

#### DISABILITIES AND PROBLEM GAMBLING

A **disability** is a condition that causes functional impairment, limits activities, and restricts participation in some activities. Disabilities such as developmental disorders, neurocognitive disorders, and acquired brain injuries have been shown to be related to problem gambling behaviors.























People with intellectual disabilities, cognitive impairments, and acquired brain injuries are particularly vulnerable to problems with gambling.2



The relationship between some cognitive disabilities is suggested to be due to problems with budgeting, spending, and maintaining control.3

## **Developmental disorders**

describe cognitive or physical disabilities that onset at or before young adulthood and tend to be lifelong.

**Neurocognitive disorders** include disabilities or diseases that decrease cognitive functioning abilities.

**Acquired brain injuries** result from physical trauma to the head or damage to the brain after birth.



Individuals most at risk of developing problem gambling often have preexisting vulnerabilities in information processing. Further, they are often individuals who make impulsive decisions due to an interaction of cognitive and neurological factors.4

<sup>1.</sup> Centers for Disease Control and Prevention. (2020). Disability and Health Overview. Retrieved from https://www.cdc.gov/ncbddd/disabilityandhealth/disability.html.
2.Browne, M., Langham, E., Rawat, V., Greer, N., Li, E., Rose, J., Rockloff, M., Donaldson, P., Thorne, H., Goodwin, B., Bryden, G., & Best, T. (2016). Assessing gambling-related harm in Victoria: A public health perspective. Victorian Responsible Gambling Foundation, Melbourne.
3.Guercio, J. M., Johnson, T., Dixon, M. R. (2012). Behavioral treatment for pathological gambling in persons with acquired brain injury. Journal of Applied Behavior Analysis, 45, 485-485.

<sup>4.</sup>Blaszczynski, A., Parke, A., Parke, J. & Rigbye, J. (2014). Operator-based approaches to harm minimisation: Summary, review and future directions. London: Responsible Gambling Trust



#### DEVELOPMENTAL DISABILITIES AND PROBLEM GAMBLING

- Learning disabilities and difficulties has been shown to increase the vulnerability of problem gambling in adolescents.<sup>5</sup>
- In one small, Australian study, all eighteen individuals with an intellectual or developmental disability (IDD) who were interviewed reported gambling at some point in their lifetime, though not currently. Most gambled with family members and gambled on electronic gambling machines (EGMs). However, most individuals were able to articulate negative consequences associated with gambling, primarily identifying loss of money. Some of these individuals reported experiencing gambling related harm, specifically financial harm.<sup>6</sup>

Developmental disabilities include intellectual disability, learning disorders, communication disorders, and epilepsy, among others.

 Studies on adolescents have found the association between learning difficulties and problem gambling only among boys while no association is found among girls.<sup>7,8</sup>

A recent review reported that no published scientific data adequately report on prevalence or treatment of problematic gambling behavior in adults with intellectual or developmental disabilities (IDD).<sup>9</sup> However, case studies of adolescent and adult patients with co-occurring IDD and problematic gambling suggest an association.



A 30-year-old man with an IDD, bipolar disorder, and a gambling disorder was observed to spend most of his allowance for food and clothing on gambling. He primarily bought lottery tickets and gambled on slot machines. Typical treatments for a gambling disorder diagnosis, like cognitive-behavioral therapy (CBT) and gamblers anonymous (GA) were ineffective for this individual.<sup>9</sup>



A woman in her 40s with an IDD reported spending her Social Security check on scratch-off lottery tickets, which was upwards of \$40 per day, and borrowing money from others to fund gambling. She denied a referral to GA and often minimized the gambling-related harm she experienced (i.e., loss of earnings).<sup>9</sup>



A man in his 60's with an IDD and problematic gambling behavior was observed to use his grocery money to buy lottery tickets daily; his hope was to win the money to donate it to his church or a local school. He declined a referral to GA.<sup>9</sup>

<sup>5.</sup>McNamara, J. K., & Willoughby, T. (2010). A longitudinal study of risk-taking behavior in adolescents with learning disabilities. *Learning Disabilities Research & Practice*, 25(1), 11-24.
6.Pitt, H., Thomas, S. L., Watson, J., Shuttleworth, R., Murfitt, K., & Balandin, S. (2021). How do people with intellectual disability engage with and understand gambling? A qualitative studyof adults in Victoria, Australia. *Frontiers in Public Health*, 8,536520

<sup>7.</sup>Parker, J., Summerfeldt, L., Kloosterman, P., Keefer, K., Taylor, R. (2013). Gambling Behaviour in Adolescents with Learning Disorders. Journal of Gambling Studies, 29(2): 231–239.

8.Taylor, R., Parker, J., Keefer, K., Kloosterman, P., Summerfeldt L. (2014) Gambling related cognitive distortions in adolescence: Relationships with gambling problems in typically developing and special needs students. *Journal of Gambling Studies*,

and developmental, T., Braun-Gabelman, A., Stefanac, K., Ruedrich, S., Kotz, M. (2019). Playing with a stacked deck: literature review and case series of problem gambling in adults with intellectual and developmental disabilities. *Journal of Gambling Studies*, 35, 987-995



### NEUROCOGNITIVE DISORDERS AND PROBLEM GAMBLING

 Parkinson's Disease (PD): The association between PD and gambling disorder is well documented in the literature. 10 Gambling disorder prevalence rates in persons with Parkinson's disease (PD) range from 6% in PD patients not receiving dopamine agonist (DA) treatment to 17% among those on DA treatment. 15 The psychological profile of PD patients may have a role as a risk factor, since impulse sensation seeking personality traits and addiction proneness characterized PD patients who develop GD.<sup>10</sup>

**Neurocognitive disorders** include Parkinson's disease, Alzheimer's disease, and related dementias, among others.

- Alzheimer's Disease and Related Dementias: The association of PG with dementing disorders has been described a few times. However, there is no comprehensive study of how many patients with dementia gamble. 14
- Huntington's disease (HD): Persons with HD may be a risk group for developing problematic gambling with gambling disorder observed in this patient populaiton.<sup>16</sup> At this moment, it is unclear whether the scarcity of reports of gambling problems in the HD literature is caused by a lack of attention for this phenomenon, or whether there really is no increased prevalence of the disorder among HD patients.<sup>17</sup>







# ACQUIRED BRAIN INJURIES AND PROBLEM GAMBLING

 Traumatic brain injury (TBI) appears to be a risk factor for developing a gambling disorder. One study found persons with TBI were 2.8 time more likely to have a gambling problem than those without a TBI.12 These findings remained constant even after controlling for psychological distress and drinking behavior. Other studies have shown risk for gambling disorder increases further if the person with TBI is male, between the age of 35-64, uses alcohol and/or tobacco, or has more than one TBI.<sup>13</sup>

<sup>10.</sup> Pirritano, D., Plastino, M., Bosco, D., Gallelli, L., Siniscalchi, A., & De Sarro, G. (2014). Gambling disorder during dopamine replacement treatment in Parkinson's disease: a comprehensive review. BioMed research international.

<sup>12.</sup> Turner, N. E., McDonald, A. J., Ialomiteanu, A. R., Mann, R. E., McCready, J., Millstone, D., Hamilton, H., Elton-Marshall, T., Rehm, J., Kurdyak, P., Ilie, G., Wickens, C. M., Le, T. L., van der Maas, M., Faregh, N., Cook, S., Bondy, S., Sanchez, S., Cusimano, M. D. (2019). Moderate to severe gambling problems and traumatic brain injury: a population-based study. Psychiatry Research, 272, 692-697

<sup>13.</sup>Bhatti, J. A., Thiruchelvam, D., Redelmeier, D. A. (2019). Traumatic brain injury as an independent risk factor for problem gambling: a matched case-control study. Social Psychiatry and Psychiatric Epidemiology, 54, 517-523
14. Cipriani, G., Cammisuli, D. M., Danti, S., & Di Fiorino, M. (2016). Disordered gambling and dementia. European Geriatric Medicine, 7(5), 474-478.

<sup>15.</sup> Voon, V., Hassan, K., Zurowski, M., De Souza, M., Thomsen, T., Fox, S., ... & Miyasaki, J. (2006). Prevalence of repetitive and reward-seeking behaviors in Parkinson disease. Neurology, 67(7), 1254-1257.

<sup>16.</sup> De Marchi N, Morris M, Mennella R, et al. (1998). Association of obsessive-compulsive disorder and pathological gambling with Huntington's disease in an Italian pedigree: possible association with Huntington's disease mutation. Acta Psychiatr Scand;97:62-5

<sup>17.</sup> Kalkhoven C, Sennef C, Peeters A, et al. (2014). Risk-taking and pathological gambling behavior in Huntington's disease. Front Behav Neurosci, 8:103.



### INTERVENTION AND PREVENTION OF PROBLEM GAMBLING

- With gambling problems well documented as a potential side effect of dopamine agonist therapy, it is important for prescribers to understand this risk and educate their patients receiving dopamine agonist therapy to be aware of changes in gambling behavior along with other compulsive behaviors. Likewise, it is important for clinicians treating gambling disorder to rule-out medication related behavior change, particularly among clients known to have Parkinson's Disease. Compulsive behaviors often resolve after dopamine agonist tapering, switching to a different agonist or discontinuing dopamine agonist therapy entirely.<sup>18</sup>
- Persons with developmental disorders, neurocognitive disorders, and acquired brain injuries are at higher risk for problem gambling behaviors. Due to being at higher risk, care should be taken to avoid increasing exposure to gambling activities. <sup>6</sup> For example, assisted living communities should not offer casino excursions.
- Gambling disorder management in patients with disabilities has been described as challenging. Applied behavior analysis interventions have shown promise in reducing gambling urges and behaviors in individuals with gambling disorder and some disabilities (traumatic brain injury,3 Alzheimer's Disease<sup>11</sup>).
- Accessibility of gambling for individuals with intellectual or developmental disability may contribute to problematic use of funds. Availability of lottery tickets at grocery and/or convenience stores may increase use of funds for gambling purposes instead of necessities. Policies to limit accessibility of gambling methods or campaigns to reduce impulsive purchasing may be beneficial.6

# **Key Findings**

- Dopamine agonist therapy, often used to treat Parkinson's Disease, has been linked to the development of gambling problems.
- Disabilities such as developmental disorders, neurocognitive disorders, and acquired brain injuries have been linked to increased problem gambling risk.
- Raising awareness of problem gambling risk is indicated for programs serving persons with disabilities. Educating caseworkers, skills trainers, and other providers on problem gambling prevention and resource availability would be beneficial.

<sup>3.</sup> Guercio, J. M., Johnson, T., Dixon, M. R. (2012). Behavioral treatment for pathological gambling in persons with acquired brain injury. Journal of Applied Behavior Analysis, 45,

<sup>6.</sup> Pitt, H., Thomas, S. L., Watson, J., Shuttleworth, R., Murfitt, K., & Balandin, S. (2021). How do people with intellectual disability engage with and understand gambling? A

qualitative study of adults in Victoria, Australia. Frontiers in Public Health, 8, 536520

9. Scheidemantel, T., Braun-Gabelman, A., Stefanac, K., Ruedrich, S., Kotz, M. (2019). Playing with a stacked deck: literature review and case series of problem gambling in adults with intellectual and developmental disabilities. Journal of Gambling Studies, 35, 987-995

<sup>11.</sup>Dham, P., Larsen, A., Baigert, M. (2015). Exposure based therapy for problem gambling in a patient with Alzheimer's dementia. Australasian Psychiatry, 1-3. 18. M. L. Dodd, K. J. Klos, J. H. Bower, Y. E. Geda, K. A. Josephs, and J. E. Ahlskog (2005), "Pathological gambling caused by drugs used to treat Parkinson disease," Archives of Neurology, 62(9), 1377-1381,