionality* is one of the basic indicators of psychopathic affective profile, some degree of emotional stability is, nevertheless, an indicator of mental health. This cluster was named *Hyper-controlled type.*

*A posteriori* classification based on 3 discriminatory functions described above, yielded correct classification of 90.9%. The most precise *a posteriori* classification was classification of Cluster 4 membership (96.5%). The least precise, although very satisfactory, was classification of Cluster 1 membership (88%).

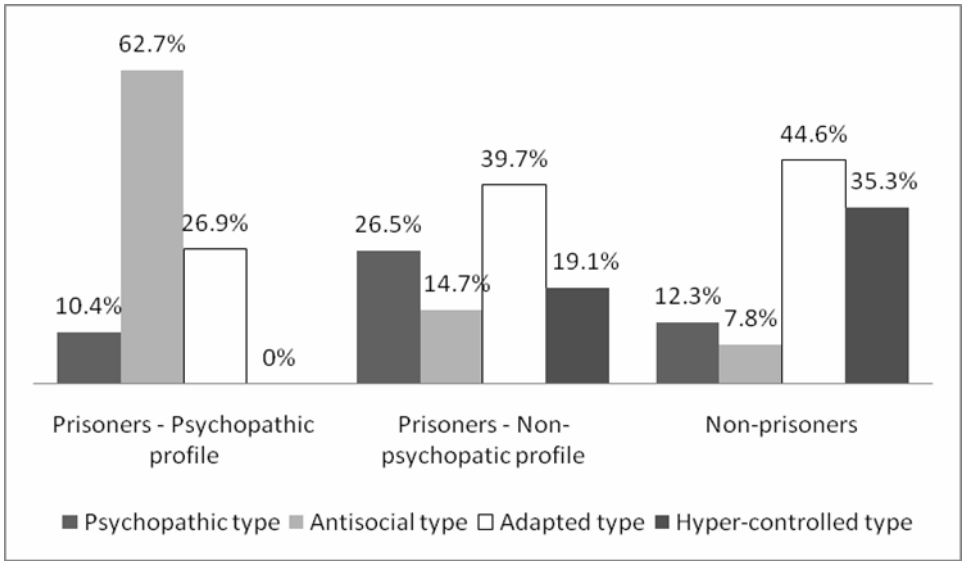
Table 3 reports that there were 14.75% respondents that were classified as Psychopathic type and 20% of respondents that were classified as *Antisocial type*.

These numbers may be high and unexpected for the general population but since 40% of our sample was recruited among prison inmates, these findings are not very surprising.

Although the very nature of our sample raised our expectations about the proportion of participants possessing psychopathic features, we were also aware that the subsample of prison inmates is by no means psychologically homogenous. Most previous studies using MMPI have reported expected incidence of "uncontrolled psychopaths" and "paranoid-aggressive personalities" but also substantial incidence of "hyper-controlled" and "normal" respondents among prison inmates sentenced for homicide (Megargee, 1966; Blackburn, 1971; McGurk, 1978). Using the same diagnostic tool, Biro et al. (1992) classified Serbian sample of prison inmates sentenced for homicide in 4 groups: „normal", „psychopathic", „hypersensitive-aggressive" and „psychotic".

In order to make a comparison of PAQ with MMPI, our prison subsample was divided into a group with "Psychopathic profiles" (n = 67) and a group of "Non-Psychopathic profiles" (n = 68). The two MMPI-defined groups of prison inmates were compared with classification based on Ward's hierarchical cluster analysis (Figure 3).

***Figure 3. Comparison of MMPI classification and results of cluster analyses***




The most prominent finding of this analysis is the high level of congruence (62.7%) between Cluster 2 (*Antisocial type*) and the MMPI diagnosis of psychopathy. However, the overlap between the MMPI diagnosis of psychopathy and the membership to Cluster 2 was far from perfect since Cluster 2 involved also 14.7% of prison inmates that were classified as "Non-Psychopaths" by means of

MMPI, as well as 7.8% of respondents from general population. Nevertheless, our finding is in line with the view that MMPI classification (predominantly based on scores from MMPI's Pd scale) is determined by clear behavioral manifestations of antisocial behaviors. On the other hand, the fact that as much as 26.9% prison inmates that were diagnosed as "Psychopaths" by MMPI were classified as *Adapted type* is explained by probable dissimulation.

It is also interesting that hierarchical cluster analysis of PAQ data presented above identified 26.5% prison inmates with clear indications of *Psychopathic type* that were classified as "Non-Psychopaths" by MMPI. As a reminder, those are cold blooded men with a reduced amount of guilt and remorse, possessing marked emotional stability which may predispose them for certain modes of criminal behaviors.

As expected, most respondents that were classified as *Adapted type* (44.6%) and *Hyper-controlled* type (35.3%) occur in the non-prison subsample.

## DISCUSSION

Data analysis, involving prison and non-prison sample of men, yielded 4 distinct clusters of participants. Interestingly, two of those clusters (*Psychopathic type* and *Antisocial type*) may actually characterize two different types of psychopathy. Thus, the focus of this study concentrated to the following question: Is there more than one type of psychopathic behavior? Well within the context of this disorder that is currently conceptualized in 3 different fashions (Psychopathy, APL and DPL), our data are in line with previous studies that have identified different subtypes of psychopaths. Recently, the literature reported two distinct types of the disorder that were named *Primary* and *Secondary psychopathy* (Hicks et al., 2004; Skeem et al., 2007). Primary psychopaths correspond to our Cluster 1 (*Psychopathic type*). Although obtaining high scores an all 4 PAQ subscales their emotional coldness displayed as lack of empathy, guilt and remorse is their principal characteristic. Primary psychopaths posses marked emotional deficit that deters development of close personal relationships. Charming and manipulating other people in order to gain some personal benefit is their main social strategy. Differently, secondary psychopaths, very much alike members of Cluster 2 (*Antisocial type*) are aggressive and impulsive, often with a history of criminal behavior. That is, primary psychopaths suffer a marked emotional deficit, while secondary psychopaths are best described by their socially deviant behavior. Thus, our findings are in compliance with predominant reports in the literature (Hicks et al., 2004; Newman et al., 2005; Skeem et al., 2007), since two groups of people manifesting psychopathic behavior are quite different with respect to their emotional and behavioral characteristics. Primary psychopaths are marked by their affective and not necessarily behavioral features; while secondary psychopaths are marked by their aggression, impulsivity and disrespect of social norms.

The two types of psychopathy are also in accordance with our introductory observation that different contemporary terms used for describing persons with antisocial tendencies may indeed refer to different disorders. Members of Cluster 2 (*Antisocial type*) due to their tendency to display behavioral features of the disorder are more similar to APD as defined by DSM-IV; while members of Cluster 1 (*Psychopathic type*) are more similar to Hare's definition which entails high scores on all four symptom categories. The fact that emotional deficiency is the single most prominent feature of Cluster 1 (Figure 2) makes the *Psychopathic type* somewhat more similar to DPD as defined by ICD-10. Therefore, our data support the notion that psychopathy (in a broader, Hare's sense) and APD (as defined by DSM-IV) are different, although overlapping, entities. On the other hand, our finding suggesting that there are at least two different subtypes of psychopathy is in disagreement with studies reporting only quantitative differences among psychopaths (Guay et al., 2007; Walters et al., 2007).

Cluster 3 and Cluster 4 were named *Adapted type* and *Hyper-controlled type*, respectively. Membership in those two categories delineates two variations in adaptation to social environment, with both categories dominated by socially acceptable forms of behavior. The most striking difference between Cluster 3 and Cluster 4 relates to *Unemotionality* which is more prominent among Cluster 4 members (*Hyper-controlled type*). The main difficulty with the operational definition of psychopathic affect that was used in PAQ is that it precludes clear distinction between emotional stability – by itself an indication of mental health – and emotional detachment – one of the basic indicators of psychopathic affect. Obviously, it is not easy to clearly operationalize psychopathic affect through disagreement with statements that describe one's emotional reactions.

Nevertheless, the blurred borderline between emotional deficit and emotional stability is not necessarily only an artifact, a mere side effect of the diagnostic tool. This blurred borderline between normality and personality disorder is exactly what proponents of dimensional approach have in mind.

The second important implication of our findings (reporting clusters of *Adapted* and *Hyper-controlled* participants) relates to the fact that numerous taxometric studies (using different models of personality as their starting points) have consistently reported that there are 3 basic types of personalities in the general population. Although there is no perfect match between personality patterns reported across the studies, the resemblance among reported personality patterns is sufficiently high to allow use of same cluster names across the studies. The 3 clusters reported in the literature were named „Resilient type", the „Undercontrolled type" and the Overcontrolled type (Asendorpf et al., 2001). There is an obvious correspondence between the *Antisocial type*, reported here, and the lack of control; between the *Adapted type,* reported here, and the "Resilient type"; and also between the *Hyper-controlled type*, reported here, and the 'Overcontrolled type'. It is quite interesting that an almost identical typology of personality has emerged from the PAQ data, a diagnostic tool that was not designed for assessment of basic personality traits.

Through hierarchical cluster analysis of PAQ, we have identified two clusters of people that can be closely related to traditional manifestations of psychopathy. However, this finding does not resolve the puzzle of taxonomic nature of psychopathy. This problem was somewhat elucidated by comparing PAQ-derived classification with MMPI profiles of "Psychopaths" and "Non-Psychopaths". Not surprisingly, we were able to identify a group of people among the prison inmates who match traditional psychopathic profile; although their relative incidence was somewhat higher than a very recent literature report of 15% (Ogloff, 2006). However, the fact that we have identified substantial number of people matching traditional definition of psychopathy outside of prison population (the incidence of 12.3% of *Psychopathic type* and 7.8% of *Antisocial type* among the general population) favors dimensional hypothesis of psychopathy. This finding may raise serious concern at the national level, since common population incidence of antisocial behavior is 3% for men and 1% for women (American Psychiatric Association, 1994, p. 648).

Of course, this huge discrepancy in incidence of psychopathy among Serbian men relative to their American counterparts may be explained through certain presumed cultural specifics of the Serbian sample. Serbian males may be more prone to describe themselves as cold blooded, brave, strong and aggressive 'macho types'. Evolutionary approach views many psychopathic behaviors, especially among men, as historically important for survival of the species (Harris et al., 2001). Courage, unemotionality and psychopathic lack of anxiety may indeed be very beneficial in war; its memory being so vivid in Serbia. In addition, male promiscuous behavior has a favorable reproductive outcome since it leads to fathering more children. Thus, psychopathic strategy in men has tangible reproductive advantages but only in populations not exceeding a critical (small) number of psychopaths (Harris et al., 2001). Therefore, it is quite possible that many members of general population of Serbian men have become adapted to present-day social challenges and requirements. This is supported by our previous report of a significant increase in MMPI Pd scale scores in the general population before and after the war in ex-Yugoslavia (Biro, 1995).

Finally, it is clear that this study has not resolved many ongoing queries of psychopathy research. Identifying a distinct cluster of psychopaths among the members of the general population may support the notion that psychopaths are an isolated and well-defined group within the general population. On the other hand, one can use the very same finding as an argument supporting the notion that there is a continuum between socially adapted and socially non-adapted behavior. Are there personality patterns among non-clinical population that slightly exaggerated qualify as personality disorders? Are stable and emotionally balanced people (including most of popular role models) only a little less aloof and merciless than common accused criminals? An old joke says that success is the only difference between a criminal and his lawyer.

At the end, it is important to underline that different combinations of behavioral and affective aspects of psychopathy may serve specific adaptive purposes; thus,

supporting a complementary view of dimensional and typological approach to the phenomenon.

Revisiting the question that was posed in the title of this paper, one can conclude that *Antisocial type*, defined through various behavioral indicators of poor control, is best conceived as an entity, a taxon and not like a dimension. On the other hand, cold affect and unemotionality, so prominent among the members of the *Psychopathic type,* is best conceived as a personality dimension that is normally distributed across population.

Consequently, it is very likely that the traditional concept of psychopathy does not relate to a singular phenomenon. The data presented here provide additional empirical evidence for existence of at least two subtypes of psychopathy, primary and secondary.

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## Appendix 1 – Items of the Psychopathy Assessment Questionnaire

| | |
|---|---|
| 1. | I charm people easily |
| 2. | I do mind getting orders from other people |
| 3. | I easily loose my temper |
| 4. | I am amused by intimidating other people |
| 5. | I had many sexual partners |
| 6. | My quarrels usually end up in a brawl |
| 7. | I easily break love relationships |
| 8. | I go back over my past and I think about everything that I have done |
| 9. | My conscience is absolutely clean |
| 10. | In my childhood, I was abused by the adults |
| 11. | I live a peaceful and secure life |
| 12. | It has happened that I loose my job because I was absent a lot |
| 13. | I have taken part in various criminal activities |
| 14. | I had several clashes with the law |
| 15. | I have taken many risks in my life just for fun |
| 16. | When I loose it, I am completely out of control |
| 17. | My parents are most responsible for all bad things that have happened to me |
| 18. | I am rather cold blooded |
| 19. | I consume alcohol since my early youth |
| 20. | Nothing can stop me from taking things that I want |
| 21. | I can take advantage of people easily |
| 22. | Force is the best way to deal with the stupid |
| 23. | I am easily upset when I see people suffer |
| 24. | I carefully plan how I am going to spend my money |
| 25. | I am often restless |
| 26. | I was expelled from school due to disciplinary problems |
| 27. | I am simply happy when I deceive some fool |
| 28. | Participating in some dangerous activity gives me a feeling that I am alive |
| 29. | I am ready to try different types of drugs |
| 30. | I am often bothered by guilt |
| 31. | It happens that I feel fretful when I see that somebody has become confused in some critical moments |
| 32. | I often get drunk |
| 33. | I like challenging situations even when they are dangerous |
| 34. | Some people simply want to become victims |
| 35. | I always pay back the money that I borrow |
| 36. | I always meet my deadlines |
| 37. | I tried drugs while I was very young |
| 38. | I easily become sentimental |
| 39. | I have assumed faked identities |
| 40. | I even had to come to blows with my family members |

(Subscales: Antisocial behavior – 6, 10, 11, 12, 13, 14, 17, 22, 26, 40; Life style – 5, 15, 19, 24, 29, 32, 33, 35, 36, 37; Psychopathic affect – 3, 7, 8, 9, 18, 23, 25, 30, 31, 38; Interpersonal relationships – 1, 2, 4, 16, 20, 21, 27, 28, 34, 39).

REZIME

## ANTISOCIJALNO PONAŠANJE – DIMENZIJA ILI KATEGORIJA(E)?

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U različitim dijagnostičkim klasifikatornim sistemima (DSM-IV, ICD-10) postoje različiti kriterijumi za antisocijalni poremećaj koji se uobičajeno naziva psihopatijom. Sa druge strane, u istraživanjima ovog fenomena najčešće se polazi od Kleklijevih kriterijuma (Cleckley, 1976) koji su dopunjeni i operacionalizovani u Harovoj ček listi (PCL; Hare, 2003), a koja se samo donekle preklapa sa pomenutim klasifikatornim kriterijumima. Sa treće strane, savremeni autori taksonometrijskih istraživanja antisocijalni poremećaj uzimaju kao primer koji pokazuje da se psihopatološke kategorije moraju posmatrati dimenzionalno, a ne kategorijalno. Koristeći *Upitnik za procenu psihopatije* (Novović i sar., 2006) koji se sastoji od 40 stavki (samoprocena) sa binarnim formatom odgovora, a koji je baziran na Klekli-Harovim kriterijumima, mi smo pokušali da ovim istraživanjem damo doprinos pitanju nozologije antisocijalnog poremećaja. Uzorak čini 339 ispitanika muškog pola. Jedna grupa obuhvata 135 zatvorenika Okružnog zatvora u Novom Sadu, a drugu grupu čini 204 ispitanika iz opšte populacije. Primenom hijerarhijske metode klaster analize, dobijena su četiri klastera koja su opisana i imenovana na osnovu Diskriminacione funkcionalne analize kao *Psihopatski tip* koji karakteriše pozitivan rezultat na dimenziji Bezosećajnost (baziranoj na subskali Psihopatski afekat Upitnika za procenu psihopatije), *Antisocijalni tip* koji karakteriše izrazito pozitivan rezultat na dimenziji Socijalna devijacija (baziranoj na subskalama Antisocijalno ponašanje i Životni stil), *Adaptirani tip* koji karakterišu negativni rezultati na svim dimenzijama i *Hiperkontrolisani tip* koji karakteriše izrazito negativni rezultat na dimenziji Socijalna devijacija, ali pozitivni na dimenziji Bezosećajnost. Dodatnom komparacijom sa MMPI klasifikacijom zatvorskog uzorka na one sa „Psihopatskim profilom" i one sa „Nepsihopatskim profilom", pokazalo se da je čak 62.7% zatvorenika sa psihopatskim MMPI profilom svrstano u *Antisocijalni tip*, ali i 4.7% zatvorenika sa nepsihopatskim MMPI profilom, kao i 7.8% uzorka iz opšte populacije, dok je u *Psihopatski tip* svrstano 10.4% zatvorenika sa psihopatskim MMPI profilom, 26.5% zatvorenika sa nepsihopatskim MMPI profilom i 12.3% uzorka iz opšte populacije. Zaključak autora je da rezultati idu u prilog tezi da se *Antisocijalni tip* može tretirati kao kategorija, a da *Psihopatski tip* pokazuje karakteristke dimenzionalne distribucije.

***Ključne reči:*** *psihopatija, antisocijalni poremećaj ličnosti, klaster analiza*

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