

Disorders Due to Addictive Behaviours and Impulse Control Disorders

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Overarching Logic

This chapter focuses on two groupings of disorders in the ICD-11: Disorders Due to Addictive Behaviours, namely Gambling Disorder and Gaming Disorder, and Impulse Control Disorders, which include Pyromania, Kleptomania, Compulsive Sexual Behaviour Disorder, and Intermittent Explosive Disorder. Disorders Due to Addictive Behaviours and Impulse Control Disorders are disabling conditions sharing impulsivity and loss of control as core features. A common characteristic of these disorders is that they lie at the extreme pole of an impulsivity continuum linking normal behaviour to dysregulated, pathological behaviour (Padhi, Mehdi, Craig, & Fineberg, 2012). At the symptomatic level, these disorders may also share common experiences of an overwhelming urge (or craving) before engaging in the behavior and a feeling of relief or pleasure afterwards. A vicious circle involving a dynamic interaction between positive and negative reinforcement therefore can contribute to the maintenance of these conditions (Dell’Osso, Altamura, Allen, Marazziti, & Hollander, 2006). Positive reinforcement in the context of these conditions typically relates to feelings of gratification, pleasure, excitement or euphoria, whereas negative reinforcement typically relates to the relief of aversive emotional states (e.g., dysphoria, boredom, anxiety) that may be relieved or reduced by the relevant behaviour. In terms of neurocognitive underpinnings, both Disorders Due to Addictive Behaviours and Impulse Control Disorders are related to impairments in neural circuits involved in reward-processing and top-down executive control (Brand et al., 2019; Grant et al., 2014).

A Psychological Approach to Disorders Due to Addictive Behaviours and Impulse Control Disorders

There are two other important reasons for addressing these two groupings of disorders in the same chapter, and separating them from Disorders Due to Substance Use. First, central

features of Disorders Due to Substance Use such as *tolerance* or *preoccupation* are not necessarily indicative of pathological or problematic behavior when it comes to activities such as gaming or gambling (e.g., Billieux et al., 2019; Castro-Calvo et al., 2021). Given that some gamblers or gamers may become highly involved in these activities without necessarily experiencing adverse effects such as impaired control or functional impairment, applying diagnostic requirements from Disorders Due to Substance Use to other types of behaviors risks pathologizing normal behavior and promoting unnecessary or inappropriate interventions. Second, the psychological assessment and treatment of both Disorders Due to Addictive Behaviours and Impulse Control Disorders should systematically target impulsivity traits and processes related to self-control, factors known to play a pivotal role in the onset, persistence, and recurrence of these disorders (Padhi et al., 2012).

Impulsivity generally refers to a tendency to engage in swift or uncontrolled behaviour without forethought or conscious and adaptive judgment. Heightened impulsivity is understood as a trans-diagnostic etiological factor (Berg, Latzman, Bliwise, & Lilienfeld, 2015; Slutske, Caspi, Moffitt, & Poulton, 2005) that has been linked to a wide range of behavioural problems and mental health conditions and plays a particular role in the disorders discussed in this chapter. At the same time, impulsivity is an “umbrella” construct, reflecting a combination of separable personality traits. Accordingly, when assessing a patient, a sound and clinically relevant assessment of impulsivity that takes into account its multi-dimensional nature is important as a basis for formulating treatment needs and selecting appropriately targeted psychological interventions.

A particularly useful framework for conceptualizing impulsivity is the Urgency-Premeditation-Perseverance-Sensation seeking (UPPS) Impulsivity Model (Whiteside & Lynam, 2001). The main advantage of the UPPS framework is that it allows for consideration of the various facets of impulsivity, while other existing frameworks only focus on one or

another aspect and therefore do not allow for sufficiently comprehensive impulsivity assessment and profiling. Numerous studies have been conducted based on the UPPS model over the last two decades, showing that its various components: (1) predict specific psychopathological symptoms and problematic behaviors; and (2) are related to distinct (neuro)cognitive mechanisms (e.g., inhibitory control, attentional capacities, decision making) and neuroanatomical underpinnings (Berg et al., 2015; Rochat, Billieux, Gagnon, & Van der Linden, 2018).

In the UPPS model, *urgency* corresponds to emotion-related impulsivity and is generally defined as the tendency to act rashly in intense emotional contexts. Individuals with high urgency tend to overreact when, for example, they are distressed or angry, and are at increased risk for displaying maladaptive coping strategies and addictive or compulsive behaviors (Berg et al., 2015). Individuals with elevated urgency also present with reduced inhibitory control (i.e., the ability to refrain automatic and habitual motor behavior), which is a central feature of Disorders Due to Addictive Behaviours and Impulse Control Disorders. Lack of *premeditation* refers to the tendency not to take into account the consequences of an action before engaging in it. Individuals with a lack of premeditation tend to favor short-term considerations, are not good at delaying rewards, and exhibit poor decision making and problem-solving abilities, all of which are also features of these disorders. Lack of *perseverance* is defined as difficulty remaining focused on tasks that are boring or cognitively demanding. This attentional component of impulsivity has been linked with difficulties in resisting the intrusion of irrelevant information that interferes with ongoing tasks. People with low perseverance are thus at increased risk for experiencing memory intrusions that promote subjective states of urge or craving (e.g., occurrence of thoughts related to sexual or gaming-related activities). Finally, *sensation seeking* refers to the tendency to enjoy and pursue activities that are exciting and an openness to trying new

experiences. This component of impulsivity has been shown to constitute a risk factor for the initiation of various problematic behaviors (e.g., drug use, delinquent acts, gambling, risky sexual behaviors). Importantly, however, sensation seeking does not necessarily relate to pathological involvement in these activities, which is more consistently predicted by other components of the UPPS model (e.g., urgency).

In addition to impulsivity traits, a range of other (neuro)psychological factors have been identified as key features of Disorders Due to Addictive Behaviours and Impulse Control Disorders and are therefore relevant in their assessment and treatment (see Rochat, Maurage, Heeren, & Billieux, 2019 for a review). First, *motivational* processes include individual differences in reinforcement sensitivity (i.e., the extent to which individuals behave to pursue rewards or avoid punishment), attentional bias (i.e., a preferential attentional allocation toward a specific type of stimuli), or implicit association (i.e., automatic approach behavior toward specific types of stimuli). Second, *emotional* processes include adaptive and maladaptive strategies that individuals use to regulate negative emotions. Examples of maladaptive strategies include active suppression (i.e., trying to ignore the negative emotions and to suppress related thoughts) and non-constructive rumination (i.e., abstract, negative and repetitive patterns of ruminative thinking), which can perpetuate and even increase negative affect and negative emotions (Watkins, 2008). Examples of adaptive strategies that may constitute protective factors include reappraisal of the situation that triggered the adverse emotions (i.e., trying to think about it in a different way) and the use of constructive rumination (i.e., concrete and solution-oriented patterns of thinking).

Consideration of the psychological processes described above will improve case conceptualization (e.g., by elucidating the functions of the pathological behaviors) and support the implementation of psychological interventions that are tailored to the individual through the identification of specific targets for treatment and individual risk and protective

factors. At the same time, assessment and treatment of these disorders should consider the potential unique factors involved in each disorder. Specific motives are linked to activities such as gaming, gambling, or pornography consumption. For example, Gaming Disorder is frequently associated with motives related to in-game achievement or immersion in virtual worlds, whereas compulsive pornography consumption is frequently motivated by the desire to satisfy fantasies not fulfilled in offline sexual life. Specific dysfunctional cognitions may also be linked to each disorder. For example, the “illusion of control,” which refers to fallacious beliefs about one’s ability to exert control over uncontrollable events, may be important in Gambling Disorder but not for other conditions discussed in this chapter.

Gambling Disorder

Presentation and Symptom Patterns

Individuals with Gambling Disorder suffer from the inability to control their gambling in terms of context (inappropriate situation), frequency (more often than intended), intensity (e.g., quantity of money spent), or duration (longer than intended). Increasing priority is given to gambling in comparison to other areas of life (e.g., hobbies, friends, sports, daily activities or duties like going to school or work). The individual persists in gambling in spite negative consequences that derive from gambling, such as repeated relationship problems, substantial financial losses, problems at work or school or negative impact on health. The pattern of gambling behavior manifests over an extended period of time, such as 12 months, and is continuous or episodic and recurrent. The behavior results in significant distress or impairment in life areas related to personal, family, social, educational or occupational functioning. Additional characteristics may include unsuccessful attempts to reduce or control gambling behavior, increasing amounts of money spent on gambling to achieve the desired excitement, trying to compensate for losses by increasing subsequent bets (“chasing”), the occurrence of urges or cravings to engage in gambling, attempts to deceive

others about losses or conceal spending on gambling, gambling in order to alleviate negative emotions, as well as the occurrence of detrimental physical and mental health consequences due to disruptions in diet, sleep or physical exercise. Individuals with Gambling Disorder can be differentiated according to whether they engage in primarily online gambling versus those who tend to go into gambling venues such as casinos or racetracks to gamble in person, using a “predominantly offline” or “predominantly online” qualifier.

Gambling behavior may occur in the absence of co-occurring mental disorders and may develop, for example, from distorted and dysfunctional cognitions, such as false expectations about the probability of winning or misbeliefs about their own ability to influence gambling outcomes. This is the most common pattern in the disorder and is associated with better treatment outcomes. Alternatively, gambling behavior may occur in the context of pre-existing Mood Disorders and poor emotional regulation, or in relation to substance misuse, Personality Disorder, attention deficits or impulsivity.

Gambling Disorder—like most other addictive disorders—occurs more often in males than in females and typically develops during adolescence or early adulthood. Available data show that prevalence in adolescents is at least as high as in adults and sometimes even higher (Calado, Alexandre, & Griffiths, 2017), despite the fact that minors are not legally permitted to gamble in most countries. A chronic progressive course is frequently observed. Nevertheless, studies show that a substantial proportion (about 80%) remit for periods of 12 months or longer without formal treatment. Specific environmental factors such as being unemployed, being an immigrant and the related acculturation process, and being a child of a gambler can predict a worse course of the disorder (Donati, Primi, Mazzarese, Sanson, & Leone, 2020; Dowling, Merkouris, Greenwood, Oldenhof, & Toumbourou, 2017). The prevalence of past-year Gambling Disorder in adults ranges from 0.1% and 5.8% in available studies (Calado & Griffiths, 2016), though most population-based representative studies find

prevalence estimations below 2%. Variability in prevalence estimates is partly due to methodological differences but may also reflect differences among countries or jurisdictions, such as in accessibility or other legal and cultural differences (Hodgins, Stea, & Grant, 2011).

Differential Diagnosis

Gambling Disorder must be differentiated from leisure or professional gambling that does not lead to significant distress or functional impairment and is not characterized by the three core features. The ICD-11 also offers a category of Hazardous Gambling, which is not considered a disorder but rather is included in the chapter on “Factors Influencing Health Status and Encounters with Health Services.” This category can be assigned when, in the judgment of the clinician, the individual's gambling behavior appreciably increases the risk of harmful physical or mental health consequences but the presentation does not fulfil the diagnostic requirements for Gambling Disorder.

Gambling Disorder also should not be confused with Gaming Disorder. The essential difference between gaming and gambling is that gambling centrally involves the betting of money on an uncertain outcome. However, the boundary between gambling and gaming becomes blurry at times, with, for example, some gaming activities involving financial elements and random rewards such as loot boxes (monetization of games via consumable virtual items). Therefore, the predominant elements characterizing and maintaining the behavior must be considered in making this distinction.

The diagnosis of Gambling Disorder should only be assigned if the relevant pattern of gambling behavior occurs outside of Manic, Mixed or Hypomanic Mood Episodes. In addition, Gambling Disorder should not be diagnosed if the behavior pattern is induced by specific psychoactive drugs such as dopamine agonists including medications that may be prescribed in Parkinson Disease or Restless Leg Syndrome. The co-occurrence of other Mental Disorders with Gambling Disorder is frequent and is not an exclusion criterion for

Gambling Disorder. Common co-occurring conditions include Disorders Due to Substance Use, Mood Disorders, Anxiety or Fear-Related Disorders, Attention Deficit Hyperactivity Disorder and Personality Disorder (Petry, Stinson, & Grant, 2005).

Gaming Disorder

Presentation and Symptom Patterns

There is substantial clinical and public health evidence that video gaming can become dysfunctional and generate psychological distress and functional impairment (Rumpf et al., 2018). As a result, Gaming Disorder was included as an officially recognized mental health condition for the first time in the ICD-11. The ICD-11 diagnostic guidelines for Gaming Disorder are analogous to those of Gambling Disorder, focusing on impaired control over gaming behavior; increasing priority given to gaming over other life interests and daily activities; and continuation of gaming despite the occurrence of negative consequences. The gaming pattern occurs over an extended period of time, typically 12 months, and must be associated with distress or significant impairment in personal, family, social, or other important areas of functioning (Billieux et al., 2017). Additional features may include unsuccessful efforts to control or reduce gaming as well as the experience of urges or cravings to engage in gaming, gaming in order to alleviate negative emotions, as well as the occurrence of detrimental physical and mental health consequences due to disruptions in diet, sleep or physical exercise. Gaming disorder can be qualified as “predominantly online” (when the gamer favors video games involving other players) or “predominantly offline” (when the gamer favors single-player, often story-driven, games). Predominantly online Gaming Disorder is more common than predominantly offline (Saunders et al., 2017).

Gaming Disorder should not be diagnosed merely on high involvement in gaming in the absence of the other characteristic features of the disorder. High rates and long durations of non-problematic gaming occur more commonly among specific age and social groups (e.g.,

adolescent males), and in particular contexts such as during the holidays or as a part of organized gaming activities for entertainment. Daily gaming behavior as a part of a routine or the use of gaming for purposes such as developing skills and proficiency in gaming, changing mood, alleviating boredom, or facilitating social interaction does not *per se* indicate the presence of Gaming Disorder.

A recent meta-analysis reported that the prevalence of problematic gaming is estimated to be 1-2% (Stevens, Dorstyn, Delfabbro, & King, 2021). Generally, the age of onset is during puberty or late adolescence, though the disorder may begin in childhood, young adulthood, or adulthood (Saunders et al., 2017). Studies on the course of the disorder over follow-up periods of about 2 years indicate that about half of diagnosable individuals have a persistent disorder. Studies on the long-term course of Gaming Disorder are not available. Gaming Disorder is more frequent in males, yet the market for video gaming is evolving and an increasing number of females are playing video games, which may influence the gender ratio in the future.

Differential Diagnosis

Video games have become one of the most popular leisure activities worldwide and recognizing the distinction between elevated but non-problematic patterns of gaming behavior and Gaming Disorder is crucial to avoid over-pathologization and stigmatization of recreational gamers (Billieux et al., 2019). It is also important as a part of clinical assessment to consider that gaming behavior may be a maladaptive strategy for coping with emotional distress or other types of symptoms. For example, in Social Anxiety Disorder, excessive gaming can reflect a preference for online interactions and avoidance of real-life interactions. In Depressive Disorders, excessive gaming may be used to regulate dysphoric mood or negative emotions. And in Post-Traumatic Stress Disorder, excessive gaming may serve as a way to distance oneself from an unbearable reality. It is important that assessment and

intervention focus on the psychological function of the gaming behavior and not only on the behavior itself, although the diagnosis of Gaming Disorder may still be assigned if all diagnostic requirements are met, together with other applicable diagnoses. Gaming Disorder is commonly associated with Mood Disorders, Anxiety or Fear-Related Disorders, Disorders Due to Substance Use, Attention Deficit Hyperactivity Disorder, Obsessive-Compulsive Disorder, and Sleep-Wake Disorders (Saunders et al., 2017).

Pyromania

Presentations and Symptom Patterns

Pyromania is defined as a recurrent failure to control strong impulses to set fires, resulting in multiple episodes of deliberate and purposeful acts of, or attempts at, setting fire to property or other objects. The fire setting can occur opportunistically or be carefully planned. In either case, the lack of control over urges or impulses is the central component. Pyromania is associated with an increase in feelings of tension (“hyped up,” excited) or emotional arousal before the fire setting, contrasted with pleasure (a “rush”), gratification or relief when setting fires or when witnessing or participating in their aftermath, as well as a fascination or attraction to fire and the activities and equipment associated with fire-fighting. The disorder is understudied from a neurobiological perspective. It is hypothesized that Pyromania may share pathophysiology associated with cognitive impulsivity and poor decision-making with other Impulse Control Disorders. Individuals with Pyromania may show cognitive features of compulsivity as well. Fire setting may occur in response to feelings of depression, anxiety, boredom, loneliness, or other negative emotional states. Many individuals with Pyromania exhibit impairments in social communication skills, and a history of learning difficulties (Lindberg, Holi, Tani, Virkkunen, 2005). Furthermore, individuals with Pyromania, particularly women, often report histories of exposure to trauma, self-harm and sexual abuse (Ducat, McEwan, & Ogloff, 2017).

Most research on Pyromania focuses on fire setting in children and adolescents; the long-term course of Pyromania is poorly understood. The population prevalence is not well established, although it is thought to be rare (lifetime prevalence around 1%, see Odlaug & Grant, 2010); it is uncommon even among those reaching the criminal system with repeated fire setting. However, in a study of hospitalized psychiatric patients, around 3% presented with current symptoms of Pyromania and around 6% with symptoms consistent with a lifetime diagnosis, suggesting Pyromania may be more common in clinical samples than traditionally recognized (Grant, Levine, Kim, & Potenza, 2005). The mean age of onset is 18 ± 5 years (Grant & Kim, 2007).

Whereas the majority of convicted fire-setters are male (Ducat et al., 2017) and Pyromania is considered to be more common among males, particularly young adults with poor social skills or learning difficulties (American Psychiatric Association, 2013), robust epidemiological data for Pyromania are scarce and the disorder may not be as gender-specific as traditionally assumed: A study conducted in college students found no gender-based difference in the rate of Pyromania (Odlaug and Grant, 2010).

Differential Diagnosis

Acts of fire setting in Pyromania lack an apparent motive and are therefore differentiated from intentional fire setting perpetrated for financial or socio-political gain, revenge, attention or recognition (e.g., deliberately setting a fire, and then being the first one to discover it and put it out), or other advantage that is planned beforehand. Some intentional forms of fire setting may also represent a manifestation of Conduct-Dissocial Disorder or Personality Disorder with Dissociality and/or Disinhibition.

Interest in fires is common during early childhood, and children may accidentally or intentionally set fires as a part of developmental experimentation (e.g., playing with matches). A diagnosis of Pyromania is not appropriate in such cases, or when the behavior

can be accounted for by a Disorder of Intellectual Development or Substance Intoxication. Individuals with Attention Deficit Hyperactivity Disorder, particularly children and youth, may also impulsively set fires, but in such cases reckless disregard for consequences is typically seen across multiple contexts. Pyromania should also be differentiated from fire setting as a manifestation of impulsive or disorganized behavior associated with Bipolar Type I Disorder during Manic or Mixed Episodes, as well as fire setting in response to a delusion or a command hallucination associated with Schizophrenia or Other Primary Psychotic Disorders.

Co-occurrence with other Impulse Control Disorders and other mental disorders is high. For instance, in a relatively small sample of individuals with Pyromania (Grant & Kim, 2007), 47.6% met criteria for another disorder characterized by difficulties controlling impulses, with lifetime co-morbidities of 23.8% for Kleptomania, 9.5% each for Gambling Disorder and Intermittent Explosive Disorder and 4.8% for Trichotillomania. There was also significant comorbidity with Disorders Due to Substance Use (33.3%), Mood Disorders (61.9%), Anxiety or Fear-Related Disorder (19%) and Personality Disorder with Borderline pattern (9.5%).

Kleptomania

Presentations and Symptom Patterns

Kleptomania is defined as a recurrent failure to resist impulses to steal items not needed for personal use. Parallel to other Impulse Control Disorders, the disorder is characterized by an urge to perform an act of stealing that may be pleasurable in the moment but later causes significant distress and dysfunction (e.g., shame, legal issues). There is characteristically a rising sense of tension or emotional arousal prior to stealing, followed by a sense of pleasure, excitement, relief, or gratification during and immediately following the act. In some cases, arousal prior to stealing diminishes over the course of the disorder.

Although individuals with Kleptomania may desire or have use for the stolen items, they do not need them, usually have the financial resources to pay for them, and often end up with multiples of the same unused items. Some individuals end up hoarding the stolen objects or surreptitiously return them.

Episodes of stealing in Kleptomania may occur in response feelings of depression, anxiety, boredom, loneliness, or other negative affective states. Individuals with Kleptomania frequently try to resist their impulses to steal, and acknowledge their actions are wrong or irrational. Afterward, they may fear being apprehended and experience guilt or shame, but this does not prevent recurrence of the stealing. Some individuals with Kleptomania report amnesia or other dissociative symptoms (feelings of being disconnected from own body or environment) during stealing.

The prevalence of Kleptomania in the general population has been estimated at just 3-6 per 1000. Females outnumber males at a ratio of 3:1. However, Kleptomania occurs in up to a quarter of individuals arrested for shoplifting and in one study was found to be a commonly co-occurring disorder (around 9%) in a sample of psychiatric inpatients with multiple disorders (Grant, Levine, Kim, & Potenza, 2005). The mean age of onset is during adolescence although the disorder may begin in childhood or any subsequent stage of life. The course is usually chronic and may continue despite multiple shoplifting convictions. In clinical samples, females with Kleptomania outnumber males (Lejoyeux, Arbaretaz, McLoughlin, & Adès, 2002), although males may be more likely to be subject to criminal penalties rather than being referred for treatment.

Differential Diagnosis

Stealing is common and most individuals who steal do so because they need or want something they cannot afford or as an act of mischief, anger, or vengeance. To diagnose Kleptomania, there should be a lack of an apparent motive for stealing. Kleptomania can be

distinguished from Conduct-Dissocial Disorder or Personality Disorder with Dissociality and/or Dishibition based on this lack of motive as well as on the presence of guilt or remorse. To diagnose Kleptomania, the stealing behavior should not be accounted for by a Disorder of Intellectual Development or Substance Intoxication.

Kleptomania has high rates of co-occurrence with other mental disorders including Disorders Due to Substance Use, Obsessive Compulsive or Related Disorders, Disorders Due to Addictive Behaviours, other Impulse Control Disorders, Mood Disorders, particularly Bipolar Type I Disorder, and Personality Disorders (Padhi et al., 2012). It is also associated with reduced quality of life and increased suicidality (Kim et al., 2017). These findings indicate a need to assess a wide array of potential symptoms in individuals presenting with Kleptomania. High rates of arrest, conviction and incarceration are also common (Grant, Odlaug, Davis, & Kim, 2009).

Compulsive Sexual Behavior Disorder

Presentations and Symptom Patterns

Compulsive Sexual Behavior Disorder is characterized by the failure to control intense, repetitive sexual impulses or urges to engage in sexual activities, leading to repetitive sexual behavior that results in marked distress or significant impairment in important areas of functioning. The inability to control sexual urges or impulses is manifested in at least one of the following: 1) repetitive sexual behavior that has become the central part of life to the extent that health, personal care, and other activities, interests, or responsibilities are neglected; 2) frequent but unsuccessful attempts to reduce or control repetitive sexual behavior in a significant manner; 3) engagement in repetitive sexual behavior that is continued despite negative consequences such as marital conflict due, financial or legal consequences, or negative impact on health; and 4) continued repetitive sexual behavior even

when the person derives no or little satisfaction from it. To make a diagnosis, the behavior pattern involving the failure to control sexual urges and engaging in repetitive sexual behavior must be present over an extended period of time, such as 6 months or longer.

As with other disorders discussed in this chapter, impulsivity and positive reinforcement (pleasure) tend to be the most important elements early in the development of the behavior pattern. Later in the course of the disorder, compulsive aspects and negative reinforcement (e.g., alleviation of negative mood) are likely to become increasingly important in sustaining the behaviors (Briken & Basdekis-Jozsa, 2010). In addition, presentations of Compulsive Sexual Behaviour Disorder involving primarily interpersonal sexual behavior (e.g., casual sex or sex for money) are more likely to be associated with impulsivity, particularly sensation seeking, while presentations involving primarily solitary sexual activities (e.g., masturbation and pornography viewing) are more likely to represent attempts to regulate negative emotions (Gola & Potenza, 2018). Treatment of Compulsive Sexual Behavior Disorder focuses on improving sexual self-control as well as addressing the underlying emotional states and motivations (Briken, 2020; Stein et al., 2020).

Available epidemiological data indicate that subjective difficulty in controlling sexual impulses is common (Dickenson, Gleason, Coleman, & Miner, 2018), although this is not sufficient for a diagnosis of Compulsive Sexual Behavior Disorder. The ICD-11 diagnostic guidelines for Compulsive Sexual Behavior Disorder have not yet been used in epidemiological studies. However, given the greater restrictiveness of the ICD-11 diagnostic guidelines as compared to previous constructs such as “hypersexuality” or “excessive sexual drive,” prevalence rates will be correspondingly lower (Kraus et al., 2018). This is particularly the case due to ICD-11’s exclusion of distress based on moral or religious judgments about sexual behavior that would otherwise not be considered pathological. Compulsive Sexual Behavior Disorder typically develops in late adolescence or early adulthood. It is more

common among men than among women, although recent studies have found that prevalence is higher among women than previously thought (Klein, Rettenberger, & Briken, 2014).

Differential Diagnosis

It is of particular importance to distinguish high engagement in sexual activities from sexual behavior that is experienced as uncontrollable and leads to significant distress or functional impairment. In individuals with Compulsive Sexual Behavior Disorder, engagement in repetitive sexual behavior is often no longer experienced as pleasurable but they find they are unable to stop engaging in it. In some cases, religious or moral concerns may lead individuals to believe that their behavior is wrong or abnormal. It is important to differentiate these kinds of attitudes towards sexuality from having Compulsive Sexual Behavior Disorder. Although individuals may suffer from a discrepancy between their moral or religious views and their actual behavior, the diagnosis requires the presence of the core features described above. Furthermore, it is important to consider the wide variation that exists in sexual activity and related attitudes as well as cognitions such as sexual fantasies. Specific sexual interests or a high sex drive or high frequency of sexual behavior does not indicate the presence of Compulsive Sexual Behavior Disorder. Frequent sexual activity and urges can also be related to developmental phases like adolescence, or specific life circumstances like changes in partnership status.

As with other disorders discussed in this chapter, increased sexual behavior may sometimes be a symptom of other disorders such as Personality Disorder, Dementia, or Disorders Due to Substance Use. Compulsive Sexual Behaviour Disorder should only be assigned if it occurs outside of Manic, Mixed or Hypomanic Mood Episodes. Several mental disorders co-occur with Compulsive Sexual Behaviour Disorder in clinical samples, including Depressive Disorders, Anxiety or Fear-Related Disorders, Disorders Due to Substance Use, Attention Deficit Hyperactivity Disorder, and Post-Traumatic Stress Disorder

(Campbell & Stein, 2016). Among individuals with Personality Disorder, co-occurring Compulsive Sexual Behaviour Disorder is related to the trait domains of Dissociality and Disinhibition as well as to Borderline pattern.

Intermittent Explosive Disorder

Presentations and Symptom Patterns

Intermittent Explosive Disorder is characterized by recurrent, brief, explosive episodes involving verbal aggression (e.g., verbally attacking another person, temper outbursts, yelling) or physical aggression (e.g., hitting another person, assault involving personal injury, destruction of property) in an individual who is at least 6 years old or an equivalent developmental age. The intensity of the outbursts or the degree of aggression is grossly out of proportion to any provocation or precipitating event or situation and the behavior is not better accounted for by other mental disorders or the effects of a substance or medication. The violent outbursts are typically brief (e.g., less than an hour). They are not planned or intended to achieve a desired outcome but rather are impulsive or reactive in nature, suggesting failure to control aggressive urges. The outbursts often result in physical harm to self or others, although this is not a diagnostic requirement. However, the pattern of aggressive outbursts must result in significant distress to the individual with the disorder or significant functional impairment in social (loss of friends, marital instability), scholastic or occupational (suspension or expulsion, demotion, loss of employment), or other important domains. Frequently, the disorder also has a profound impact on financial and legal status (civil or criminal charges) (Rynar & Coccaro, 2018).

The aggressive outbursts are most commonly triggered by perceived threats in social contexts, even if no real threat exists, or by frustration due to impediments in the course of daily events. There is typically little or no prodromal period (no lead-up to the outburst), though in some cases outbursts may be preceded by symptoms such as tremor, sweating or

chest tightness, or a general sense of tension or arousal. During the episode, the individual may feel a sensation of relief, and in some cases, pleasure. Afterward, the individual usually, but not always, experiences depressed mood, fatigue, or other negative emotions such as remorse, shame, or guilt. The outbursts occur regularly over a period of at least 6 months, with no signs of aggression between episodes. Some individuals with Intermittent Explosive Disorder have a history of exposure to trauma, such as violence or childhood physical abuse and some show nonspecific neurological signs that do not constitute a diagnosable neurological condition.

Data from the World Mental Health Survey (Scott et al., 2020) indicated that the lifetime prevalence of Intermittent Explosive Disorder in 17 countries was 0.8%. Data from US studies have shown a higher prevalence (Coccaro, 2012). The World Mental Health Survey study also found subtypes involving anger attacks that harmed people, comprising 73% of those with Intermittent Explosive Disorder; these individuals had high rates of co-occurring externalizing disorders. Subtypes involving threatening people or destroying property without harming others were associated with higher rates of internalizing than externalizing comorbid disorders. Suicidal behavior was higher among those with co-occurring disorders and those who perpetrated more violent assaults. The prevalence of suicide attempts and non-lethal self-injurious behaviors among individuals with Intermittent Explosive Disorder has been estimated as 12.5% and 7.4% respectively (McCloskey, Ben-Zeev, Lee, & Coccaro, 2008). In a survey of individuals on probation following a criminal conviction, 7.4% were found to have Intermittent Explosive Disorder, with even higher rates among those with Attention Deficit Hyperactivity Disorder (18%) (Padhi et al., 2012).

Intermittent Explosive Disorder occurs among pre-pubertal children but the mean age of onset is between 13 and 21 years of age. Early in the course of the disorder, children typically display temper tantrums associated with verbal outbursts and aggression against

objects, though typically without serious destruction or assault. During adolescence, explosive outbursts often escalate. Intermittent Explosive Disorder usually follows a chronic course, though the prevalence tends to diminish over the lifespan. Although Intermittent Explosive Disorder was originally believed to be more prevalent in males, community surveys suggest that the male to female ratio is likely closer to equal, with serious physical assault being more common in males.

Differential Diagnosis

Aggressive outbursts, particularly verbal outbursts, are extremely common, especially under stress, and do not necessarily indicate a disorder. One or two isolated incidents are insufficient for a diagnosis, regardless of the severity or consequences. Intermittent Explosive Disorder must also be differentiated from behaviors due to the effects of a psychoactive substance or medication, including intoxication and withdrawal, or due to Dementia or a Disease of the Nervous System. Explosive or impulsive outbursts of aggression may also occur in Autism Spectrum Disorder, where they are usually associated with a specific trigger related to the core Autism Spectrum Disorder symptoms (e.g., a change in routine, aversive sensory stimulation). Intermittent Explosive Disorder should also be differentiated from regularly occurring and disproportionately severe temper outbursts that occur in the context of Oppositional Defiant Disorder with chronic irritability-anger, particularly in response to demands by authority figures. It should also be differentiated from the broader and often premeditated or instrumental pattern of antisocial behavior characteristic of Conduct-Dissocial Disorder, which generally also includes behavior such as lying or theft in addition to motivated aggression. Co-occurrence with other mental disorders is very common in Intermittent Explosive Disorder, particularly with Mood Disorders, Anxiety or Fear-Related Disorders, Disorders Due to Substance Use, Eating Disorders (especially those involving binge eating), and Attention Deficit Hyperactivity Disorder (Padhi et al., 2012).

General Principles of Assessment

As previously indicated, Disorders Due to Addictive Behaviors and Impulse Control Disorders share many etiological and symptomatic similarities, which calls for a unified approach to psychological assessment. The assessment of impulsivity is central in patients presenting with these disorders. Assessment tools derived from the UPPS model of impulsivity assess multiple facets of impulsivity, allowing for fine-grained and individualized impulsivity profiling. Unlike most other instruments assessing impulsivity, UPPS-based assessment tools also include an emotion-related impulsivity trait: the “urgency trait,” which has been found to be consistently related to both Disorders Due to Addictive Behaviours and Impulse Control Disorders (Berg et al., 2015).

Long and short versions of the UPPS Impulsive Behavior scales (the long version is 59 items and the short one 20 items) have been developed. Both have excellent psychometric properties including a robust and theoretically-based factor structure, high internal reliability, and high test-retest stability (long version: Whiteside & Lynam, 2001; short version: Billieux et al., 2012b). Both versions of the UPPS Impulsive Behavior Scale have been adapted and validated in many languages, including English, French, Spanish, Italian, German, Arabic, or Chinese. The scale has also been adapted for assessment in children and adolescents (Geurten, Catale, Gay, & Billieux, 2021). All versions are freely available.

Figure 1. Impulsivity Profiles

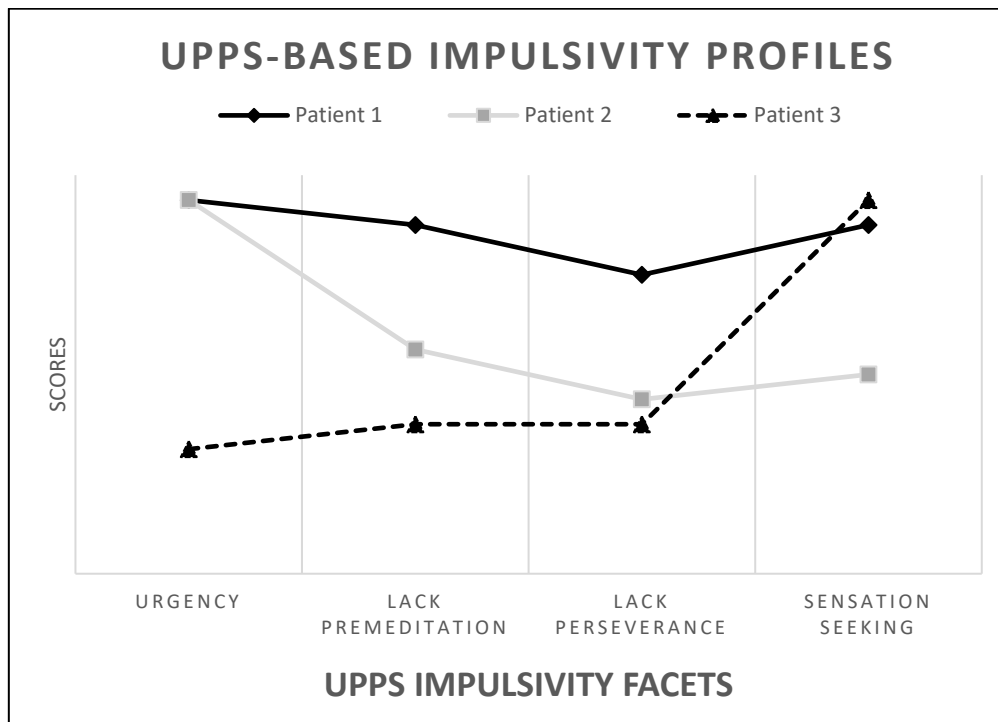


Figure 1 illustrates how UPPS-based individualized impulsivity profiles can be used to inform case conceptualization and treatment planning (e.g., see Billieux et al., 2012a, for a study showing the heterogeneity of impulsivity profiles assessed by the UPPS scale in a sample of Gambling Disorder patients). Patient 1 displays a “multi-impulsive” impulsivity profile, which is typical of severe Disorders Due to Addictive Behaviors or Impulse Control Disorders. In contrast, Patient 2 presents with an impulsivity profile that is especially characterized by an elevated urgency, that is, a tendency to act impulsively in emotional contexts. Such a profile would call for further exploration of emotion regulation skills and consideration of whether the target pathological behavior (e.g., gaming, gambling, sexual behavior) is the consequence of a maladaptive coping rather than a primary disorder *per se*. Finally, Patient 3 presents only with elevated sensation seeking, suggesting that the behavior in question does not necessarily reflect problematic impulsivity. Indeed, individuals with high sensation seeking but low scores in other impulsivity components are more likely to take

controlled risks, such as in the case of a skilled poker player who likes the excitement of the game but does not lose control over the game or “chase” losses with additional uncontrolled bets.

Clinicians assessing Disorders Due to Addictive Behaviors and Impulse Control Disorders should also be able to evaluate functional impairment rigorously. This is especially crucial in relationship to behavior patterns that involve common activities such as gaming, gambling or sexual behaviors, which are at risk for over-pathologization (Billieux, Schimmenti, Khazaal, Maurage, & Heeren, 2015). Currently, this primarily relies on a clinical assessment, as no specific assessment tool for functional impairment in Disorders Due to Addictive Behaviours and Impulse Control Disorders exists. Available scales mainly focus on items related to physical functioning, which is rather rarely affected in Disorders Due to Addictive Behaviours and Impulse Control Disorders. The Sheehan Disability Scale is a better fit in terms of content; however, it is not free of charge. The International Consortium for Health Outcome Measures (ICHOM) recently developed a set of scales for Disorders Due to Substance Use and Disorders Due to Addictive Behaviours (<https://www.ichom.org/portfolio/addiction/>). The WHO Disability Assessment Schedule (WHODAS) 2.0 has been suggested as a nonspecific tool (Black et al., submitted), although no specific pattern for Disorders Due to Addictive Behaviours and Impulse Control Disorders could be identified, The WHODAS 2.0 can be obtained freely from the WHO website (<https://www.who.int/classifications/icf/whodasii/en/>).

Because of symptomatic overlap and co-occurrence of Disorders Due to Addictive Behaviours and Impulse Control Disorders with a variety of other mental disorders, their assessment needs to be grounded in a broad assessment of psychopathology, particularly Mood Disorders, Anxiety or Fear-Related Disorders, Disorders Due to Substance Use, and Personality Disorder. Behaviors such as excessive gambling, gaming, sexual behavior, fire

setting, stealing, or temper outbursts can sometimes be presenting features of other disorders (e.g., they occur in response to negative emotional states related to the other disorder). It is important to evaluate carefully the factors that precipitate and maintain the behaviors in order to arrive at the most accurate diagnosis and most helpful case formulation. Treatment of the other disorder may stand in the foreground initially even if a co-occurring diagnosis of a Disorder Due to Addictive Behaviour or an Impulse Control Disorders is also assigned.

Finally, the comprehensive psychological assessment of Disorders due to Addictive Behaviors and Impulse Control Disorders often requires consideration of disorder-specific symptoms or psychological factors. This type of assessment is particularly useful to determine the severity of a disorder (when normative data are available) or to objectively measure the effect of a therapeutic intervention. Multiple instruments assessing symptom severity for Gambling Disorder, Gaming Disorder, and Compulsive Sexual Behaviour Disorder have been developed; most are freely available. Specific items have also been developed to assess symptom severity in Pyromania and Kleptomania (e.g., Chamberlain & Grant, 2018).

Key Validity Issues

Given the commonality discussed in this chapter, the boundary between Disorders Due to Addictive Behaviours and Impulse Control Disorder is in some ways arbitrary (Grant et al., 2014; Kraus, Voon, & Potenza, 2016). With regard to Disorders Due to Addictive Behaviours, legitimate concerns have been raised about opening the door to the creation of controversial new conditions of questionable validity such as love addiction, shopping addiction, exercise addiction, or work addiction (Billieux et al., 2015). However, evidence that these behavior patterns constitute addictions is generally of low quality and fails to consider the critical distinction between high involvement (not associated with loss of control and functional impairment) and pathological involvement. Moreover, apart from anecdotal

single case descriptions, such potentially new disorders have not been demonstrated to be associated with demands for clinical services.

Key Points

- Disorders due to Addictive Behaviors and Impulse Control Disorders share commonalities, namely impulsivity and loss of control as core features. The behavior patterns that characterize these disorders are perpetuated through a dynamic interaction between positive and negative cycles of reinforcement.
- Functional impairment is a central feature in the diagnosis of Disorders Due to Addictive behaviors and Impulse Control Disorders. Elevated involvement in activities such as gaming, gambling, or sexual behavior that is not associated with functional impairment should not be viewed as inherently pathological.
- In the clinical context, a detailed assessment of impulsivity and related psychological dimensions is central to informing appropriately tailored empirically-based interventions.
- Disorders due to Addictive Behaviors and Impulse Control Disorders have high rates of co-occurrence with other mental disorders, including Mood Disorders, Anxiety or Fear-Related Disorders, Disorders Due to Substance Use, and Personality Disorder.
- At times, behaviors such as excessive gambling, gaming, sexual behavior, fire setting, stealing, or temper outbursts can be presenting features of other disorders (e.g., the behaviors are undertaken in response to negative emotional states). It is important to evaluate carefully the factors that precipitate and maintain the behaviors in order to arrive at the most accurate diagnosis and most helpful case formulation.

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