

## A Scoping Review of Behavioural Addictions and Comorbid Mental Health Disorders in Kenya

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### Abstract

The purpose of this scoping review was to examine behavioural addictions and comorbid mental health disorders while identifying gaps in the literature within the Kenyan setting. Behavioural addictions and their comorbidity with mental health disorders are an emerging global public health concern. In Kenya, research on Behavioural addictions and co-occurring disorders remains under-researched, as most studies focus more on substance use disorders (SUD). PRISMA-ScR guidelines were used to guide the conduct of this scoping review. The initial search yielded 60 articles, of which 52 peer-reviewed studies and theses published from 2018 onwards were analysed. These were retrieved from PsycINFO, African Journals Online, and Google Scholar because they were relevant to the review topic, while 8 articles were excluded because they did not focus on behavioural addictions and comorbidity. Findings indicate that gambling and problematic internet use are the most prevalent behavioural addictions, with higher rates observed among males. Mental conditions like anxiety, depression, and ADHD often co-exist with these disorders, pointing to shared psychological and neurological vulnerabilities across multiple comorbidities. Comorbidity complicates both diagnosis and treatment, highlighting the need for comprehensive assessment. In conclusion, the findings further reveal gaps, particularly in culturally relevant research, culturally sensitive assessment tools, and integrated interventions within the Kenyan context. The review recommends the need for mental health practitioners to adopt a transdiagnostic framework in the treatment of behavioural addiction and comorbid mental disorders, address stigma and cultural misconceptions surrounding behavioural addictions, and culturally adapt assessment tools that incorporate African cultural experiences.

**Key terms:** Addiction; behavioural addictions; comorbid; co-occurring; DSM-5-TR; mental health disorders.

## INTRODUCTION

Behavioural addictions, also termed as non-substance addiction, involve persistent and excessive engagement in rewarding behaviours that stimulate the brain's reward system despite adverse consequences. Whereas chemical addiction is a chronic and relapsing disorder that is characterised by compulsive substance seeking. While Behavioural and chemical addictions differ in their manifestations, both are associated with disruption in normal brain function, particularly within neural reward pathways implicated in motivation, reinforcement and compulsive behaviour (Crane et al., 2025; Mita, 2021).

This disruption leads to compulsive engagement in activities such as gambling, problematic internet or mobile phone use, compulsive sexual behaviour, and pornography use despite significant negative consequences. These behavioural addictions share core characteristics with substance use disorders, including impaired control, intense cravings, tolerance, and continued engagement despite harmful outcomes (Nordgaard et al., 2023).

Despite no substances being used in behavioural addiction, it involves neurobiological mechanisms and behavioural patterns similar to those found in substance use disorders (Vidal & Meshi, 2023). Therefore, comparing chemical and behavioural addictions is essential for understanding their shared underlying structures and distinct differences. Individuals experiencing behavioural addiction often find it difficult to resist urges or impulses, similar to those of individuals with substance use disorders (Gullo et al., 2022).

It is unfortunate that despite the increasing recognition of behavioural addictions globally, these addictions remain understated in diagnostic classification systems. The Diagnostic Statistical Manual of Mental Disorders (*DSM-5-TR*) recognises gambling disorder as the only officially classified behavioural addiction. The addiction is under substance-related and addictive disorders, while problematic internet use and gaming disorder are included as conditions requiring further study (American Psychiatric Association, 2022).

Also, the International Classification of Diseases recognises Compulsive Sexual Behaviour Disorder (CSBD), gambling disorder, and gaming disorder, including online and offline gaming subtypes and Other behavioural addictions, including mobile phone and shopping addiction, are not officially recognised, even though they have harmful effects (World Health Organisation, 2019). The objective of this study is to examine behavioural addictions and their comorbid mental disorders while identifying the existing gap in current research in Kenya.

## LITERATURE REVIEW

### Theoretical Framework

To understand the connection between behavioural addictions and mental health conditions, the Biopsychosocial Model was used. The Biopsychosocial Model, postulated by Engel (1977), explains the interaction between biological factors, such as genetic predisposition; psychological factors, including emotional, behavioural, and cognitive processes; and sociocultural factors, which encompass environmental influences such as family, religion, culture, and peer interactions.

The model recognises addiction as a complex condition that does not occur in isolation. Therefore, understanding behavioural addiction through the biopsychosocial approach enables practitioners and researchers to address multiple contributing factors at the same time rather than focusing on a single issue at a time (Bakhshale et al., 2024; Yadar & Kumar, 2021).

### The Prevalence of Behavioural Addictions

Throughout the COVID-19 pandemic, there was a total lockdown, and individuals experienced major challenges, including behavioural addictions, which emerged as a significant public health concern. During the same period, lifestyle changes associated with the pandemic, which included physical movement restriction, social isolation and prolonged internet use, contributed to an increase in behavioural addictions (World Health Organisation, 2020).

According to Alimoradi et al. (2022), a systematic review and meta-analysis involving 237,657 participants across 40 countries reported the

prevalence rates of different behavioural addictions as follows:

**Table 1: Prevalence of Behavioural Addictions**

Behavioural Addiction	Prevalence (%)
Internet Addiction	10.6
Smartphone Addiction	30.7
Gaming Addiction	5.3
Social Media Addiction	15.1
Food Addiction	21
Sexual Addiction	9.4
Exercise Addiction	7
Gambling Addiction	7.2
Shopping Addiction	7.2

Again, with increased internet accessibility and advancements in technology, behavioural addictions have continued to rise globally (Endomba et al., 2022).

Unlike previous systematic reviews that examined multiple behavioural addictions, Tran et al. (2024) conducted a systematic review and meta-analysis specifically focusing on gambling across 68 countries. The review, which included both males and females, reported higher gambling prevalence among men than women. The findings further indicated substantial rates of gambling participation among both adults and adolescents, highlighting gambling as an emerging global public health concern, necessitating the need to identify the existing gaps in research on behavioural addictions and comorbid mental health disorders.

### Behavioural Addiction in the African Context

In many African contexts, the recognition of behavioural addictions is further complicated by factors such as cultural interpretations, limited research, and rapid technological changes (Odionye et al., 2026; Khumalo, 2026). While some behavioural addictions are recognised in the Western world due to the advancement of mental health structures, cultural factors such as values, spiritual beliefs, and stigma in the African setting lead these addictions to be

perceived as immoral rather than as issues requiring intervention, resulting in limited attention. Consequently, individuals experiencing such addictions may be unable to seek help to address the issue (Odionye et al., 2026). Likewise, in a study on the potential impact of mobile sports gambling on economic growth in Sub-Saharan Africa: A case study of Kenya, it was reported that 73.8 per cent of participants were unaware of any resources or support available for individuals experiencing gambling-related financial problems, while 21.5 per cent were aware and 4.7 per cent were unsure (Simon, 2024). This could be due to a lack of understanding or awareness, particularly regarding the negative consequences of behavioural addiction.

Momanyi and Njoka (2025) and Njau and Ntarangwe (2026) note that behavioural addictions in Kenya, gambling in particular, have been recognised as a major public health issue. Some young people engage in gambling as a leisure activity, others perceive it as a day-to-day job, while others view it as an additional source of income. As a result, it leads to financial loss, psychological distress, and social problems. In extreme cases, individuals may find themselves selling personal or household items to sustain their gambling behaviour.

The history of gambling regulation in Kenya indicates the existence of the Betting, Lotteries and Gaming Act (Cap. 131); however, implementation and compliance remain significant challenges (Gofa, 2024). This is caused by challenges in enforcement due to a lack of improved systems to support monitoring and effective oversight (The Star, 2024).

The regulatory and enforcement gap has contributed to the perception among people that gambling is an acceptable and normal behaviour, especially with increased digitalisation. However, the enactment of the Gambling Control Act 2023 is expected to enhance compliance and enforcement, particularly through the integration of new approaches that reflect the use of emerging technologies (KDS Advocates, 2025).

Further, the accessibility of digital platforms has exacerbated non-chemical forms of addiction, with gambling emerging as a particularly widespread concern (Amutabi, 2018).

Comorbidity is a common feature in behavioural addiction and refers to the co-occurrence of two or more disorders within the same individual, with one condition often being the primary diagnosis (Nordgaard et al., 2023). The term comorbidity was first introduced by Feinstein (1970) in the medical field. Since then, the term has become widely used in clinical and psychiatric research.

According to Sakamoto et al. (2022), behavioural addictions and mental health disorders frequently co-occur with comorbid symptoms such as depression, anxiety, impulsivity, behavioural problems and sleep issues. This suggests a strong relationship between the behavioural patterns and psychiatric conditions. For example, one of the common disorders that is common among children and adolescents is problematic internet use addiction because of its impact on their social life, education and the negative effect on their relationship with immediate family.

This gap is pronounced in African contexts. For example, in Kenya, cultural interpretations, limited research, and fast technological changes influence the development and perception of behavioural addictions. These findings highlighted the need to

understand behavioural addictions, including their comorbid mental health conditions, within culturally specific contexts such as Kenya.

From the review, several issues can be highlighted, including the increasing prevalence of behavioural addictions and co-occurring mental disorders, as well as the overemphasis on chemical addictions in existing literature, with greater focus placed on Western countries than African countries, which is likely to affect diagnosis, assessment, and treatment planning.

## METHODOLOGY

This study used a scoping review design to systematically map existing evidence on Behavioural addictions and comorbid mental health disorders in Kenya. This approach is particularly effective for identifying gaps in the literature and was guided by PRISMA guidelines (Liberati et al., 2009). A scoping review aims to systematically identify, examine, and map existing evidence in a given field (Munn et al., 2022).

The study conducted a literature search to retrieve scholarly and peer-reviewed articles published between 2018 and the present, drawing on databases such as PsycINFO, African Journals Online (AJOL), and Google Scholar. The search strategy used keywords such as behavioural addiction OR substance addiction, non-substance addiction, problematic internet use addiction, gaming disorder, compulsive sexual behaviour, prevalence, Kenya, and comorbidity, mental health disorders, co-occurring disorders, anxiety, depression, ADHD, assessment, culture, combined using Boolean operators (AND, OR). A manual review of the reference lists of the selected studies was conducted to find additional relevant literature (Pigott & Polanin, 2020).

A total of 60 articles and related sources were initially identified and screened based on relevance, titles, and abstracts related to Behavioural addictions and comorbidity with mental disorders. Studies conducted in African contexts, particularly Kenya, were prioritised. Eight articles that were not focused on behavioural addictions and comorbidity, lacked sufficient data, or were published before 2018 were excluded. This restriction was applied to ensure that

all data included were current and relevant to behavioural addictions and comorbid mental disorders.

The inclusion period was based on recognition of behavioural addictions by diagnostic systems such as the DSM-5-TR and ICD-11. In addition to increased internet connectivity in Africa, resulting in improved digital technologies, which have contributed to the rise in behavioural addictions (Endomba et al., 2022).

The process was followed by abstract and full-text screening to confirm suitability and eligibility. This resulted in 52 studies being selected for further analysis, with limited attention given to substance use disorders. Full-text articles that did not focus on the thematic areas were excluded, leaving only 23 studies included in the last review and results section. The study selection process followed the PRISMA guidelines.

Data extraction and management from the included studies were charted and analysed using thematic analysis to identify recurring patterns and major

themes related to behavioural addictions, comorbid mental health disorders, assessment methods, prevalence, risk factors and causes, and clinical implications. The analysis was conducted using Microsoft Excel.

The researcher utilised AI-assisted tools, such as NotebookLM, for literature organisation, thematic organisation, and language refinement. However, the researcher independently reviewed, interpreted, and finalised all thematic areas, which included: affected population, causes of behavioural addictions, common behavioural addictions, behavioural addictions and comorbidity, and assessment and diagnostic challenges.

## FINDINGS AND DISCUSSION

### The Study Selection Process

The PRISMA-ScR selection process is significant in ensuring a systematic, transparent, and uniform method for identifying, screening, assessing eligibility, and selecting articles for inclusion in the scoping review (Page, 2021).

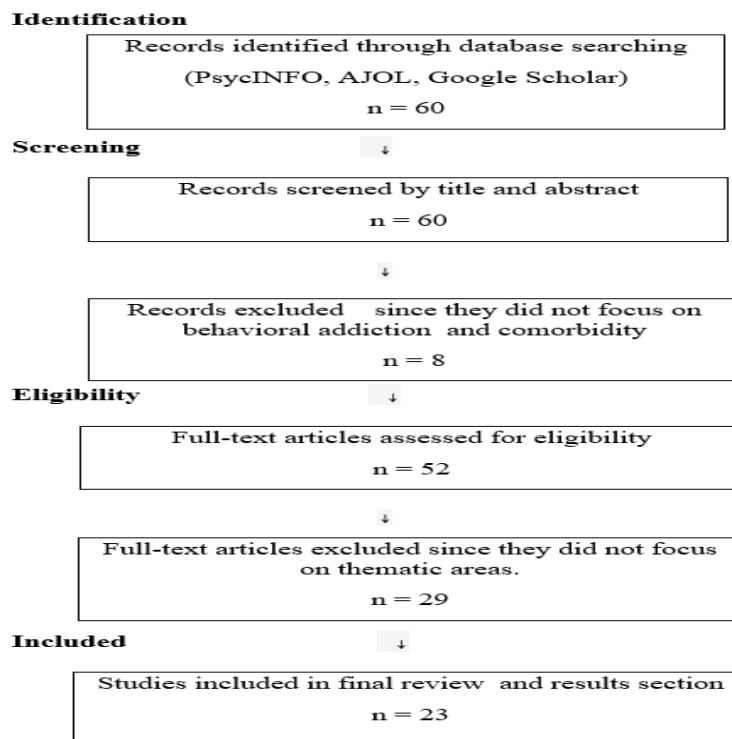


Figure 1: PRISMA Flow Diagram Showing the Study Selection Process for the Scoping Review of Behavioural Addictions and Comorbid Mental Health Disorders in Kenya

The reviewed studies were analysed thematically, and the findings are presented under the following themes: affected population, causes of behavioural addictions, common behavioural addictions, behavioural addictions and comorbidity, and assessment and diagnostic challenges.

## Population Affected

A study conducted by the World Health Organisation (WHO) World Mental Health Survey, which assessed 145,990 adult participants across 27 countries, found that individuals diagnosed with one mental disorder have a significantly increased risk of developing others. Specifically, more than half of those with a mental disorder experience at least one additional comorbid condition during their lifetime (McGrath et al., 2020). Although the study is relevant to the current review as it demonstrates high rates of comorbidity among mental disorders, only one African country participated in the survey. However, it aligns with the review objective, which is to examine behavioural addictions and their comorbid mental disorders while identifying existing gaps.

Further, empirical evidence also highlighted the growing prevalence of behavioural addictions among Kenyan youth. Ndeti et al. (2023) conducted a study on 536 respondents. The study reported that gambling is the most common addictive behaviour in Kenyan learning institutions, with prevalence rates of 11.4 per cent among adolescents aged 11–19 years and 20.5 per cent among college and university students, which is associated with psychiatric disorders and SUD. Similarly, Amutabi (2018), in a case study of Nairobi City teenagers, found that those engaged in online gaming exhibited aggressive behaviours, alongside symptoms of depression and anxiety, including suicidal ideation. These findings underscore the significant mental health risks associated with behavioural addictions, including their comorbidity with mental health conditions in this population.

Additionally, Kimuge (2021) reported a high occurrence of problematic internet use addiction among young people, with 81.5 per cent of participants meeting the criteria. Among the respondents, 45.6 per cent were classified as having moderate addiction, 31.2 per cent mild addiction, and

4.2 per cent severe addiction. The study further reported that problematic internet use addiction was associated with activities such as online betting and occurred more frequently among young men, a pattern commonly associated with greater involvement in risk-taking and online gaming activities, with a higher occurrence among males (3.1%) than females (1.0%).

Similarly, Zakiniaieiz and Potenza (2018) suggest that men are more likely to participate in gambling than women. Their findings indicate lifetime prevalence rates of 82.4 per cent in males and 76.5 per cent in females within the United States population. This difference is often attributed to gender-related preferences and behavioural patterns. Notably, the same study indicates that women who engage in addictive behaviours such as gambling often do so as a way to cope with feelings of sadness or loneliness, while men are more frequently influenced by external stimuli.

Research suggests that men are generally more likely than women to experience gaming addiction or problematic internet use, internet gaming disorder (IGD). One reason for this may be that men are more often drawn to competitive, action-oriented, and achievement-based games, which can be especially engaging and increase the risk of excessive use. In contrast, women are less likely to show problematic gaming behaviour and are more likely to experience difficulties related to social media use. A meta-analysis conducted in 2020 found significantly higher levels of IGD among males, whereas females were more likely to show problematic social media use rather than gaming-related addiction (Su et al., 2020).

## Causes of Behavioural Addictions

There are several factors influencing the development of behavioural addictions. One of the most significant is the rapid growth of digital technology, which increases access to activities such as online gambling, gaming, pornography, and social media use, thereby facilitating the development of addictive patterns. These behaviours have led to both passive forms of engagement, such as social media use or general online browsing, and active forms, such as gaming,

which can trigger and reinforce addictive tendencies (Varchetta et al., 2024).

Other contributing factors to behavioural addictions include difficulties coping with family instability, financial challenges, peer influence, and psychological issues, which may result in comorbid conditions. Neurological factors also play a role, as addiction alters brain structure, function, and neurochemistry, increasing vulnerability to compulsive and repetitive behaviours, which can be explained by the biopsychosocial model. Although these behaviours do not involve substance use, they resemble substance use disorders (SUD) in their effects on the brain's reward system, including loss of control, poor judgement, impulsive behaviour, and an inability to resist cravings despite negative consequences (Brand et al., 2025; Nestler, 2025).

### Common Behavioural Addictions

One of the key highlights from the study is that considerable emphasis has been placed on gambling and problematic internet use, with comparatively less attention given to other forms of non-chemical addictions, such as CSBD and related conditions, despite the significant harm they cause. Additionally, there is limited evidence on non-chemical addictions and their comorbidity with mental health conditions such as depression and anxiety in the Kenyan context. This gap may be attributed to prevailing belief systems, cultural expectations, religious orientations, and, more importantly, limited data availability (Odionye et al., 2026). Overall, the results indicate that behavioural addictions seldom occur alone and are often linked with other psychological disorders.

### Behavioural Addictions and Comorbidity

Research shows that behavioural addictions often co-occur with other psychiatric conditions. The conditions include: depressive and anxiety disorders, SUD and ADHD, which reflect shared psychological and neurobiological risk factors. In addition, they may share similar signs, symptoms or even behaviour patterns that make them appear similar in clinical or during diagnosis (Moldekleiv et al., 2025; Fu et al., 2025).

The above statement is supported by Petry et al. (2018), who examined over 3,000 participants. The research found that 76.3 per cent of persons with a gambling disorder also had a co-occurring SUD, with roughly half meeting the criteria for alcohol dependence. Other common comorbidities included nicotine dependence (60.2%), mood disorders (37.9%), and anxiety disorders (37.4%). Findon et al. (2025) indicate that individuals with ADHD demonstrate elevated impulsivity and compulsivity, which exposes them to a greater risk of developing multiple co-occurring addictions.

Meta-analytic studies further supported the strong associations between behavioural addictions and psychiatric disorders. Estévez et al. (2021) found that persons with gambling problems frequently experience co-occurring mental health conditions. This is particularly during adolescence and early adulthood. Similarly, although problematic internet use addiction has not yet been recognised by classification bodies, research has shown that it has an immense negative impact on individuals. A study conducted at the University of Nairobi found that the majority of respondents had severe or moderate problematic internet use addiction, which was comorbid with depression and anxiety (Mita, 2021).

Building on the above statement, Njau and Ntarangwe (2026) conducted a study in Kenya examining the correlation between gambling and generalised anxiety disorder among male respondents. The study established the presence of comorbidity with generalised anxiety disorder. According to the findings, gambling addiction is often used as a coping mechanism; however, it may also contribute to the development of anxiety, thereby leading to comorbidity. Anxiety among men is further exacerbated by societal pressures and unemployment compared to women.

Also, behavioural addictions such as gambling have been linked with multiple psychiatric conditions. These include conditions such as social phobia, agoraphobia, psychosis, suicidality, and substance use disorders among the Kenyan youth. It is worth noting that some behavioural addictions still remains insufficiently studied such as compulsive sexual behavior, mobile

phone addiction, and shopping addiction, remain insufficiently studied (Ndetei et al., 2023).

Gambling behaviour among university students in Kenya represents both a psychosocial and public health concern, because it is linked to high levels of comorbidity and significantly affects academic performance, financial stability and psychological well-being (Mbiriri, 2023).

## Assessment and Diagnostic Challenges

Comorbidity has significant implications for the diagnosis and treatment of behavioural addictions. The presence of co-occurring psychiatric conditions can complicate clinical manifestation and is often linked to poorer treatment outcomes, highlighting the importance of thorough assessment in clinical practice. (Sharma & Weinstein, 2025). Focusing only on a primary disorder, as overlapping symptoms between addictive behaviours and other mental health disorders can prevent accurate diagnosis and treatment.

Some useful tools recommended for measuring the severity of addiction and the emotional distress related to it in clinical and research setting include Problem Gambling Severity Index (PGSI), Problematic internet use Addiction Test (IAT), Game Addiction Scale (GAS), Generalized Anxiety Disorder-7 (GAD-7), and Patient Health Questionnaire-9 (PHQ-9) (Ko et al., 2024; Punia et al., 2025). The use of validated instruments helps clinicians to be able to identify relevant co-occurring mental conditions, modify interventions effectively, with the aim of improving diagnostic accuracy while supporting integrated treatment planning.

However, many of these assessment tools were developed in Western contexts, making them more Eurocentric; therefore, they are unable to fully capture African cultural experiences or expressions of psychological distress. This results in limited cultural sensitivity and a lack of Afrocentrism (Oppong et al., 2023). Cultural beliefs and stigma surrounding mental instability may also encourage or discourage help-seeking behaviour, particularly in African contexts.

In some societies, behavioural addictions may be interpreted as moral or spiritual problems rather than mental health concerns; as a result, the individuals do not seek services from professionals but instead opt to consult religious or traditional healers. However, other forms of behavioural addictions, such as pornography and CSBD, remain unexplored in the African context.

## DISCUSSION

### Developmental Considerations

Behavioural addiction and comorbid disorders occur across the lifespan; however, identifying comorbid disorders in children and adolescents can be particularly challenging. This is because they are still developing physically, emotionally, and cognitively. As a result, these developmental changes may make it difficult to distinguish between typical developmental behaviours and symptoms of psychopathology. This population is particularly vulnerable because their brains are still developing and do not fully mature until around age 25 (Vidal & Meshi, 2023). Comorbidity and behavioural addictions affect treatment and diagnosis. Therefore, clinicians working with children and adolescents must conduct comprehensive assessments that consider developmental stage, family context, and environmental influences (Vasileva, 2021).

Njeru et al. (2019) indicate that Behavioural addictions, such as pornography, affect males and females differently. Similarly, a study of the Spanish population found that problematic internet use is more prevalent among men than women (Varchetta et al., 2024). These results demonstrate that men are generally more vulnerable across various forms of behavioural addiction. Interestingly, research regarding the influence of betting and gambling among the young people in the banking sector found that gender had no significant influence on Behavioural addictions (Momanyi & Njoka, 2025). These findings highlight the inconsistencies in the literature, suggesting that gender influence may vary depending on behavioural addiction

### Common Behavioural Addiction in Kenya

Gambling is the most prevalent behavioural addiction among Kenyan youth. This is demonstrated in comorbidity with mental health conditions such as

depression, anxiety and SUD. This trend is particularly noticeable among male adolescents and university students, which is perpetuated by the availability of betting apps and high-speed problematic internet use. Many young people view these platforms not as a pastime but as a viable source of income, a perception facilitated by the constant accessibility of smartphones, which reinforces engagement in the behaviour among the youth (Ndetei et al., 2023; Mbiriri, 2023).

These patterns highlight the need for educational institutions to implement awareness programs and preventive strategies in order to protect students' academic performance, finances and well-being. Beyond gambling and problematic internet use-related behaviours, other behavioural addictions are emerging, including pornographic addiction, with 21.3 per cent of students with the disorder, which is largely attributed to problematic internet use accessibility and inadequate regulations of online content (Njeru et al. 2019). This is also perpetuated by social media platforms that facilitate exposure and may increase the risk among adolescents.

Compulsive Sexual Behaviour Disorder remains underrecognized in comparison with gambling and problematic internet use addiction, often because of cultural stigma and societal stigma surrounding sexual symptoms, which may discourage individual disclosure and is likely to lead to misdiagnosis, thus preventing affected individuals from receiving appropriate treatment (Fuss et al., 2024).

Overall, the available studies in Kenya have focused more on gambling and problematic internet use addiction among young people, particularly college and university populations, with limited research on younger children and older adults.

### **Behavioural Addiction and Co-occurring Disorders**

Behavioural addictions frequently occur alongside psychiatric conditions, especially mood, anxiety, and substance use disorders. Evidence shows that adolescents with problematic internet use addiction exhibit clinically significant symptoms of anxiety and depression. Likewise, individuals with gambling

disorder often exhibit symptoms of depression, acute financial stress, and substance use disorder (SUD).

Additionally, behavioural addiction shares several features with substance addictions, including impaired functioning, tolerance and withdrawal-like symptoms, comorbid psychiatric disorders, genetic predisposition, and underlying neurobiological mechanisms. Furthermore, similar to substance addictions, behavioural addictions involve the same cortical and subcortical brain regions, including the prefrontal cortex, nucleus accumbens, ventral tegmental area, amygdala, and hippocampus (Izci et al., 2022). These findings indicate overlapping patterns of addiction and psychological distress.

In addition, recent studies also highlight a high degree of comorbidity between gambling and personality disorders. Overall, this shows that depression, anxiety, and SUD are common comorbidities with behavioural addictions (Moreira et al., 2023; Soriano-Molina et al., 2025). This indicates the need for an integrated treatment approach that will focus on behavioural addiction and comorbid conditions rather than treating each condition separately.

Recognising these comorbidities is essential for effective clinical practice. Failure to identify co-occurring psychiatric disorders may result in these conditions remaining untreated and worsening outcomes. Therefore, clinicians should adopt an all-inclusive approach that will include thorough assessment, accurate diagnosis, treatment planning, and continuous follow-up care when treating clients with behavioural addictions and comorbid mental conditions (Brand et al., 2025).

### **Treatment Challenges**

Despite recent advances in mental health services, there are several challenges to the treatment of behavioural addictions and their comorbid conditions in Kenya. The challenges include stigma, limited mental health resources, and high cost of treatment due to intensive therapeutic care, which might require specialised care, which might increase healthcare utilisation and make treatment inaccessible due to high cost implications (Simon et al., 2023).

Additionally, the literature suggests that single-modality interventions and treatments are often insufficient for complex, co-occurring conditions. Therefore, effective treatment typically requires integrative and eclectic approaches that combine multiple evidence-based modalities. In the Kenyan context, clinicians commonly use integrative and eclectic approaches to manage the complex and diverse needs of clients with behavioural addiction and comorbid mental health conditions. Moreover, greater awareness of behavioural addictions in Kenya could reduce stigma and encourage more people to seek professional help, facilitating early detection and improved access to mental health services (Kumar et al., 2021).

## CONCLUSION AND RECOMMENDATIONS

**Conclusion:** Behavioural addictions are an increasingly significant public health concern. Recent reviews indicate that behavioural addictions, particularly gambling and problematic internet use-related behaviours, are highly prevalent. These conditions are often accompanied by comorbid psychiatric disorders such as depression, anxiety, and SUD. The presence of these co-occurring conditions complicates treatment and clinical outcomes. This emphasises the need for a comprehensive, integrated therapeutic approach rather than one modality for prevention, diagnosis, and treatment.

In Kenya, the main addiction problems discussed have been those related to gambling and problematic internet use, with little research done on other types of addictions. Cultural beliefs, stigma, and lack of awareness have resulted in poor recognition and inadequate treatment mechanisms; hence, the need for increased public awareness and policy implementation addressing behavioural addictions. Finally, the lack of culturally appropriate assessment tools continues to hinder effective diagnosis and management of the disorders, and therefore, future studies should include and focus on less explored behavioural addictions and their relation with comorbid mental health disorders within the Kenyan setting.

**Recommendation:** Based on the gaps identified in this review, particularly the lack of integrated treatment

models for behavioural addictions and comorbid mental disorders, as well as challenges in assessment and diagnosis, mental health practitioners should consider adopting a transdiagnostic framework to better address co-occurring conditions. In addition, there is a need to enhance awareness of behavioural addictions within African communities, especially in institutions of higher learning, through effective prevention strategies targeting young people, particularly adolescents and university students. This is especially important in relation to gambling and problematic internet use, which are highly prevalent among youth. Furthermore, practitioners should culturally adapt assessment tools that are largely Eurocentric to ensure they reflect African cultural experiences, thereby avoiding the pathologisation of behaviours that may be considered normal within the African context.

Future studies should move beyond the most commonly studied behavioural addictions, for example, gambling and problematic internet use addiction, and pay greater attention to emerging concerns. These emerging addictions include pornography, sex addiction, and compulsive sexual behaviour Disorder. More emphasis should also be placed on culture, stigma, gender, and how developmental stages shape the addictions. Recent literature has shown that some behavioural addictions, such as compulsive sexual behaviour disorder, remain under-researched despite evidence of their clinical significance and occurrence (Golder et al., 2023).

Even though behavioural addictions are becoming widely acknowledged as a significant public health issue, there is scant research on their prevalence and treatment in Kenya and globally. This is partly due to cultural interpretations affecting perceptions, definitions and reporting of behavioural addictions.

**Future Directions:** Future studies should therefore prioritise accurate prevalence rates, particularly for less-studied behavioural addictions such as Compulsive Sexual Behavioural Addiction (CSBD). Additionally, research should explore associations with comorbid psychiatric disorders and assess culturally appropriate prevention and intervention strategies.

Furthermore, educational institutions require targeted early identification and intervention initiatives. Increasing awareness of these addictions and their comorbidities is essential for facilitating earlier intervention, improving clinical outcomes, reducing stigma, and avoiding the over-pathologising of clients' issues. Ultimately, developing structured, integrated treatment models for addictions and comorbid mental health disorders, as well as culturally adaptable assessment tools, will be essential in alleviating this growing public health burden (Gullo et al., 2022).

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