

## Review Article

# Co-Occurring Antisocial and Borderline Personality Disorders: A Single Syndrome?

Richard C. Howard\*

Institute of Mental Health, University of Nottingham, UK

## \*Corresponding author

Richard C. Howard, Institute of Mental Health, University of Nottingham, Nerobergstrasse 22, Wiesbaden, Germany, Tel: 49 611 527264; Email: richard.howard@nottingham.ac.uk

Submitted: 04 October 2017

Accepted: 16 November 2017

Published: 18 November 2017

Copyright © 2017 Howard

ISSN: 2374-0124

OPEN ACCESS

**Abstract**

It has been proposed that antisocial/borderline personality disorder (PD) might, for the purposes of classification, etiology and treatment, be considered as a single syndrome. This paper examines recent evidence relating to the epidemiology, presentation and treatment of patients with antisocial/borderline PD comorbidity. Viewed through the lens of the recently proposed Hierarchical Taxonomy of Psychopathology (HiTOP), antisocial/borderline comorbidity can be seen as due to associations between broad liability factors - internalizing, thought disorder, disinhibited externalizing and antagonistic externalizing - rather than to disorder-specific associations. An affirmative answer to the question of whether antisocial/borderline comorbidity represents a single syndrome needs to be qualified by a recognition that the syndrome extends beyond the limits of antisocial, borderline and other comorbid PDs; it encompasses other psychiatric disorders such as childhood conduct disorder, intermittent explosive disorder and substance abuse. Results of two recent treatment trials offer hope that patients presenting with antisocial/borderline comorbidity may be treatable, although further treatment trials with seriously violent offenders will be required to justify this initial optimism. It is suggested that treatments should focus on broad liability factors rather than on specific disorders.

**Keywords**

- Personality disorder
- Comorbidity
- Antisocial
- Borderline
- HiTOP

**ABBREVIATIONS**

HiTOP: Hierarchical Taxonomy of Psychopathology

**INTRODUCTION**

Personality disorders (PDs) are typified by relatively enduring, inflexible, and pervasive disturbances in how individuals experience and interpret themselves, others, and the world around them. They are typically organized into 3 clusters: the odd and eccentric (Cluster A, comprising paranoid, schizoid and schizotypal PDs), dramatic and emotional (Cluster B, comprising antisocial, borderline, histrionic and narcissistic PDs), and anxious and fearful (Cluster C, comprising avoidant, dependent and obsessive-compulsive PDs). Dissatisfaction with these categories on account of their high overlap, their heterogeneous nature, and their poorly defined boundaries has given rise to an analysis of psychopathology in terms of levels within an overall hierarchical organization, e.g. [1]. The co-occurrence of more than one PD in the same individual is more often the rule than the exception [2] and this is especially true among forensic psychiatric patients. As reviewed in the following section ('Epidemiology'), the prevalence of antisocial/borderline comorbidity varies according to the nature of the sample studied, being especially high in forensic samples characterized by a high degree of dangerousness. Evidence suggests that individuals showing this particular constellation of maladaptive personality

traits represent a class of severely disordered offenders who should not only be of special concern to correctional practitioners, but also represent a severe challenge to treatment efforts aimed at reducing the risk of violence.

Two important features of this pattern of comorbidity should be noted. First, both forensic psychiatric patients [3] and community resident patients [4] presenting with antisocial/borderline comorbidity have been found to show a greater degree of PD comorbidity, that is, a greater number of co-occurring PDs across all three PD clusters. This raises the question of whether there is something unique to antisocial/borderline comorbidity that is not accounted for by a common liability to all PDs. In addressing this question, Chun et al., suggested: "it may be more parsimonious to combine BPD (borderline PD) and AAB (adult antisocial behavior) into a single syndrome in diagnostic classification systems as well as studies of etiology and treatment" [5]. The position taken here is that, in the context of the recently described hierarchical model of psychopathology (HiTOP) [1], antisocial/borderline comorbidity is a marker for overall psychopathology [6] and that the greater the severity and range of maladaptive personality traits, the greater the level of p.

Secondly, despite the above-mentioned (and oft-stated) stability of PDs, PD symptoms are known to be quite variable, both from day to day [7] and across years of follow-up (e.g. [8]). In the latter study, borderline PD patients with more severe personality

pathology, i.e. a greater co-occurrence of PDs across Clusters B and C, showed less remission of symptoms over time compared with those who showed less severe pathology. Therefore patients with antisocial/borderline comorbidity may show maladaptive personality traits that are more pervasive and stable across time, and this greater temporal stability of PD symptoms might, in part, account for their severe and intractable nature. However, recent evidence, reviewed below, is optimistic in suggesting that patients having this comorbidity may not be resistant to treatment, particularly if this targets psychopathology across several spectra.

### **Epidemiology: Prevalence and risk factors**

While the prevalence of both antisocial PD and borderline PD is high in criminal populations [9], and is especially high in those who have committed serious violent and sexual offences [10], how frequently they co-occur (their comorbidity) depends on the degree of dangerousness of the sample studied, occurring most frequently in samples detained in high security. Among female and male prisoners who met criteria for 'dangerous and severe personality disorder' in the UK Prison Cohort Study [11], the prevalence was 77% and 62% respectively. Among a sample of male patients with PD detained in medium/high security, the prevalence was 44% [3]. In a Finnish sample of male violent alcoholic offenders, the prevalence was 28% [12]. In a sample of men and women admitted for assessment to a medium-secure correctional facility in the United States, the prevalence was 16% and 24% respectively [13]. Among a Swedish sample of 109 male offenders on probation or parole and residing in the community, the prevalence of antisocial/borderline PD comorbidity was 18% [14]. High rates of PD were also found among an incarcerated youth sample in the United States, of whom some 16% showed antisocial/borderline PD comorbidity [15]. These prevalence figures for forensic samples contrast with much lower figures obtained in non-forensic community samples, for example in PD patients living in the community (9% of both men and women: [16]) and in community-resident men and women studied in the British Household Survey (0.3%: [17]).

Results from Norwegian twin studies indicate that antisocial and borderline PDs share risk factors in common, over and above risk factors common to all Cluster B PDs [18]. Over half of the comorbidity between antisocial and borderline PD could be accounted for by shared genetic factors [19].

Recent evidence suggests that an early child behavior checklist dysregulation profile reflects a temperamental vulnerability that gives rise to personality pathology when children grow older [20]. Early dysregulation at age 10 predicted later externalizing related traits, namely hostility, risk taking, deceitfulness and callousness. Evidence further indicated that an early childhood dysregulation profile was associated with the later emergence of both antisocial and borderline PD features, suggesting antisocial/borderline comorbidity might result from an early temperamental vulnerability.

### **Features, course, and resulting problems**

Among forensic psychiatric patients, antisocial and borderline PDs frequently co-occur in a 'devastating combination' [21] that

represents 'a very particular constellation of abnormalities of mental state with a wide range of disorderly conduct' [22]. Several lines of evidence suggest that individuals with antisocial/borderline comorbidity are at greater risk of offending. First, following their release into the community they are more likely to re-offend [12] and to re-offend more quickly [23] compared with offenders who lack these features. Second, they are more likely to have been violent in their criminal careers and to show a higher degree of PD severity, indexed by the overall degree of PD comorbidity [3]. Lastly, they are more likely than those with antisocial or borderline PD alone to show a history of severe childhood conduct disorder [4], itself a predisposing factor for adult antisocial behaviour [24] and criminal violence [25,26]. A composite risk measure combining severe childhood conduct disorder with severe borderline PD and substance dependence was found to significantly predict reoffending in PD patients following their release from medium security into the community [23].

In their review of PD comorbidity, Trull et al. [2], suggested, as a possible explanation for PD comorbidity, that one PD (e.g. either antisocial or borderline) might cause or lead to the other. Consistent with this, evidence suggests that a synergy might exist between severe borderline PD symptoms and symptoms of antisocial PD. First, a study [27] comparing patients and offenders presenting with antisocial/borderline comorbidity with those diagnosed with BPD alone found greater severity of borderline symptoms in those with the comorbidity. In other words, those showing antisocial and borderline pathology in combination were more likely to be at the severe end of the borderline PD symptom spectrum. Second, in a study [28] of criminal justice involvement in patients receiving residential treatment for substance abuse, those showing greater severity of borderline PD symptoms also showed a greater number of antisocial PD symptoms, i.e. they showed more severe antisociality. In this study criminal justice involvement was more strongly related to antisocial PD than to borderline PD. Hence it is possible that severe borderline symptomatology engenders more severe antisociality, which then drives the association with criminal justice involvement.

Gender differences and commonalities across borderline and antisocial PDs were examined in a sample of male and female patients admitted to a residential drug-treatment facility in the United States [5]. Of this sample, 10% met criteria for both adult antisocial syndrome (AAS: adult criteria for antisocial PD) and borderline PD, the proportion being higher in women (13.5%) than in men (7.6%). Results of the authors' bi-factor model strongly supported the notion that a common underlying vulnerability accounts for the comorbidity between borderline PD and antisocial PD, and that this vulnerability drives the association with substance use problems. Importantly, however, in addition to this common core, disorder-specific factors were uncovered for both borderline PD and AAS. In the case of borderline PD this specific factor comprised feelings of emptiness and cognitive disturbance, while in AAS it comprised a lack of socialization or conformity to rules. The authors suggested that it might be possible to think of these disorder-specific features as ones that 'color' the expression of borderline PD and AAS, and possibly account for sex differences in the respective disorders (borderline PD more prevalent in females, antisocial PD more

prevalent in males). Notably, Chun et al. [5], found that the AAS-specific factor was associated both with being male and with younger age of onset of drug and alcohol use, suggesting that the male route from early disordered conduct to adult antisocial behavior may be via early-onset drug and alcohol use, as suggested in [29]. As noted above in the Introduction, Chun et al., suggested on the basis of their results that adult antisocial syndrome and borderline PD might be considered a single syndrome for the purposes of PD classification, aetiology and treatment. However, at least two pieces of evidence suggest that if antisocial/borderline PD comorbidity is to be considered as a single syndrome, its limits extend beyond antisocial and borderline PDs to encompass a range of other psychiatric disorders. First, those in the UK Household Survey who met criteria for both AAS and borderline PD showed a high degree of psychiatric comorbidity, including anxiety disorders, alcohol dependence and severe childhood conduct disorder [30]. Second, Intermittent Explosive Disorder (IED) was found to be highly comorbid with PD, and with both antisocial and borderline PDs in particular [31]. In this study, those participants who showed a triple comorbidity combining IED with both borderline PD and antisocial PD showed significantly higher levels of both anger and aggression than those who showed either IED alone or antisocial/borderline comorbidity alone. Such an extended syndrome might usefully be viewed through the lens of a broader, hierarchical system of psychiatric classification, to be discussed below.

## TREATMENT

There are reasons to be pessimistic with regard to the treatability of individuals presenting with borderline/antisocial comorbidity, given the pervasiveness and severity of this syndrome. Nonetheless, results of two recent studies point in a more optimistic direction. In the first study [27], Systems Training for Emotional Predictability and Problem Solving (STEPPS), a group treatment developed for people with borderline PD, was trialled in two samples, a community sample comprising 65 participants and an offender sample comprising 64 participants. In both samples individuals presenting with antisocial/borderline comorbidity were compared on a variety of outcomes with non-comorbid individuals (borderline PD alone). In the community sample, comorbid individuals experienced greater improvement in borderline symptoms, impulsiveness and global symptoms. In the offender sample, comorbid individuals experienced greater improvement in positive and negative behaviours and positive affectivity. One reason for this rather surprising result may have been, as the authors acknowledge, the greater severity of borderline PD symptoms shown by comorbid individuals in both samples at pre-treatment baseline. As noted above, there appears to be synergy between borderline PD and antisocial PD symptomatology, such that those at the high end of the borderline symptom severity spectrum display a greater number of antisocial PD symptoms. One limitation of this study was, as the authors acknowledged, the exclusion from the offender sample of violent offenders, those requiring special programming, and those requiring maximum security. Another limitation, acknowledged by the authors, was that it did not include measures to assess the impact of STEPPS on antisocial PD symptoms, so that it was not possible to assess whether the reduction in borderline symptoms was accompanied by a reduction in antisocial PD symptoms (as

might be expected if there is indeed synergy between the two sets of symptoms).

The second study [32] investigated whether outpatients with comorbid borderline PD and antisocial PD receiving mentalization-based treatment (MBT), a psychotherapeutic approach that specifically targets the ability to recognize and understand the mental states of oneself and others, were more likely to show improvements in symptoms related to aggression than those offered a structured protocol of similar intensity but excluding MBT components. Results indicated specific benefits derived from the MBT treatment that included reductions in anger, hostility, paranoia, and frequency of self-harm and suicide attempts, as well as improvements in negative mood, general psychiatric symptoms, interpersonal problems, and social adjustment. Nevertheless, these are preliminary results, and the authors acknowledge that the study was significantly underpowered and unrepresentative of both the wider antisocial PD population and the settings (prisons, forensic psychiatric units) in which they most commonly present.

## The HiTOP conceptualization of psychopathology

Consistent with the recent trend in the PD literature to view personality disorders as constellations of partially overlapping maladaptive personality traits rather than as comprising discrete categories, the recently proposed HiTOP model of psychopathology posits that psychopathology is hierarchically structured [1]. Symptoms/signs (level 1) are nested within maladaptive traits (level 2) which in turn are nested within syndromes/disorders (level 3). At a higher level of the hierarchy (level 5) are situated broad spectra, namely internalizing pathology, externalizing pathology (comprising disinhibited and antagonistic externalizing), thought disorder (i.e., psychosis spectrum disorders), and detachment (i.e., pathological introversion). At the highest level of the hierarchy are super-spectra such as general psychopathology (p). Within this hierarchical structure, comorbidity can be seen as due to associations between broad liability factors (spectra) rather than to disorder-specific associations. Comorbidity of antisocial PD with borderline PD can be viewed through the HiTOP lens as combining traits related to four spectra at level 5: internalizing, thought disorder, disinhibited externalising and antagonistic externalizing. As suggested by results reported in [33], those exhibiting antisocial/borderline comorbidity will, by virtue of scoring high on Externalizing, show high levels of angry hostility, impulsivity and excitement seeking, together with traits reflecting low Conscientiousness and low Agreeableness. By virtue of high Internalizing they will additionally show very high levels of traits associated with Neuroticism and low levels of some traits related to Extraversion (e.g. a lack of positive emotions) and Conscientiousness (e.g. low competence and lack of self-determination). In addition they would be expected to show some traits related to thought disorder, for example pathological suspiciousness, paranoia, and a tendency to ruminate on impending abandonment, for example by romantic partners. In short, antisocial/borderline comorbidity likely represents, within a hierarchical model, a highly toxic concatenation of personality traits that combines features of pathological externalizing and internalizing as well as thought disorder. Those patients who

show the triple comorbidity of IED combined with antisocial and borderline PDs would be expected to manifest an especially severe form of externalizing pathology manifesting in very high levels of anger and aggression.

The promising results reported for treatment by MBT of patients with antisocial/borderline PD comorbidity, discussed in the previous section, suggest that this therapy may be operating to reduce symptoms associated with several spectra in the HiTOP model: the internalizing spectrum (particularly the 'distress' sub-component), the thought disorder spectrum (paranoid ideation), and the externalizing spectra (anger, hostility).

## CONCLUSION

A miasma of comorbidity hangs over the PDs when these are conceived as distinct categories of psychiatric disorder. Greater clarity can be obtained by viewing PDs through the lens of HiTOP, where comorbidity can be seen as due to associations between broad liability factors (spectra) rather than to disorder-specific associations [34]. It is clear that the psychopathology represented by antisocial/borderline comorbidity extends beyond the limits of specific personality disorders to encompass other categories of psychiatric disorder such as childhood conduct disorder, IED and substance abuse. Thus an affirmative answer to the question posed in the title of this article is antisocial/borderline comorbidity a single syndrome? – must be qualified by a recognition that the syndrome is not limited to co-occurring antisocial and borderline PDs (although these may represent core features of the syndrome). While antisocial/borderline comorbidity, together with its comorbid disorders, might be viewed as a syndrome at the 'syndromes/disorders' level in HiTOP, it is better regarded as due to associations between broad liability factors of internalizing, thought disorder, disinhibited externalizing and antagonistic externalizing. Arguably, treatments will be successful to the extent that, rather than focusing on specific disorders or syndromes, they target these broad liability factors.

## REFERENCES

- Kotov R, Krueger RF, Watson D, Achenbach TM, Althoff RR, Bagby RM, et al. The hierarchical taxonomy of psychopathology (HiTOP): a dimensional alternative to traditional nosologies. *J Abnorm Psychol.* 2017; 26: 454-477.
- Trull, TJ, Schneiderer EM, Tomko RL. Axis II comorbidity. In: Widiger TA, editor. *The Oxford Handbook of Personality Disorders*, pp. 219-236. New York: Oxford University Press; 2012.
- Howard RC, Khalifa N, Duggan C. Antisocial personality disorder comorbid with borderline pathology and psychopathy is associated with severe violence in a forensic sample. *J Forensic Psychiatr Psychol.* 2014; 25: 658-672.
- Howard RC, Huband N, Duggan C. Adult antisocial syndrome with co-morbid borderline pathology: association with severe childhood conduct disorder. *Ann Clin Psychiatry.* 2012; 24: 127-134.
- Chun S, Harris A, Carrion M, Rojas E, Stark S, Lejuez C, et al. A psychometric investigation of gender differences and common processes across borderline and antisocial personality disorders. *J Abnorm Psychol.* 2017; 126: 76-88.
- Caspi A, Houts RM, Belsky DW, Goldman-Mellor SJ, Harrington H, Israel S, et al. The p factor: one general psychopathology factor in the structure of psychiatric disorders. *Clin Psychol Sci.* 2014; 2: 119-137.
- Wright AGC, Simms LJ. Stability and fluctuation of personality disorder features in daily life. *J Abnorm Psychol.* 2016; 125: 641-656.
- Zanarini MC, Frankenburg FR, Vujanovic AA, Hennen J, Reich DB, Silk KR. Axis II comorbidity of borderline personality disorder: description of 6-year course and prediction to time-to-remission. *Acta Psychiatr Scand.* 2004; 110: 416-420.
- Fazel S, Danesh J. Serious mental disorder in 23000 prisoners: A systematic review of 62 surveys. *Lancet.* 2002; 359: 545-550.
- Schroeder M, Iffland JS, Hill A, Berner W, Briken P. Personality disorders in men with sexual and violent criminal offense histories. *J Pers Disord.* 2013; 27: 519-530.
- Coid J, Hickey N, Kahtan N, Zhang T, Yang M. Patients discharged from medium secure forensic psychiatry services: Reconvictions and risk factors. *Br J Psychiatry.* 2007; 190: 223-229.
- Tikkanen R, Holi M, Lindberg N, Tiihonen J, Virkkunen M. Recidivistic offending and mortality in alcoholic violent offenders: A prospective follow-up study. *Psychiatry Res.* 2009; 168: 18-25.
- Black DW, Gunter T, Loveless P, Allen J, Sieleni P. Antisocial personality disorder in incarcerated offenders: Psychiatric comorbidity and quality of life. *Ann Clin Psychiatry.* 2010; 22: 113-120.
- Wetterborg D, Långström N, Andersson G, Enebrink P. Borderline personality disorder: Prevalence and psychiatric comorbidity among male offenders on probation in Sweden. *Compr Psychiatry.* 2015; 62: 63-70.
- Kaszynski K, Kallis DL, Karnik N, Soller M, Hunter S, Haapanen R, et al. Incarcerated youth with personality disorders: prevalence, comorbidity and convergent validity. *Personal Ment Health.* 2014; 8: 42-51.
- Howard RC, Huband N, Mannion A, Duggan C. Exploring the link between personality disorder and criminality in a community sample. *J Pers Disord.* 2008; 22: 589-603.
- Coid J, Yang M, Tyrer P, Roberts A, Ullrich S. Prevalence and correlates of personality disorder in Great Britain. *Br J Psychiatry.* 2006; 188: 423-431.
- Torgersen S, Czajkowski N, Jacobson K, Reichborn-Kjennerud T, Røysamb E, Neale M, et al. Dimensional representations of DSM-IV cluster B personality disorders in a population-based sample of Norwegian twins: A multivariate study. *Psychol Med.* 2008; 38: 1617-1625.
- Kendler KS, Aggen SH, Czajkowski N, Røysamb E, Tambs K, Torgersen S, et al. The Structure of Genetic and Environmental Risk Factors for DSM-IV Personality Disorders: A Multivariate Twin Study. *Arch Gen Psychiatry.* 2008; 65: 1438-1446.
- De Caluwe E, Decuyper M, De Clercq B. The child behavior checklist dysregulation profile predicts adolescent DSM-5 pathological personality traits 4 years later. *Eur Child Adolesc Psychiatry.* 2013; 22: 401-411.
- Coid J. DSM-III diagnosis in criminal psychopaths: A way forward. *Crim Behav Mental Health.* 1992; 2: 78-94.
- Mullen PE. Psychopathy: A developmental disorder of ethical action. *Crim Behav Mental Health.* 1992; 2: 234-244.
- Howard R, McCarthy L, Huband N, Duggan C. Re-offending in forensic patients released from secure care: the role of antisocial/borderline co-morbidity, substance dependence, and severe childhood conduct disorder. *Crim Behav Ment Health.* 2013; 23: 191-202.
- Lahey BB, Loeber R, Burke JD, Applegate B. Predicting future

- antisocial personality disorder in males from a clinical assessment in childhood. *J Consult Clin Psychol.* 2005; 73: 389-399.
25. Arola R, Antila H, Riipinen P, Hakko H, Riala K, Kantojärvi L. Borderline personality disorder associates with violent criminality in women: a population based follow-up study of adolescent psychiatric inpatients in northern Finland. *Forensic Sci Int.* 2016; 266: 389-395.
26. Bruce M, Laporte D. Childhood trauma, antisocial personality typologies and recent acts among males with severe mental illness: exploring an explanatory pathway. *Schizophr Res.* 2015; 162: 285-290.
27. Black DW, Simsek-Duran F, Blum N, McCormick B, Allen J. Do people with borderline personality disorder complicated by antisocial personality disorder benefit from the STEPPS treatment program. *Pers Mental Health.* 2016; 10: 205-215.
28. Moore KE, Tull MT, Gratz KL. Borderline personality disorder symptoms and criminal justice system involvement: the roles of emotion-driven difficulties controlling impulsive behaviors and physical aggression. *Compr Psychiatry.* 2017; 76: 26-35.
29. Howard RC. How is personality disorder linked to dangerousness? A putative role for early-onset alcohol abuse. *Med Hypotheses.* 2006; 67: 702-708.
30. Freestone M, Howard RC, Coid J, Ullrich S. Adult antisocial syndrome co-morbid with borderline personality disorder is associated with severe conduct disorder, substance dependence and violent antisociality. *Pers Mental Health.* 2012; 7: 11-21.
31. Coccaro EF, Shima C, Lee R. Comorbidity of personality disorder with intermittent explosive disorder. *J Personal Disord.*
32. Bateman A, O'Connell J, Lorenzini N, Gardner T, Fonagy PA. A Randomised controlled trial of mentalization-based treatment versus structured clinical management for patients with comorbid borderline personality disorder and antisocial personality disorder. *BMC Psychiatry.* 2016; 16: 304.
33. Uliaszek AA, Zinbarg RE. An examination of the higher-order structure of psychopathology and its relationship to personality. *J Personal Disord.* 2015; 29: 183-202.
34. Røysamb E, Kendler KS, Tambs K, Ørstavik RE, Neale MC, Aggen SH, et al. The joint structure of DSM-IV Axis I and Axis II disorders. *J Abnorm Psychol.* 2011; 120: 198-209.

**Cite this article**

Howard RC (2017) Co-Occurring Antisocial and Borderline Personality Disorders: A Single Syndrome? *Ann Psychiatry Ment Health* 5(6): 1120.