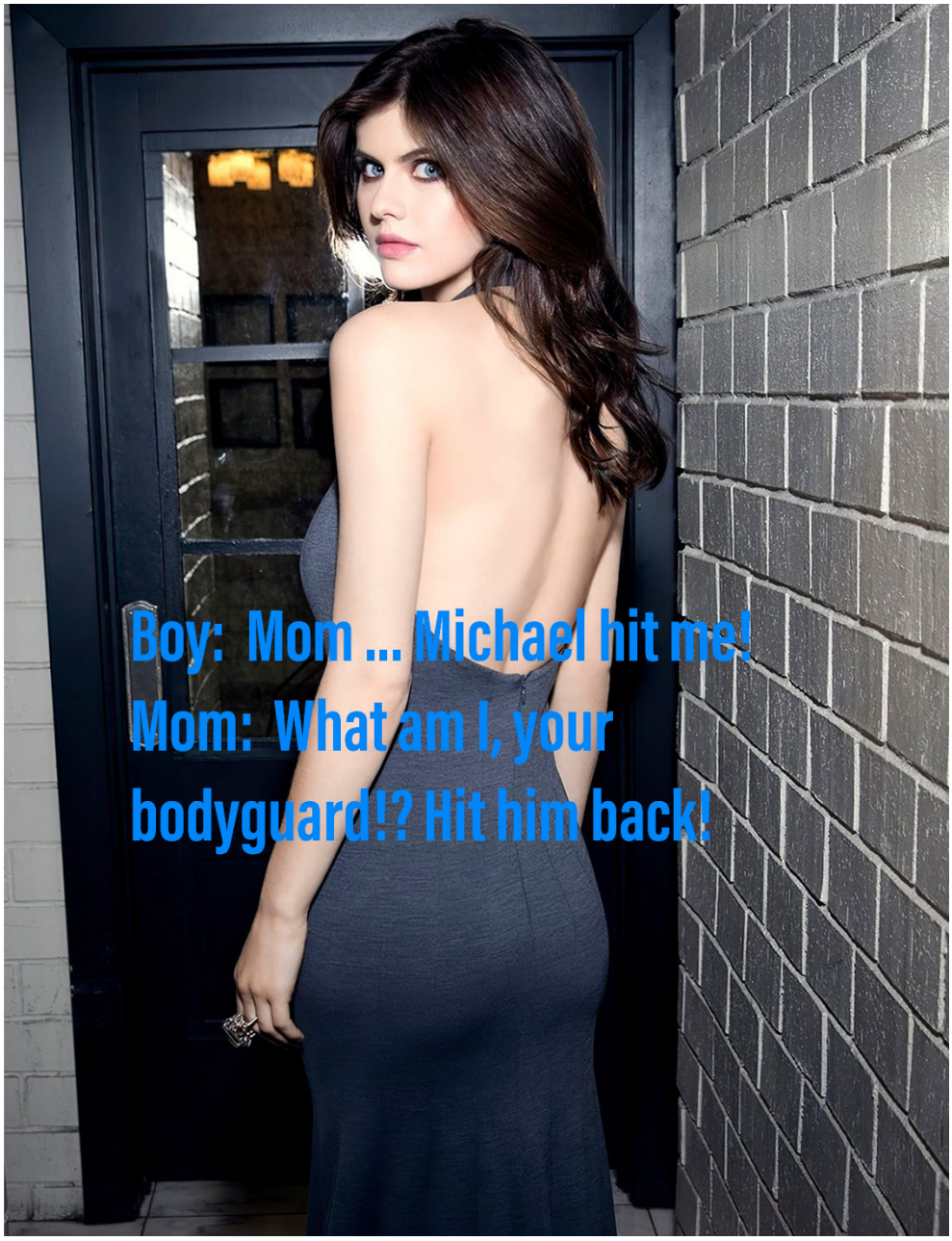
Borderline … or not!?

How to identify and distinguish Borderline from other disorders



Author: Peter '**ADD***speaker*' Vang
Released: August 4, 2020

Visit ADDspeaker.org for more information

Contents

Executive Summary

More often than not, I have people asking me for guidance on how to improve their life quality and understand want it is in their current life situations, that causes them so much turmoil. My special interest area is ADHD and Autism in girls and women, and especially women with undiagnosed ADHD suffer from Emotional Dysregulation which is not yet been recognized as a core feature of ADHD, but is currently associated with Borderline Personality Disorder in both the DSM-5 and ICD-10. But when you consult the latest scientific evidence from the past 5 years, you will find, that there is a consensus among the most experienced researchers and clinicians, that Emotional Dysregulation (Franke et al., 2018; Kooij et al., 2019; Kutzelnigg et al., 2013; Musser & Nigg, 2019)and Mind Wandering (Bozhilova et al., 2018; Helfer et al., 2019) are two new symptoms, that fit into the core features of ADHD, and which accounts for many of the psychological challenges of living with ADHD, especially as a girl or women without a childhood diagnosis. Today, late diagnosis of women with emotional symptoms are often misdiagnosed as having Borderline, whereas their actual root cause is ADHD+ASD.

As I have done a lot of research on ADHD and Autism since my own late-diagnosis at age 40, I understand how difficult it is to get recognition for an 'invisible' mental disorder, when you don't fit the baseline mold for the classic, yet outdated, understanding of ADHD that stems from a pre-1997 era (Barkley, 1997), and today unfortunately is still dominant in society on general and in many textbooks in the studies of sociology, psychology, and pedagogy. To complicate things even more, it is also becoming more and more apparent that disorders that today in DSM/ICD are considered as – comorbidities – to e.g. ADHD, may actually not be that at all, but more than likely that Intellectual Development Disorders (ID), Attention-deficit/Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD), Schizophrenia (SZ), and Bipolar Disorder (BPL) are all sharing more than 900+ identified genetic traits, and that whether you have a primary 'presentation' of symptoms that indicates one over the others, there is clear evidence of an overlap between these disorders and the persons that are diagnosed with one or more of these disorders.

It has been known for many years now, that ADHD and ASD shares more than **50-72%** of contributing genetic factors overlap between these two disorders (Sokolova et al., 2017), and that **40-70%** of children diagnosed with primary ASD also qualify for a clinical diagnosis of ADHD, and that **10-22%** of the children with ADHD, also qualify for a clinical diagnosis of ASD (Albajara Sáenz et al., 2020; Septier et al., 2019). In 2019, the largest Genome-Wide Association Studies (GWAS) of ADHD was conducted with more than 140 contributing authors and it was shown that 219 personality traits were common across Consensus estimates from more than 30 twin studies indicate that the heritability of ADHD is **70–80%** throughout the lifespan (Demontis et al., 2019). Heritability means that you can trace this specific personality trait directly to its genetic origins, showing that upbringing, diet, socio-economic status etc. does only have a very insignificant influences on symptoms of ADHD, or said I short: I was born this way, it wasn't my upbringing or willful choice to present with these behavioural traits.

This is of utmost importance in the subject matter of this document, since Personality Disorders like Borderline are inherently different from Neurodevelopmental Disorders (NDDs) (ID, ASD, ADHD, SZ, BPL) since they do not share the same genetic correlation. What this means, is that Borderline is a psychological dysfunction, not a neurophysiological dysfunction, as in NDDs, but that they are due to early life traumas and other psychosocial contributing factors. In short: You are born with NDDs, Borderline is an acquired, **not** something you are born with. This document aims to educate the reader on understanding why women with ADHD+ASD can have Emotional Dysregulation and how this is not due to them having BPD, so that clinicians can diagnose better.

Differential Diagnosis of Borderline Personality Disorder

Summary

BPD is a recognizable clinical syndrome but may be classified in other ways in the future when it is understood better. Yet even within the limitations of a phenomenologically based system, some conclusions seem warranted. First, the AI that characterizes BPD can be distinguished from episodes of mood disorder, whether unipolar or bipolar. Second, the psychotic features of BPD can be distinguished from schizophrenia. Third, attentional difficulties in BPD can be differentiated from those seen in adult ADHD. Fourth, the effects of trauma in BPD do not usually resemble what is seen in PTSD. None of these conditions, even when they are comorbid with BPD, can account for the complexity of the disorder. That is why differential diagnosis is crucial for choosing the best treatment (Paris, 2018).

Key Points

- Borderline personality disorder (BPD) has a wide range of symptoms and clinical features that overlap with other diagnostic categories.
- Diagnosis is important because different disorders respond to different forms of treatment.
- Differential diagnosis is particularly relevant for distinguishing BPD from bipolar spectrum disorders, requiring a careful evaluation of affective instability and hypomania. BPD may also be confused with major depression, schizophrenia, attention-deficit/hyperactivity disorder, and posttraumatic stress disorder.

(Paris, 2018)

Introduction to differential diagnosis of BPD

Classification in psychiatry is problematic because diagnoses of mental disorders are based on observable signs and symptoms, not etiologic and pathogenetic mechanisms. Almost no mental disorders are consistently correlated with biological markers. Similar symptoms can derive from entirely different causes, and clustering of symptoms in a diagnostic category may only describe a syndrome, not a disease process. Diagnosis functions more as a way of communicating about patients than a guide to treatment. Yet diagnostic categories can become popular for reasons other than their validity. Clinicians may also prefer diagnoses that support the use of specific methods of treatment and/or that are compatible with the insurance reimbursement system (Paris, 2018).

Borderline Personality Disorder (BPD)

BPD is a complex multidimensional disorder characterized by *unstable mood*, *impulsivity*, *and unstable relationships*. A diagnosis of BPD is, therefore, associated with a wide range of symptoms and extensive comorbidity, leading to problems differential diagnosis. Overlap between disorders, however, is built into the structure of the Diagnostic and Statistical Manual of Mental Disorders (Fifth Edition) (DSM-5) system and need not mean that patients have more than 1 diagnosis. For example, high levels of depression and anxiety are an intrinsic component of BPD but do not respond to the same treatments as in patients without BPD. Making additional diagnoses is important if they point to treatment interventions that otherwise might not be offered. The best examples are substance use disorder and eating disorders, both of which are often comorbid with BPD but require a unique approach that may require separate treatments (Paris, 2018).

BPD vs. Major Depression

A crucial point is that the quality of depressive affect is different in BPD. In classic depression, mood remains low independent of environmental input, and even the best news does not cheer up patients. In contrast, mood in BPD is both highly reactive and unstable and changes when the environment changes. That is why mood swings in BPD patients usually last for hours, not days. For this reason, depressive symptoms do not show the same pattern in BPD: they are chronic rather than episodic, associated with a mercurial mood that is highly responsive to interpersonal life events. BPD patients also show higher levels of impulsivity than patients with depression alone and have characteristic symptoms, such as self-harm and recurrent overdoses, that are uncommon in major depression (Paris, 2018).

BPD vs. Bipolar Disorder

In summary, the fact that BPD and bipolarity both produce mood instability does not prove they are different forms of the same disorder. These differences can be conceptualized by viewing unstable mood as a nonspecific manifestation that could stem from either bipolarity or BPD. Mood swings that are responsive to the environment and that last only for a few hours can be described by the construct of affective instability (AI), essentially equivalent to Linehan's construct of emotion dysregulation. AI describes brief mood changes characterized by temporal instability, high intensity, and delayed recovery from dysphoric states. The construct emphasizes a distinction between environmentally driven, short-duration mood swings (AI) versus spontaneous, long-duration mood swings (bipolar and unipolar mood disorders). AI can be reliably measured and separated from mood intensity, is a heritable trait, and has been shown to be distinct from neuroticism. Because AI (or emotion dysregulation) is a key feature of BPD, some investigators have suggested changing the name of the diagnosis to "emotional regulation disorder.

It is not clear, however, whether this affective domain accounts for all the psychopathology associated with BPD, which also includes a wide range of impulsivity, seriously disturbed interpersonal relationships, and micropsychotic phenomena. In summary, AI probably reflects a unique endophenotype. Although it is possible that some patients with BPD share neurobiological predispositions with bipolar patients, it cannot be assumed that all (or most) do. Today one of the main obstacles to the diagnosis of BPD is the popularity of the bi-polar diagnosis—what Zimmerman has called the problem of diagnosing BPD in a bipolar world. Clinicians sometimes have a knee-jerk diagnostic response to mood swings. They may be unfamiliar with the concept of a PD but receive a continuous stream of claims for bipolar spectrum diagnoses, both from experts who believe in this idea and from pharmaceutical companies marketing their products (Paris, 2018).

BPD vs. Schizophrenia

It is not usually difficult to differentiate the hyperemotional pattern of BPD from schizophrenia, on which patients are consumed by delusions and/or emotionally unresponsive. Problems arise, however, when BPD patients have micropsychotic symptoms or brief psychotic episodes, as they often do. These clinical features, in particular auditory hallucinations, are more common in BPD than is often recognized and are found in at least a quarter and up to half of cases. Voices may tell BPD patients they are bad and should kill themselves. Initially, patients may consider such experiences, which are associated with severe dysregulation, as real. But because patients later realize that their imagination has been playing tricks on them, these symptoms can be called pseudohallucinations (Paris, 2018).

BPD vs. ADHD

ADHD in adults, like bipolar disorder, is a category that is often overdiagnosed. In most cases, the clinical picture of ADHD is not one of hyperactivity but of inattentiveness and a loss of mental focus, problems that can have many causes. But when practitioners are looking for something to medicate, it is tempting to consider stimulants for inattention. What is sometimes forgotten is that ADHD begins in childhood and cannot be diagnosed in adults if it only appears in adolescence and young adulthood. One longitudinal birth cohort study24 found that almost all cases that have ADHD-like symptoms in adulthood had never had documented ADHD at any point in childhood. But because stimulants increase focus in almost everyone, the rate of their prescription has gone up dramatically. Studies of high-risk cohorts have found that childhood behavior disorders, such as ADHD and oppositional defiant disorder, can be precursors of BPD. This does not mean that most cases of BPD begin as ADHD, however, or that both disorders are different manifestations of a common phenotype. Many types of temperamental variations can be associated with BPD, but the relationship between childhood risk factors and adult outcomes is complex, reflecting both equifinality (the same outcome arising from different risk factors) and multifinality (different outcomes arising from the same risk factor) (Paris, 2018).

BPD and Post Traumatic Stress Disorder

Several decades ago, data showing an unusually high rate of childhood trauma in BPD aroused excitement among clinicians and researchers. These reports were far from universal, however, and the types of childhood abuse most likely to lead to sequelae only occur in a minority of cases. More severe adversities (eg, long-duration sexual abuse by family members) are associated with a greater risk, yet, even in these cases, most children do not develop BPD or other major mental disorders. The association suggests that early adversity is a risk factor for many forms of psychopathology, but that does not imply that BPD, a complex multidimensional disorder, is a form of PTSD. The tendency to overdiagnose PTSD, usually on the basis of trauma history alone, is another fad affecting mental health clinicians. It is not justified to make this diagnosis in every patient who has experienced significant adversity: PTSD is defined by a specific set of symptoms that must be present (Paris, 2018).

BPD and Complex PTSD

Another concept that has gained some currency is complex PTSD, in which a wider range of symptoms is assumed to be caused by multiple and repeated traumatic events. This diagnosis was not accepted by DSM-5 but is expected to appear in the classification of the World Health Organization. The danger is that this category will encourage clinicians to focus on trauma in BPD rather on the broader picture (Paris, 2018).

BPD and other Personality Disorders

The classification of PD categories is unsatisfactory but was retained in DSM-5 because alternatives, such as the dimensional system, found in Section III of the manual, have not been widely researched. One result is that although some form of PD can be found in approximately half of all outpatients, the most common diagnosis is PD–not otherwise specified (now called PD unspecified). The most researched PDs are BPD and antisocial personality, and these are also probably the most valid categories. Although some BPD patients, in particularly male patients, also meet criteria for antisocial, the presence of traits from other PD clusters need not be considered an example of comorbidity, given that the term describes overlaps between categories that are built into the Diagnostic and Statistical Manual of Mental Disorders system. Thus, the presence of micropsychosis in BPD does not necessarily imply an overlap with cluster. A disorders nor need the presence of avoidant or dependent patterns in relationship imply an overlap with cluster C disorders (Paris, 2018).

Differential Diagnosis of ADHD vs. Borderline

Understanding Emotional dysregulation (ED)n in ADHD and BPD is of the utmost importance in order to better and more accurately diagnose women with emotional dysfunctions in their social and intrapersonal behaviour.

There is ongoing debate on the overlap between Attention-Deficit/Hyperactivity Disorder (**ADHD**) and Borderline Personality Disorder (**BPD**), particularly regarding emotion dysregulation (**ED**). In this paper, we present a narrative review of the available evidence on the association of these two disorders from several standpoints. First, we discuss the unique and shared diagnostic criteria for ADHD and BPD, focusing particularly on ED. We consider the methodology of ecological momentary assessment and discuss why this approach could be an alternative and more accurate way to qualitatively distinguish between ADHD and BPD. We summarize key findings on the genetic and environmental risk factors for ADHD and BPD and the extent to which there are shared or unique aetiological and neurobiological risk factors. Finally, we discuss the clinical relevance of considering both disorders in the assessment of patients presenting with trait-like behavioural syndromes, distinguishing the two conditions and implications for treatment (Moukhtarian et al., 2018).

In recent years, a debate has ensued over the nosological distinction between Attention-Deficit/Hyperactivity Disorder (ADHD) and Borderline Personality Disorder (BPD). Impulsivity, irritability and other symptoms of emotional dysregulation are characteristically seen in both disorders, and the nature of the relationship between ADHD and BPD requires clarification.

Key questions that arise include the extent to which:

1) ADHD and BPD co-occur;

2) they reflect distinct disorders or alternative expressions of the same underlying disorder;

3) they share common genetic or environmental risk factors; and

4) one of the disorders give a synergistic effect, reinforcing the other or complicating both.

(Moukhtarian et al., 2018)

ADHD

Apart from the main symptoms used to classify ADHD, ED is considered to be an associated feature supporting the diagnosis of ADHD. In ADHD, **ED** is characterized by problems with temper control *(feelings of irritability and frequent outburst of short duration*), emotional over-reactivity (*diminished ability to handle typical life stresses, resulting in frequent feelings of being hassled and overwhelmed*), and mood lability (*short and unpredictable shifts from nor- mal mood to depression or mild excitement*). The symptom profile and severity of ADHD varies greatly between individuals, with both inattention and hyperactivity/impulsivity associated with functional impairment in multiple domains. ED has also been found to be an independent predictor of impairment in ADHD, after controlling for the confounding effects of core ADHD symptoms (inattention and hyperactivity/ impulsivity) on impairment. Furthermore, this has been found in cases of ADHD with no co-existing mental health disorders, and therefore cannot be explained by co-occurring conditions. Impairments can be severe, impacting on education, occupation, social and interpersonal relationships. Adults with ADHD are more likely to have lower educational attainment, poorer work performance and an increased likelihood of dismissal from work, as well as difficulties in maintaining long-term social relationships and higher divorce rates, serious transport accidents and criminality. ADHD seldom exists in isolation and up to *90% of adults with ADHD are reported to have one or more co-occurring mental health disorders*. Of these disorders, the most prevalent include mood, anxiety and substance use disorders, and personality disorders including BPD. This exceptionally high comorbidity rate could however reflect, at least in part, an artefact of overlapping symptoms shared by mental health disorders (Moukhtarian et al., 2018).

DSM-5 symptom criteria for attention deficit hyperactivity disorder

Inattentive symptoms

- Fails to give close attention to details or makes careless mistakes in schoolwork, work, or during other activities
- Has difficulty sustaining attention in tasks or play activities
- Does not seem to listen when spoken to directly
- Does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace
- Has difficulty organizing tasks and activities Impulsivity symptoms
- Avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort
- Often loses things necessary for tasks or activities
- Easily distracted by extraneous stimuli
- Forgetful in daily activities

Hyperactivity symptoms

- Fidgets with or taps hands or feet or squirms in seat
- Leaves seat in situations when remaining seated is expected
- Runs about or climbs, or is restless in situations where it is inappropriate
- Unable to play or engage in leisure activities quietly
- “On the go” acting as if “driven by a motor”
- Talks excessively

Impulsivity symptoms

- Blurts out answers before questions have been completed
- Has difficulty waiting turn
- Interrupts or intrudes on others

Associated features supporting the diagnosis

- Emotional dysregulation (low frustration tolerance, emotional over-reactivity, or mood lability, as featured in the Wender-Utah adult ADHD criteria) *
- Mild delays in language, motor, or social development
- Impaired academic or work performance*
- Increased risk of suicide attempts by early adulthood, primarily when comorbid with mood, conduct or substance use disorders*

*) Behavioural symptoms that commonly overlap with BPD diagnosis

(Moukhtarian et al., 2018)

BPD

BPD is a complex and severe mental health disorder, with typical symptom onset during adolescence and presence of behavioural precursors in childhood, persisting into adulthood. BPD is characterized by *a pervasive pattern of unstable interpersonal relationships*, *pronounced impulsive and self-damaging behaviour*, *unstable identity*, and *difficulties with ED*, which substantially impact in an enduring way on quality of life and psychosocial functioning. The DSM-5 diagnosis of BPD requires the pervasive presence of a **minimum of five out of nine symptoms**.

DSM-5 symptom criteria for borderline personality disorder

1. Frantic efforts to avoid real or imagined abandonment
2. A pattern of unstable and intense interpersonal relationships
3. Impulsivity in at least two areas that are potentially self-damaging*
4. Identity disturbance: markedly and persistently unstable self-image or sense of self
5. Recurrent suicidal behaviour, gestures, or threats, or self-mutilating behaviour
6. Affective instability due to a marked reactivity of mood*
7. Chronic feelings of emptiness
8. Inappropriate, intense anger or difficulty controlling anger*
9. Transient, stress-related paranoid ideation or severe dissociative symptoms

Associated features supporting the diagnosis

• Recurrent job losses, interrupted education, and separation or divorce are common.

*) Behavioural symptoms that commonly overlap with ADHD diagnosis

(Moukhtarian et al., 2018)

In the general population, BPD has a prevalence of around 6% and within populations of adult psychiatric inpatients, prevalence is around 20%. Most epidemiological surveys report no gender differences of BPD, yet studies of clinical populations typically report higher prevalence figures in women than in men. *The different sex ratios in clinical and population samples may be explained by both assessment and sampling biases*. Like ADHD, individuals with BPD commonly present with comorbid mental health disorders. In particular, around 90% of BPD cases are reported to have co-occurring mood disorders including depression and dysthymia, along with a high prevalence of substance use disorders in the range of 15% to 57% (Moukhtarian et al., 2018).

Overlap in ADHD and BPD

Studies of the co-morbidity between ADHD and BPD

Psychiatric comorbidity is commonly found across all mental health disorders [33] and is defined as the presence of two or more disorders in the same individual at a given time. In principle, each of the disorders should make a unique contribution to the clinical presentation of the individual. However, estimates of comorbidity prevalence may be inflated if there is marked overlap in the symptom criteria of two disorders, leading to poor diagnostic delineation i.e. artefactual comorbidity (Moukhtarian et al., 2018).

Furthermore, it remains unclear to what extent psychiatric diagnoses reflect entirely distinct disorders, rather than overlapping syndromes. This is a particular problem for psychiatry since there are, as yet, no validated bio-markers or other objective markers with sufficient sensitivity or specificity to be used in clinical practice to distinguish aetiologically distinct mental health conditions (Moukhtarian et al., 2018).

Regarding ADHD and BPD, while the specific symptoms used to classify the two disorders are different, many clinical characteristics are shared, including ED, impulsive risk-taking behaviour, and unstable interpersonal relationships. A high prevalence of co-occurring ADHD and BPD is consistently reported in the literature. In a large in- and outpatient cohort of 372 adults with ADHD referred for ADHD assessment and treatment at a tertiary referral centre, 27.2% also met criteria for BPD assessed by the structured clinical Interview for DSM-IV II (SCID II). Similarly, in another sample of 335 adults referred by family physicians, community health clinics or self-referred, BPD, assessed by the SCID-II, was reportedly present in 10% of participants with DSM-IV inattentive subtype ADHD (six or more symptoms in inattention) and 24% of participants with combined subtype ADHD (six or more symptoms of both inattention and hyperactivity/impulsivity) (Moukhtarian et al., 2018).

Likewise, in a sample of 181 adult patients diagnosed with BPD by general practitioners and referred for treatment, 38.1% had comorbid ADHD, with 22.7% meeting the combined type criteria. In a sample of 118 adult women from out-patient clinics seeking treatment for BPD, a high co-occurrence rate was reported: 41.5% met criteria for childhood ADHD (assessed retrospectively), and 16.1% met current criteria for the DSM-IV combined subtype, as well as meeting ADHD criteria as children. However, as opposed to the previous studies where diagnoses was confirmed by clinical interviews, severity of borderline personality disorder and ADHD symptoms were assessed using self-report questionnaires (Moukhtarian et al., 2018).

In a sample of adolescents (n = 107) with emerging BPD drawn from a European research project investigating the phenomenology of BPD in adolescence, the prevalence of ADHD was 11%, an estimate that was not attenuated even when excluding symptoms of impulsivity accounting for possible symptom overlap (Moukhtarian et al., 2018).

This rate was close to the 16% rate found by Philipsen and colleagues, where current ADHD symptoms was assessed by self-report measures, as opposed to clinician-based interviews. Moreover, the samples

significantly differed in regard to participants' age. Regarding population samples, results from the National Epidemiologic Survey on Alcohol and Related Conditions of more than n = 34,000 adults, found that lifetime comorbidity with BPD in the ADHD population was 33.7% compared with a lower prevalence of BPD of only 5.2% in the general population (Moukhtarian et al., 2018).

Symptomatic overlap

There is considerable overlap in the symptoms of BPD and the associated features of ADHD. Considering the onset and developmental trajectory, both disorders can be considered 'developmental' in the sense that they both emerge during childhood or adolescence and reflect enduring trait-like (non-episodic) symptoms and behaviors (Moukhtarian et al., 2018).

The shared general features of trait-like symptoms that characterize both ADHD and BPD; means that differentiating between these diagnoses can- not easily be established by considering age of onset and course of symptoms. This means that to a large extent, differential diagnosis is based on the specific symptoms and behaviors used to define the two disorders. The most noticeable overlap among the core symptoms used to classify both conditions is impulsivity (Moukhtarian et al., 2018).

Nevertheless, there are important qualitative differences in the manifestation of impulsivity used in the classification of ADHD and BPD. In ADHD, impulsivity refers to difficulty waiting or taking turn, blurting out during conversations (e.g. interrupting or talking over people), and intruding on others (e.g. butting into conversations or activities, taking over what others are doing) (Moukhtarian et al., 2018).

These impulsive symptoms are not always severe in adults with ADHD, but when severe can lead to impairment in social functioning and self-damaging or risk-taking behaviour. The consequences of severe impulsivity in ADHD include reckless driving, promiscuity, interpersonal relationship problems and aggressive behaviour (Moukhtarian et al., 2018).

In BPD, impulsivity is defined by self-damaging behaviour, such as reckless driving, shoplifting, spending, binge eating, substance abuse and promiscuity. People with either of these disorders may therefore display impulsive risk- taking behaviour, but from a diagnostic point of view they are core symptom of the BPD diagnosis, but only an associated feature of ADHD (Moukhtarian et al., 2018).

The other key area of symptom overlap is ED. This reflects a core symptom domain in the diagnostic classification of BPD, whereas in ADHD it is recognized as an associated clinical feature that supports the diagnosis. Nevertheless, ED is commonly seen to accompany ADHD, even in non-comorbid cases, and is an independent source of psychosocial impairment (Moukhtarian et al., 2018).

This draws strong comparisons with ED in BPD, particularly when the ED that accompanies ADHD is severe. At a descriptive level, the emotional symptoms of ADHD were well captured by Wender, Reimherr and colleagues in the earlier Wender-Utah criteria for ADHD and show substantial overlap with the ED symptoms in the DSM-5 BPD criteria (Moukhtarian et al., 2018).

ED is a dimensional construct, referring to rapid and exaggerated changes in emotional states such as heightened irritability or hot temper. A review by Asherson and colleagues reported **that ED is present in 72–90% of adults with ADHD**, and independently of other symptoms of ADHD predicts impairments in social, educational and occupational domains. In contrast, ED is one of the core symptom domains of individuals with BPD, who nearly always suffer from severe persistent affective instability, inner tension and difficulty controlling emotions such as anger (Moukhtarian et al., 2018).

Despite similarities, it has been suggested that patients with BPD have higher frequency and intensity of affective instability and aggressive impulsive reactions, compared to adults with ADHD. Others describe ADHD patients as being high novelty seekers, who regulate their emotions through extreme external stimulation (e.g. sexual activity, aggressive behaviour), as opposed to those with BPD who tend to engage in self-mutilating behaviour to alleviate negative affect and inner tension. However, self-harming behaviour and suicidality in ADHD has been highlighted in recent literature (Moukhtarian et al., 2018).

Yet, phenomenologically, ED is a complex construct, with shared characteristics in both ADHD and BPD, particularly pertaining to feelings of heightened anger and difficulty controlling anger (criterion eight in BPD). Others suggest that emotional instability reflects a similar cyclothymic temperament pattern in both disorders. Overall, it remains unclear whether the type of ED seen in ADHD really is qualitatively similar or different from that seen in BPD. One way to investigate this issue with precision is by using ambulatory assessments (Moukhtarian et al., 2018).

Conclusions

In clinical practice, it should be acknowledged that the co-existence of ADHD with BPD may complicate the diagnostic process, and hinder treatment outcomes. Currently, patients with co-occurring ADHD and BPD are often seen by different specialists and provided treatments for one condition or the other, but only rarely for both. In fact, there is lack of empirical data to guide future clinical practice (Moukhtarian et al., 2018).

Beyond the issues of differential diagnosis, there is insufficient awareness within specialist ADHD and BPD services of the potential benefits of treating the other condition. This needs to be addressed because treatment of both conditions may have positive benefits for individuals with overall better control of ADHD and BPD related symptoms and behaviors. Indeed, open clinical trials indicate the value of such a dual treatment approach (Moukhtarian et al., 2018).

Commonly in BPD patients with co-occurring ADHD, inattention and so-called executive function deficits (i.e. sustained attention, forgetfulness, planning, organizing, working memory), as well as physical restlessness and impatience, lead to difficulties in commitment and adherence to psychological therapies. For example, this could be manifested in difficulties remaining seated, feeling rest- less and impatient, difficulties focusing on conversations and retaining information during therapy sessions, or in- sufficient planning and organization to regularly attend therapy sessions (Moukhtarian et al., 2018).

A further potential benefit in a subpopulation of individuals with co-occurring ADHD and BPD may be a reduction in emotional dysregulation and impulsivity following medication treatment of ADHD. Similarly, psychotherapeutic interventions may be helpful for ADHD cases with high levels of emotional dysregulation with partial or no response to ADHD drug treatments, which could be accounted for by BPD. We therefore advocate a more nuanced approach to the management of people presenting with both ADHD and BPD. An important question arising from the literature is the specificity of emotional symptoms that are seen in both ADHD and BPD (Moukhtarian et al., 2018).

However, symptoms reflecting dysregulation emotional responses are also seen in other mental health disorders. A recent EMA study examined the dynamics of affective instability in patients with BPD com- pared with post-traumatic stress disorder and bulimia nervosa. Using the same EMA protocol, all three conditions showed a similar degree of heightened affective instability regarding both the valence of emotional changes, and the level of associated distress. Although BPD is the only disorder for which affective instability is part of the core diagnostic criteria, it seems that the specific dynamics of ED in BPD may not be so very different from that

seen in other clinical groups. Given the emerging genetic findings in relation to ADHD and BPD, and the overlap of symptoms such as ED, there may be gains from comparing the cognitive-neural underpinnings for ADHD and BPD, as well as overlapping symptom domains such as ED (Moukhtarian et al., 2018).

At this stage, clinical trials are needed to evaluate the role of both ADHD medication and psychotherapy in the treatment of comorbid ADHD-BPD, and to identify treatment prognostic indicators. Under current circumstances, we suggest that health care professionals involved in diagnosing patients with either BPD or ADHD need to be aware of the potential diagnostic overlap and co- occurrence of these two disorders. Further, there should be sufficient clinical expertise to ensure that patient receive the evidence-based treatments they require. This includes the potential benefits of drug treatments for ADHD, and psychotherapy for BPD (Moukhtarian et al., 2018).

Diagnostic definitions in ICD-11

6A Neurodevelopmental disorders

Neurodevelopmental disorders are behavioural and cognitive disorders that arise during the developmental period that involve significant difficulties in the acquisition and execution of specific intellectual, motor, or social functions. Although behavioural and cognitive deficits are present in many mental and behavioural disorders that can arise during the developmental period (e.g., Schizophrenia, Bipolar disorder), only disorders whose core features are neurodevelopmental are included in this grouping. The presumptive etiology for neurodevelopmental disorders is complex, and in many individual cases is unknown (World Health Organization, 2018).

6A00 Disorders of intellectual development

Disorders of intellectual development are a group of etiologically diverse conditions originating during the developmental period characterized by significantly below average intellectual functioning and adaptive behavior that are approximately two or more standard deviations below the mean (approximately less than the 2.3rd percentile), based on appropriately normed, individually administered standardized tests. Where appropriately normed and standardized tests are not available, diagnosis of disorders of intellectual development requires greater reliance on clinical judgment based on appropriate assessment of comparable behavioural indicators (World Health Organization, 2018).

6A01 Developmental speech or language disorders

Developmental speech or language disorders arise during the developmental period and are characterized by difficulties in understanding or producing speech and language or in using language in context for the purposes of communication that are outside the limits of normal variation expected for age and level of intellectual functioning. The observed speech and language problems are not attributable to social or cultural factors (e.g., regional dialects) and are not fully explained by anatomical or neurological abnormalities. The presumptive etiology for Developmental speech or language disorders is complex, and in many individual cases is unknown (World Health Organization, 2018).

6A02 Autism spectrum disorder

Autism spectrum disorder is characterized by persistent deficits in the ability to initiate and to sustain reciprocal social interaction and social communication, and by a range of restricted, repetitive, and inflexible patterns of behaviour and interests. The onset of the disorder occurs during the developmental period, typically in early childhood, but symptoms may not become fully manifest until later, when social demands exceed limited capacities. Deficits are sufficiently severe to cause impairment in personal, family, social, educational, occupational or other important areas of functioning and are usually a pervasive feature of the individual's functioning observable in all settings, although they may vary according to social, educational, or other context. Individuals along the spectrum exhibit a full range of intellectual functioning and language abilities (World Health Organization, 2018).

6A03 Developmental learning disorder

Developmental learning disorder is characterized by significant and persistent difficulties in learning academic skills, which may include reading, writing, or arithmetic. The individual's performance in the affected academic skill(s) is markedly below what would be expected for chronological age and general level of intellectual

functioning, and results in significant impairment in the individual's academic or occupational functioning. Developmental learning disorder first manifests when academic skills are taught during the early school years. Developmental learning disorder is not due to a disorder of intellectual development, sensory impairment (vision or hearing), neurological or motor disorder, lack of availability of education, lack of proficiency in the language of academic instruction, or psychosocial adversity (World Health Organization, 2018).

6A04 Developmental motor coordination disorder

Developmental motor coordination disorder is characterized by a significant delay in the acquisition of gross and fine motor skills and impairment in the execution of coordinated motor skills that manifest in clumsiness, slowness, or inaccuracy of motor performance. Coordinated motor skills are substantially below that expected given the individual's chronological age and level of intellectual functioning. Onset of coordinated motor skills difficulties occurs during the developmental period and is typically apparent from early childhood. Coordinated motor skills difficulties cause significant and persistent limitations in functioning (e.g., in activities of daily living, school work, and vocational and leisure activities). Difficulties with coordinated motor skills are not solely attributable to a Disease of the Nervous System, Disease of the Musculoskeletal System or Connective Tissue, sensory impairment, and not better explained by a Disorder of Intellectual Development (World Health Organization, 2018).

6A05 Attention deficit hyperactivity disorder

Attention deficit hyperactivity disorder is characterized by a persistent pattern (at least 6 months) of inattention and/or hyperactivity-impulsivity, with onset during the developmental period, typically early to mid-childhood. The degree of inattention and hyperactivity-impulsivity is outside the limits of normal variation expected for age and level of intellectual functioning and significantly interferes with academic, occupational, or social functioning. Inattention refers to significant difficulty in sustaining attention to tasks that do not provide a high level of stimulation or frequent rewards, distractibility and problems with organization. Hyperactivity refers to excessive motor activity and difficulties with remaining still, most evident in structured situations that require behavioural self-control. Impulsivity is a tendency to act in response to immediate stimuli, without deliberation or consideration of the risks and consequences. The relative balance and the specific manifestations of inattentive and hyperactive-impulsive characteristics varies across individuals, and may change over the course of development. In order for a diagnosis of disorder the behaviour pattern must be clearly observable in more than one setting (World Health Organization, 2018).

6D10 Personality disorder

Personality disorder is characterized by problems in functioning of aspects of the self (e.g., identity, self-worth, accuracy of self-view, self-direction), and/or interpersonal dysfunction (e.g., ability to develop and maintain close and mutually satisfying relationships, ability to understand others' perspectives and to manage conflict in relationships) that have persisted over an extended period of time (e.g., 2 years or more). The disturbance is manifest in patterns of cognition, emotional experience, emotional expression, and behaviour that are maladaptive (e.g., inflexible or poorly regulated) and is manifest across a range of personal and social situations (i.e., is not limited to specific relationships or social roles). The patterns of behaviour characterizing the disturbance are not developmentally appropriate and cannot be explained primarily by social or cultural factors, including socio-political conflict. The disturbance is associated with substantial distress or significant impairment in personal, family, social, educational, occupational or other important areas of functioning (World Health Organization, 2018).

6D10.0 Mild personality disorder

All general diagnostic requirements for Personality Disorder are met. Disturbances affect some areas of personality functioning but not others (e.g., problems with self-direction in the absence of problems with stability and coherence of identity or self-worth), and may not be apparent in some contexts. There are problems in many interpersonal relationships and/or in performance of expected occupational and social roles, but some relationships are maintained and/or some roles carried out. Specific manifestations of personality disturbances are generally of mild severity. Mild Personality Disorder is typically not associated with substantial harm to self or others, but may be associated with substantial distress or with impairment in personal, family, social, educational, occupational or other important areas of functioning that is either limited to circumscribed areas (e.g., romantic relationships; employment) or present in more areas but milder (World Health Organization, 2018).

6D10.1 Moderate personality disorder

All general diagnostic requirements for Personality Disorder are met. Disturbances affect multiple areas of personality functioning (e.g., identity or sense of self, ability to form intimate relationships, ability to control impulses and modulate behaviour). However, some areas of personality functioning may be relatively less affected. There are marked problems in most interpersonal relationships and the performance of most expected social and occupational roles are compromised to some degree. Relationships are likely to be characterized by conflict, avoidance, withdrawal, or extreme dependency (e.g., few friendships maintained, persistent conflict in work relationships and consequent occupational problems, romantic relationships characterized by serious disruption or inappropriate submissiveness). Specific manifestations of personality disturbance are generally of moderate severity. Moderate Personality Disorder is sometimes associated with harm to self or others, and is associated with marked impairment in personal, family, social, educational, occupational or other important areas of functioning, although functioning in circumscribed areas may be maintained (World Health Organization, 2018).

6D10.2 Severe personality disorder

All general diagnostic requirements for Personality Disorder are met. There are severe disturbances in functioning of the self (e.g., sense of self may be so unstable that individuals report not having a sense of who they are or so rigid that they refuse to participate in any but an extremely narrow range of situations; self view may be characterized by self-contempt or be grandiose or highly eccentric). Problems in interpersonal functioning seriously affect virtually all relationships and the ability and willingness to perform expected social and occupational roles is absent or severely compromised. Specific manifestations of personality disturbance are severe and affect most, if not all, areas of personality functioning. Severe Personality Disorder is often associated with harm to self or others, and is associated with severe impairment in all or nearly all areas of life, including personal, family, social, educational, occupational, and other important areas of functioning (World Health Organization, 2018).

6D11 Prominent personality traits or patterns

6D11.0 Negative affectivity in personality disorder or personality difficulty

The core feature of the Negative Affectivity trait domain is the tendency to experience a broad range of negative emotions. Common manifestations of Negative Affectivity, not all of which may be present in a given individual

at a given time, include: experiencing a broad range of negative emotions with a frequency and intensity out of proportion to the situation; emotional lability and poor emotion regulation; negativistic attitudes; low self-esteem and self-confidence; and mistrustfulness (World Health Organization, 2018).

6D11.1 Detachment in personality disorder or personality difficulty

The core feature of the Detachment trait domain is the tendency to maintain interpersonal distance (social detachment) and emotional distance (emotional detachment). Common manifestations of Detachment, not all of which may be present in a given individual at a given time, include: social detachment (avoidance of social interactions, lack of friendships, and avoidance of intimacy); and emotional detachment (reserve, aloofness, and limited emotional expression and experience) (World Health Organization, 2018).

6D11.2 Dissociality in personality disorder or personality difficulty

The core feature of the Dissociality trait domain is disregard for the rights and feelings of others, encompassing both self-centeredness and lack of empathy. Common manifestations of Dissociality, not all of which may be present in a given individual at a given time, include: self-centeredness (e.g., sense of entitlement, expectation of others' admiration, positive or negative attention-seeking behaviours, concern with one's own needs, desires and comfort and not those of others); and lack of empathy (i.e., indifference to whether one's actions inconvenience hurt others, which may include being deceptive, manipulative, and exploitative of others, being mean and physically aggressive, callousness in response to others' suffering, and ruthlessness in obtaining one's goals) (World Health Organization, 2018).

6D11.3 Disinhibition in personality disorder or personality difficulty

The core feature of the Disinhibition trait domain is the tendency to act rashly based on immediate external or internal stimuli (i.e., sensations, emotions, thoughts), without consideration of potential negative consequences. Common manifestations of Disinhibition, not all of which may be present in a given individual at a given time, include: impulsivity; distractibility; irresponsibility; recklessness; and lack of planning (World Health Organization, 2018).

6D11.4 Anankastia in personality disorder or personality difficulty

The core feature of the Anankastia trait domain is a narrow focus on one's rigid standard of perfection and of right and wrong, and on controlling one's own and others' behaviour and controlling situations to ensure conformity to these standards. Common manifestations of Anankastia, not all of which may be present in a given individual at a given time, include: perfectionism (e.g., concern with social rules, obligations, and norms of right and wrong, scrupulous attention to detail, rigid, systematic, day-to-day routines, hyper-scheduling and planfulness, emphasis on organization, orderliness, and neatness); and emotional and behavioral constraint (e.g., rigid control over emotional expression, stubbornness and inflexibility, risk-avoidance, perseveration, and deliberativeness) (World Health Organization, 2018).

6D11.5 Borderline pattern

The Borderline pattern descriptor may be applied to individuals whose pattern of personality disturbance is characterized by a pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity, as indicated by many of the following: Frantic efforts to avoid real or imagined abandonment; A pattern of unstable and intense interpersonal relationships; Identity disturbance, manifested in markedly and persistently unstable self-image or sense of self; A tendency to act rashly in states of high negative affect, leading to potentially self-damaging behaviours; Recurrent episodes of self-harm; Emotional instability due to marked reactivity of mood; Chronic feelings of emptiness; Inappropriate intense anger or

difficulty controlling anger; Transient dissociative symptoms or psychotic-like features in situations of high affective arousal (World Health Organization, 2018).

References

Albajara Sáenz, A., Septier, M., Van Schuerbeek, P., Baijot, S., Deconinck, N., Defresne, P., Delvenne, V., Passeri, G., Raeymaekers, H., Salvesen, L., Victoor, L., Villemonteix, T., Willaye, E., Peigneux, P., & Massat, I. (2020). ADHD and ASD: distinct brain patterns of inhibition-related activation? *Translational Psychiatry*, *10*(1). https://doi.org/10.1038/s41398-020-0707-z

Barkley, R. A. (1997). Attention-deficit/hyperactivity disorder, self-regulation, and time: toward a more comprehensive theory. *Journal of Developmental and Behavioral Pediatrics : JDBP*, *18*(4), 271–279. http://www.ncbi.nlm.nih.gov/pubmed/9276836

Bozhilova, N., Michelini, G., Kuntsi, J., & Asherson, P. (2018). Mind wandering perspective on ADHD. *Neuroscience and Biobehavioral Reviews*, *92*, 464–476. https://doi.org/10.1016/j.neubiorev.2018.07.010

Demontis, D., Walters, R. K., Martin, J., Mattheisen, M., Als, T. D., Agerbo, E., Baldursson, G., Belliveau, R., Bybjerg-Grauholm, J., Bækvad-Hansen, M., Cerrato, F., Chambert, K., Churchhouse, C., Dumont, A., Eriksson, N., Gandal, M., Goldstein, J. I., Grasby, K. L., Grove, J., … Neale, B. M. (2019). Discovery of the first genome-wide significant risk loci for attention deficit/hyperactivity disorder. *Nature Genetics*, *51*(1), 63–75. https://doi.org/10.1038/s41588-018-0269-7

Franke, B., Michelini, G., Asherson, P., Banaschewski, T., Bilbow, A., Buitelaar, J. K., Cormand, B., Faraone, S. V., Ginsberg, Y., Haavik, J., Kuntsi, J., Larsson, H., Lesch, K. P., Ramos-Quiroga, J. A., Réthelyi, J. M., Ribases, M., & Reif, A. (2018). Live fast, die young? A review on the developmental trajectories of ADHD across the lifespan. *European Neuropsychopharmacology*, *28*(10), 1059–1088. https://doi.org/10.1016/j.euroneuro.2018.08.001

Helfer, B., Cooper, R. E., Bozhilova, N., Maltezos, S., Kuntsi, J., & Asherson, P. (2019). The effects of emotional lability, mind wandering and sleep quality on ADHD symptom severity in adults with ADHD. *European Psychiatry*, *55*, 45–51. https://doi.org/10.1016/j.eurpsy.2018.09.006

Kooij, J. J. S., Bijlenga, D., Salerno, L., Jaeschke, R., Bitter, I., Balázs, J., Thome, J., Dom, G., Kasper, S., Nunes Filipe, C., Stes, S., Mohr, P., Leppämäki, S., Casas Brugué, M., Bobes, J., Mccarthy, J. M., Richarte, V., Kjems Philipsen, A., Pehlivanidis, A., … Asherson, P. (2019). Updated European Consensus Statement on diagnosis and treatment of adult ADHD. *European Psychiatry*, *56*, 14–34. https://doi.org/10.1016/j.eurpsy.2018.11.001

Kutzelnigg, A., Montoya, A., Ramos-Quiroga, J. A., Deberdt, W., & Sobanski, E. (2013). Attention deficit hyperactivity disorder in the European adult population: prevalence, disease awareness, and treatment guidelines. *Current Medical Research and Opinion*, *29*(9), 1093–1104. https://doi.org/10.1185/03007995.2013.812961

Moukhtarian, T. R., Mintah, R. S., Moran, P., & Asherson, P. (2018). Emotion dysregulation in attention-deficit/hyperactivity disorder and borderline personality disorder. *Borderline Personality Disorder and Emotion Dysregulation*, *5*(1), 9. https://doi.org/10.1186/s40479-018-0086-8

Musser, E. D., & Nigg, J. T. (2019). Emotion Dysregulation Across Emotion Systems in Attention Deficit/Hyperactivity Disorder. *Journal of Clinical Child and Adolescent Psychology*, *48*(1), 153–165. https://doi.org/10.1080/15374416.2016.1270828

Paris, J. (2018). Differential Diagnosis of Borderline Personality Disorder. *Psychiatric Clinics of North America*, *41*(4), 575–582. https://doi.org/10.1016/j.psc.2018.07.001

Septier, M., Peyre, H., Amsellem, F., Beggiato, A., Maruani, A., Poumeyreau, M., Amestoy, A., Scheid, I., Gaman, A., Bolognani, F., Honey, G., Bouquet, C., Ly-Le Moal, M., Bouvard, M., Leboyer, M., Bourgeron, T., & Delorme, R. (2019). Increased risk of ADHD in families with ASD. *European Child and Adolescent Psychiatry*, *28*(2), 281–288. https://doi.org/10.1007/s00787-018-1206-0

Sokolova, E., Oerlemans, A. M., Rommelse, N. N., Groot, P., Hartman, C. A., Glennon, J. C., Claassen, T., Heskes, T., &

Buitelaar, J. K. (2017). A causal and mediation analysis of the comorbidity between attention deficit hyperactivity disorder (ADHD) and autism spectrum disorder (ASD). *Journal of Autism and Developmental Disorders*, *47*(6), 1595–1604. https://doi.org/10.1007/s10803-017-3083-7

World Health Organization. (2018). *ICD-11 - Mortality and Morbidity Statistics*. World Health Organization. https://icd.who.int/browse11/l-m/en