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The role of co-morbid personality pathology in predicting self-reported aggression in patients with schizophrenia

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Abstract

Background: Personality pathology affects behavioral patterns in patients with schizophrenia notwithstanding psychotic symptomatology. An investigation of the role of co-morbid personality pathology in the occurrence of aggression in schizophrenia is explored using both categorical and dimensional approaches to personality pathology.

Methods: In a cross-sectional study we evaluate, in 97 patients diagnosed with schizophrenia, the effect of personality pathology on the occurrence of aggression in schizophrenia using both a categorical approach, as described in DSM-IV-TR Axis II, and a dimensional approach, as operationalized in the Dimensional Assessment of Personality Pathology–Basic Questionnaire (DAPP-BQ). We also employ mediation analyses to explore the extent to which dimensions within the DAPP mediate the relationship between co-morbid personality disorders and aggression.

Results: Personality pathology accounts for aggression in schizophrenia. Both the categorical and the dimensional approaches equally well account for the occurrence of aggression, with each model accounting for 60% of the variance. Interestingly, the mediation analysis reveals that the association between categorically defined personality pathology and aggression is substantially mediated by the higher-order-trait dissocial behavior of the DAPP-BQ, accounting for 50.6 % of the total effect size.

Conclusion: Personality pathology can be a significant predictor of aggression in patients with schizophrenia. While both the categorical and the dimensional trait models of personality disorders equally explain the aggression data, much of the relationship between the categorically defined personality disorders and the occurrence of aggression in schizophrenia can be explained by the presence of dissocial behavior as operationalized in the DAPP-BQ dimensional model.

1. Introduction

Inherent in the concept of personality is the idea that personality and personality pathology can explain much of the variance observed in individual behavior [1]. Indeed, it has been demonstrated that personality disorders (PDs) are related to interpersonal problems and social dysfunction [2], as well as to enhanced aggression and violence [3]. This association is echoed, to some extent, within the framework of the vulnerability hypothesis [4], which states that certain personality traits predispose individuals to develop psychiatric conditions, including schizophrenia, and that these conditions are related to specific behavioral patterns including aggression.

A discussion of the occurrence and role of co-morbid personality pathology in schizophrenia [5–7], suggests that PDs affect not only the course and treatment of schizophrenia, but also behavioral outcomes such as aggression and violence. The perceived association between aggression and co-morbid PDs in schizophrenia is conceivably due to inherent difficulties—characteristic of PDs—in managing interpersonal relationships and stressors [8]. Indeed, there is some evidence, which suggests that co-morbid personality

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pathology accounts for the majority of the variance in aggressive and violent behavior in patients with schizophrenia [9,10]. However, the role of personality disorders in the occurrence of aggression schizophrenia is still largely an understudied topic, and thus a major goal of this paper is to explore this association. In understanding this association, however, it behoves us to take into consideration the way PDs are conceptualized, defined, categorized and thus operationalized. The predominant model of personality pathology is the DSM Axis II PD classification system. This system encompasses 10 categorically defined PDs that are polythetically assessed. However, this categorical approach has received major criticism from both researchers and clinicians [11,12], specifically for the lack of objective and empirical validated categories [13], and the little support offered by analytic studies for the A–C three-cluster solution inherent in the Axis II system [14,15]. Moreover, the categorical approach has been called into question due to the presence of excessive co-morbidity rates of PDs [16], arbitrary cut-off thresholds and diagnostic heterogeneity within disorders [17], obscurity regarding how the traits comprising the disorders are interrelated [11], and the qualitative segregation of the structure of normal and abnormal personality traits [18]. This view has been substantiated empirically, prompting the need for new and alternative ways to conceptualize PDs [19].

To address the shortcomings associated with the categorical approach to PDs, it has been suggested that dimensional personality classification measurements should replace or at least complement the current categorical classification system as described in DSM-IV-TR [19], and that future classification of personality pathology should aim at integrating both normal and abnormal personality traits [20]. The idea of introducing dimensional models to personality pathology, and integrating normal and abnormal personality traits in one classification system of PDs, stems from research suggesting that pathology is a variation of normal personality [19]. One such model that describes personality pathology in a dimensional framework is the Dimensional Assessment of Personality Pathology (DAPP) [21] that defines 18 primary traits that underlie clinical concepts of personality disorder. These basic traits, derived from 69 traits, form the basis of a self-report questionnaire, the Dimensional Assessment of Personality Pathology–Basic Questionnaire (DAPP-BQ). Factor analysis of these traits yields a four-factor solution, which includes emotional dysregulation, dissocial behavior, social avoidance and compulsiveness [22]. In this context, dimensional models of personality, which encapsulate more universal and basic traits of human personality, advocate that distinctive behaviors are best understood as variations within specific traits that mirror natural and fundamental domains of human personality, as opposed to variations in man-made categories [23]. Thus, it could be hypothesized that the association between PD and aggression is mediated by variations on more fundamental personality trait dimensions such as those included in the DAPP-BQ, formed very early in life (see Refs. [23–25]).

The current study has thus three main goals. First, it explores if co-morbid personality pathology, as measured by the total number of diagnoses as well as measured by the total number of PDs criteria [26,27], predicts aggression in schizophrenia. Moreover, notwithstanding the debate between categorical and dimensional approaches to PDs, studies have yet to demonstrate how categorical and dimensional conceptualization of personality pathology fair in predicting aggression in patients with schizophrenia. Hence, a second goal of the current study is to evaluate the utility of the categorical approach to the presence or absence of PDs as described in DSM-IV-TR, versus a dimensional approach as operationalized in the DAPP-BQ, in accounting for the occurrence of aggression in schizophrenia. Using mediation analyses, a third goal of the study is to explore the extent to which dimensions within the DAPP mediate the relationship between the categorical model of PD and the occurrence of aggression in patients with schizophrenia.

2. Methods

2.1. Participants

Ninety-seven patients meeting the ICD-10 diagnostic criteria for schizophrenia [28] were enrolled in the study. Patients were recruited from both forensic ($n=65$) and non-forensic ($n=32$) settings. Socio-demographic characteristics of the participants are listed in Table 1.

2.2. Measures

The Mini-International Neuropsychiatric Interview (*M.I.N.I.*) [29] is a validated structured interview designed

Table 1
Socio-demographic characteristics.

Demographics	All ($N=97$)
Age (years)	
Mean (SD)	36.8 (11.0)
Range	18–64
Gender	
Male	79 (81.4%)
Female	18 (18.6%)
Ethnicity	
Danish	84 (86.6%)
Immigrant	9 (9.3%)
Descendent	4 (4.1%)
Educational level	
Not finished primary and secondary school	24 (24.7%)
Completed primary and secondary school	41 (42.3%)
Complete High school	7 (7.2%)
Completed higher education (3>years)	25 (25.8%)
Employment	
Employed	6 (6.2%)
Unemployed	10 (10.3%)
Disability pension	81 (83.5%)