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REVIEW ARTICLE

Definitions and assessments of recovery from gambling disorder: A scoping review

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ABSTRACT

Background and aims: While the concept of recovery is receiving increasing attention in the context of gambling disorder (GD), no consensus has yet been reached regarding its definition. This scoping review aims to map the literature on GD recovery, identify gaps, and provide insights for a more holistic and patient-centred perspective. *Methods:* A systematic search of three databases was conducted (PubMed, PsycINFO, and ScienceDirect). Based on the method by which the results of these studies were produced, the studies included were sorted into four categories (quantitative, instrument validation, qualitative, and mixed studies) and subsequently examined using conceptual analysis. *Results:* One hundred thirteen articles were included in this research after the screening process. In the quantitative and instrument validation studies, recovery was defined or operationalized in terms of abstinence, the absence of a GD diagnosis, or mild GD severity, or by reference to treatment outcomes or controlled gambling. A meta-synthesis of the results of the qualitative studies revealed four core features of recovery (insight, empowerment and commitment, wellbeing enhancement, and reconsideration of the issue of relapse). *Discussion:* Discrepancies in definitions, outcomes, and variables used were evident across studies. Additionally, the quantitative and standardized approaches employed in most studies exhibited severe limitations with regard to defining recovery from the subjective and multidimensional perspectives of people recovering from GD. *Conclusions:* This lack of definitional clarity emphasizes the necessity for further qualitative research. This research should encompass multiple stakeholder perspectives to develop a working definition promoting recovery from a holistic, patient-centred, and tailored approach.

KEYWORDS

gambling disorder, problem gambling, recovery, scoping review

INTRODUCTION

The *Diagnostic and Statistical Manual of Mental Disorders, 5th edition* (DSM-5), defines gambling disorder (GD) as "persistent and recurrent problematic gambling behaviour leading to clinically significant impairment or distress" (American Psychiatric Association (APA), 2013). Moreover, in this context, *clinically significant impairment or distress* may occur across diverse domains of one's life, notably "in personal, family, social, educational, occupational or other important areas of functioning", as specified in the *International Classification of Diseases, 11th Revision* (ICD-11) (World Health Organization, 2022). As such, GD can be understood using a biopsychosocial approach (Engel, 1977), and this holistic perspective

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should also be adopted in the context of GD treatment. Indeed, based on a literature review, interviews and/or focus groups with service providers, gamblers and their concerned significant others as well as an analysis of public forum posts dedicated to gambling problems, Langham et al. developed a conceptual framework for gambling-related harms that includes seven domains of harm (financial, cultural, emotional/psychological, health, relationship, work or study, and criminal acts) (Langham et al., 2016). Consequently, while abstinence has long been viewed as the only acceptable goal of treatment, harm reduction strategies have been increasingly valued (Marlatt, 1996), notably in the context of GD. Such strategies are aimed at reducing adverse health impacts; social, individual, and economic consequences; and harmful behaviours related to addiction. For example, in a systematic review of the use of protective behavioural strategies among individuals with GD, Drawson et al. concluded that gamblers who were engaged in self-exclusion programmes reported both reductions in depressive symptoms and their problem gambling status and improved self-confidence, self-control, and performance at work (Drawson, Tanner, Mushquash, Mushquash, & Mazmanian, 2017).

In particular, increasing evidence indicates that the field of addiction research is moving towards the recovery paradigm, a concept that has increased in importance in mental health practice and research over the past few decades. In the field of mental health, this concept has been described as a process rather than an end that must be achieved. Recovery focuses neither on a return to a previous preillness state nor on the mere management of symptoms to return to a premorbid level of functioning; rather, it involves forging a new way of living that is meaningful and satisfying (Jacob, 2015; Ramon, Healy, & Renouf, 2007). Regarding addictive disorders, recovery, which is also conceptualized as a process, should include similar components, such as the development of a healthy, productive, and meaningful life (El-Guebaly, 2012; Laudet, 2007; White, 2007). However, despite this increasing focus on recovery, no consensus has yet been reached regarding the definition of this concept in the mental health field (Bonney & Stickley, 2008) or in the context of GD (Nower & Blaszczynski, 2008). As the conceptual study conducted by Nower & Blaszczynski showed, various theoretical models of recovery have been proposed, thus contributing to the variability of outcomes reported in this context (Nower & Blaszczynski, 2008).

In a recent systematic review, Pickering et al. completed this conceptual research by showing that "recovery" may be operationalized in terms of abstinence or controlled gambling; the absence of diagnostic criteria; a decrease in gambling behaviour and/or gambling severity; or an improvement in nongambling-related domains, such as mental health, well-being and quality of life. In addition, these authors highlighted the fact that the variables used to operationalize these different outcomes differed across various studies (Pickering, Keen, Entwistle, & Blaszczynski, 2018). As these authors concluded, this absence of any accepted conceptual or at least operational definition of "recovery" undermines researchers' ability to assess the effectiveness of clinical interventions, prevents valid cross-study comparisons, and impedes the advancement of research on this topic. In addition, this lack of clear definitional criteria has crucial clinical implications with regard to the management of GD since it precludes public health policy and recovery-oriented services from following clear guidelines and thus prevents gamblers from receiving suitable support. Nevertheless, the review conducted by Pickering et al. focused on the outcomes assessed and the measurement strategies used in studies that aimed to evaluate treatments. As a result, the scope of this review was limited to quantitative studies. However, qualitative studies may also offer new perspectives on the definition and operationalization of recovery, which are more "patient-centred"; and these perspectives could be compared with those provided by quantitative studies (Pope & Mays, 1995). Such a mixed approach that takes into account, on the one hand, the definitions provided by quantitative and instrument validation studies, which are proposed *a priori* of the research by the researchers themselves on the basis of their clinical and scientific expertise, and, on the other hand, the definitions provided by qualitative studies, which are proposed *a posteriori* on the basis of the gamblers' narratives, may help address complex questions such as the definition of recovery and deepen our understanding of this topic (Sandelowski, Voils, & Barroso, 2006).

For all of these reasons, we decided to conduct a scoping review (Peters et al., 2020) based on a mixed-method synthesis approach, including quantitative, instrument validation, qualitative and mixed methods studies, to systematically map the research conducted in this field, identify existing research gaps, and highlight findings that can support addiction research and clinical practice in the attempt to adopt a more holistic and patient-centred perspective on recovery from GD. Accordingly, the present scoping review sought, on the one hand, to support the results of the previous studies that focused on this gap by (1) examining the definitions of GD recovery offered by a selected corpus of literature; (2) documenting recovery-related outcomes alongside the variables used to operationalize recovery in quantitative and instrument validation studies; (3) extending our knowledge of this topic by exploring the themes that emerge from the narratives of recovery and related factors in qualitative studies, which are provided by former/current gamblers as well as their concerned significant others; and (4) emphasizing the limitations and specific contribution of each type of study.

METHODS

Research strategy

A scoping review of recovery from GD was conducted to identify all relevant publications contained in the following databases: PubMed, PsycINFO, and ScienceDirect. This review complied with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018). The keywords and Medical Subject Headings (MeSH) terms that

were used for the bibliographic search, which pertained to GD on the one hand and recovery on the other hand, are presented in Table 1. These terms were required to appear in the title, abstract or keywords of the articles to be included in this review.

On December 2nd, 2022, the search led to the identification of 591 records, and 391 records remained after duplicates were removed.

The search strategy is summarized in Fig. 1.

Eligibility criteria

Records were screened based on the following inclusion criteria: original studies that provided a definition of and/or highlighted one or several outcomes related to recovery from GD (or any other related term; see Table 1), which were written in English or French and featured an available abstract and full text.

Records that met the following criteria were excluded: case reports/studies; articles that were not specifically focused on GD; articles that focused on an excessively specific subgroup/subpopulation that was not conducive to generalizability (e.g., military veterans, Native Americans); articles other than research articles (e.g., opinion papers, editorials); conceptual articles; and study protocols whose results were already available.

The publication date of a paper was not selected as an eligibility criterion since we also sought to investigate whether the concept of "recovery" had evolved within the literature. However, as an indication, the oldest article was published in 1996, while the most recent article was published in 2022.

Article selection

First, records were screened by reference to their titles and abstracts. This work was performed simultaneously, independently and blindly by AM, MGB, JBH and GCB, who used the *Abstrackr* tool to explore the same bibliographic database. Interrater reliability was calculated using Fleiss's kappa, thus allowing us to assess the reliability of agreement among more than two raters (in contrast with Cohen's kappa). For this study, agreement was defined as requiring a consensus of at least 3 of the 4 researchers involved in this process.

We first performed an initial screening of 50 titles and abstracts, and based on the disagreements we encountered, we were able to refine our screening method for the remainder of the process. While kappa = 0.20 (slight agreement) during the first screening, it increased during subsequent screenings as a result of those adjustments: kappa = 0.37 (fair agreement) during the second screening, and kappa = 0.49 (moderate agreement) during the third and final screening. In cases in which a consensus was reached, the corresponding record was included or excluded directly. In the event that opinions diverged, the corresponding researchers discussed the record in question until they reached an agreement regarding whether it should be included. On the basis of the aforementioned eligibility criteria, 257 records were excluded.

Finally, the full texts of the remaining 134 articles (as well as 2 additional articles that were identified after screening the bibliographic references of the included papers) were read in their entirety and assessed for eligibility. Of these 136 articles, 113 were included in the review.

Table 1. Keywords used for the bibliographic search

Gambling disorder-related keywords*	Recovery-related keywords*
"gambling disorder"	"recovery"
"gambling addiction"	"rehabilitation"
"pathological gambling"	"relapse"
"gambling problem"	"recurrence"
"excessive gambling"	"remission"
"gambling dependence"	"remission induction"
	"spontaneous remission"

In the search equation used for the bibliographic search, all gambling disorder-related keywords were linked with an "OR", all recovery-related keywords were linked with an "OR", and the two themes (gambling disorder and recovery) were linked with an "AND".

Data extraction

The results extracted from the articles included in the review were first divided into four categories based on the method by which they were produced: quantitative methods, including both follow-up designs (including longitudinal studies, randomized controlled trials (RCTs), and study protocols whose results were not yet available) and cross-sectional designs; instrument validation methods (scales, indexes or questionnaires); qualitative methods; and mixed methods that combined both quantitative and qualitative approaches (surveys and exploratory studies). Finally, the results of the articles included in this review were classified into three categories (quantitative, instrument validation, and qualitative methods). The results of the mixed studies were reclassified *a posteriori* alongside either those of quantitative studies or those of qualitative studies based on the main nature of their findings and their potential contributions to the actual quantitative or qualitative synthesis.

The results thus obtained focused on study information (authors, title, journal, publication year, country, DOI), study design, sample size, length of follow-up (if applicable), and outcomes. The results are summarized in Table A1 (quantitative studies), Table A2 (instrument validation studies), and Table A3 (qualitative studies).

Data analysis and synthesis

The articles thus retained were examined using conceptual analysis. The first aim of this process was to capture the definitions of recovery (or, in contrast, nonrecovery) used in these articles, if any, and to analyse the differences observed across various studies.

With regard to quantitative studies (and mixed studies that were classified alongside these quantitative studies), the

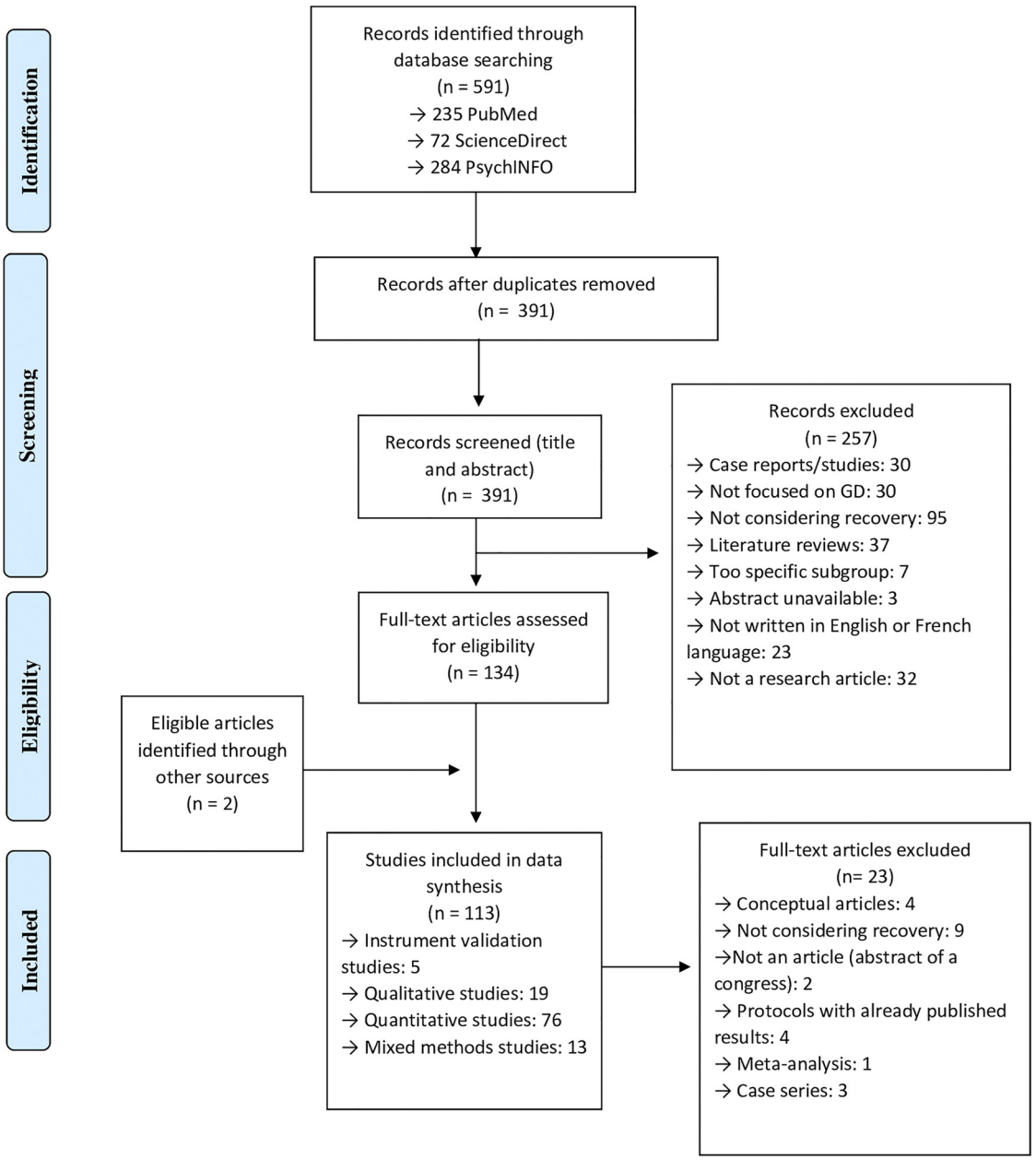

Fig. 1. PRISMA flow diagram of the scoping review search and screening process

researchers focused on the specific terms used to characterize the corresponding outcomes (e.g., "relapse", "dropout", "abstinence") as well as to the definitional criteria used to operationalize the outcomes. In addition, other outcomes were divided into gambling-related outcomes and nongambling-specific outcomes, and the corresponding measures were also reported. With respect to instrument validation studies, the items assessed as part of the scale/index/questionnaire were divided into gambling-related items and nongambling-related items.

With regard to qualitative studies (and mixed studies that were classified alongside these qualitative studies), the outcomes (i.e., the themes identified by the authors based on the interviews they conducted) were extracted for each study independently. The extractor (the first author, AM) subsequently classified all similar themes together (e.g., themes related to financial matters or to social relationships) to produce a metaclassification based on all the included studies, which allowed us to produce a metasynthesis (Aguirre & Bolton, 2014; Erwin, Brotherson, & Summers, 2011) that was grounded entirely on the findings of the qualitative studies selected for this scoping review.

As the present scoping review included both quantitative (including results of instrument validation studies, which are also quantitative in nature) and qualitative findings, the results are based on a mixed synthesis featuring a segregated design. Once each set of quantitative and qualitative findings had been analysed and synthesized separately using distinct methods, the resulting syntheses were compared and combined to support the discussion. Indeed, while the classical

binary distinction between quantitative and qualitative researches was maintained, this segregated design suggests that these two approaches are complementary rather than conflicting in the context of a specified body of research: they address different aspects of a given phenomenon, but their findings are related to each other because they pertain to the same domain of research (Noyes et al., 2019; Sandelowski et al., 2006).

RESULTS

Study languages

All studies were written in English.

Study designs

Among the 113 articles included, 76 were quantitative studies (including 59 longitudinal studies, 8 cross-sectional studies, 6 RCTs, and 3 study protocols), 5 were instrument validation studies, 19 were qualitative studies, and 13 were mixed methods studies.

Recovery according to the quantitative studies

In addition to 76 quantitative studies, the present section also includes five mixed studies that contained quantitative findings related to gambling and recovery. Only a few of these 81 studies defined the notion of "recovery" directly, and they offered only three definitional perspectives (i.e., abstinence; absence of GD diagnosis; and mild GD severity). In contrast, most of these studies operationalized this concept by reference to different treatment outcomes, namely, pre-post changes in gambling-related outcomes (gambling severity; gambling psychopathology; gambling behaviour; and abstinence and relapse) and/or non-gambling-specific outcomes (mental health; general health and lifestyle; functioning; wellbeing, quality of life and life satisfaction; and drop-out rate). Finally, some studies also operationalized recovery in terms of controlled gambling—as measured in terms of gambling frequency, duration, and/or expenditure—which was then viewed as a viable alternative goal to abstinence.

Definitions of recovery. Twenty-eight of the 81 studies included in the present section defined "recovery" explicitly. In particular, three types of definitions emerged: recovery combined with abstinence, recovery viewed from a clinical perspective as the absence of a diagnosis of GD, and recovery in terms of the severity of GD.

Recovery as abstinence. The results of a survey of the general population conducted by Cunningham et al. showed that more than three-quarters of the respondents believed that problem gamblers must quit gambling completely to fix their problem (Cunningham, Cordingley, Hodgins, & Toneatto, 2011). This classical definition of recovery was employed in several studies that included abstinence as part of recovery (Granero, Valero-Solis, et al., 2020; Jiménez-Murcia et al., 2015, 2016, 2019; Walsh, Ciarrochhi, Piedmont, & Haskins, 2007), "(full) remission" (Bormann, Allen, Shaw, & Black, 2019; Dannon, Lowengrub, Gonopolski, Musin, & Kotler, 2005; Vintró-Alcaraz, Munguía, et al., 2022), "therapeutic success" (Echeburúa, Báez, & Fernández-Montalvo, 1996, 2000), "full response" to treatment (Dannon, Lowengrub, Musin, Gonopolsky, & Kotler, 2007), or as a "stable outcome" (Hodgins, Peden, & Cassidy, 2005).

The clinical approach to recovery: definitions of recovery related to gambling screening and diagnostic tools. Numerous studies have defined recovery based on a clinical approach using gambling screening and diagnostic tools. In other words, in these studies, recovery was defined as the absence of screening or GD diagnosis. Most studies that based their definitions on the diagnostic criteria for GD relied on the DSM-IV or DSM-5. Typically, these studies actually used the definition of "sustained remission"; that is, after the full criteria for GD had previously been met, none of the criteria for GD were met during a period of 12 months or longer (Bischof et al., 2020; Gavriel-Fried, Moretta, & Potenza, 2020b; Rossini-Dib, Fuentes, & Tavares, 2015; Slutske, 2006; Slutske, Blaszczynski, & Martin, 2009, 2010). Similarly, Gavriel-Fried et al. used the notion of "*improvement in GD symptoms*" by subtracting the number of DSM-5 diagnostic criteria pertaining to GD that were met during the past year from the number of criteria met over the focal individual's lifetime (Gavriel-Fried, Moretta, & Potenza, 2019, 2020a, 2020c).

Nonetheless, two studies that used the DSM-5 diagnostic criteria adopted a less restrictive perspective. In the study conducted by Gavriel-Fried, participants were classified as having "recovered" if they did not meet the diagnostic threshold for GD, i.e., meeting at least four DSM-5 criteria (Gavriel-Fried, 2018). In a second study, Grall-Bronnec et al. used the definition of "sustained recovery" to focus on participants who did not meet the diagnostic threshold for two consecutive visits; this notion was opposed to relapse, which was conceptualized in terms of meeting the diagnostic threshold after having previously "recovered" (Grall-Bronnec et al., 2021). In the same manner, participants in the study conducted by Müller et al. were classified as part of the "relapse group" not only if they continued to participate in gambling but also if they continued to meet the DSM-IV diagnostic threshold for GD at follow-up (Müller, Wölfling, et al., 2017). Finally, in another study conducted by Müller et al., participants were classified as having recovered based on screening using both the Lie/Bet-Questionnaire and the South Oaks Gambling Screen (SOGS) (Müller, Naab, et al., 2017).

Definitions of recovery related to gambling severity. Other studies defined recovery in terms of changes in scores on gambling-related questionnaires that aim to measure gambling severity. In two studies, participants were classified as *recovered*, *improved, unchanged* or *deteriorated* based on the Gambling-Symptom Assessment Scale (G-SAS) (Hawker, Merkouris, Youssef, & Dowling, 2021; Humphrey

et al., 2020) Two other studies used scores on gambling severity questionnaires to define response to treatment: Dannon et al. defined a "full response" to treatment in terms of the absence of gambling over a 1-month period alongside improvement on the Clinical Global Improvement scale (Dannon et al., 2007), and Grant et al. defined "treatment response" in terms of a 35% reduction in the participant's total score on the Yale-Brown Obsessive Compulsive Scale Modified for Pathological Gambling (PG-YBOCS) (Grant, Donahue, Odlaug, & Kim, 2011).

Operationalization of recovery: treatment outcomes. While most of the quantitative studies included in this review did not directly define the notion of "recovery", they at least measured recovery with the aim of evaluating the effectiveness of an intervention. For this purpose, they examined pre-post changes in various outcomes, i.e., improvements between baseline and post-treatment and/or follow-up(s). Such improvements could pertain to gambling-related outcomes—gambling severity; gambling psychopathology; gambling behaviour; and abstinence and relapse—and/or non-gambling-specific outcomes—mental health; general health and lifestyle; functioning; wellbeing, quality of life, and life satisfaction. Another nongambling outcome included in most of these studies was the drop-out rate.

Gambling severity. Regarding gambling-related outcomes, many of these improvements referred to the severity of gambling (Abbott et al., 2017; Bickl et al., 2021; Boudreault et al., 2018; Dannon et al., 2005; Dowling, Smith, & Thomas, 2007, 2009; Freidenberg, Blanchard, Wulfert, & Malta, 2002; Giordano et al., 2022; Gómez-Peña et al., 2012; Granero, Blaszczynski, et al., 2020; Granero, Valero-Solis, et al., 2020; Grant et al., 2011; Hawker et al., 2021; Hodgins, Currie, & el-Guebaly, 2001, 2009, 2019; Humphrey et al., 2020; Jiménez-Murcia et al., 2007, 2010; Jiménez-Murcia, Aymamí, et al., 2012; Jiménez-Murcia et al., 2015, 2016, 2017, 2019; Kushnir, Godinho, Hodgins, Hendershot, & Cunningham, 2018; Ladouceur et al., 2001, 2003; Mena-Moreno, Munguía, et al., 2022; Müller, Naab, et al., 2017; Müller, Wölfling, et al., 2017; Oei, Raylu, & Lai, 2018; Rossini-Dib et al., 2015; Sylvain, Ladouceur, & Boisvert, 1997; Tárrega et al., 2015; Wulfert, Blanchard, Freidenberg, & Martell, 2006).

Gambling psychopathology. These enhancements also pertained to the psychopathology of gambling, such as urge/craving (Abbott et al., 2017; Giordano et al., 2022; Hawker et al., 2021; Humphrey et al., 2020; Oei et al., 2018), desire to gamble (Echeburúa et al., 1996, 2000; Ladouceur et al., 2001, 2003; Sylvain et al., 1997), gambling-related cognitive distortions (Abbott et al., 2017; Giordano et al., 2022; Oei et al., 2018; Rossini-Dib et al., 2015), and time spent thinking about gambling (Echeburúa et al., 1996, 2000; Monnat, Bernhard, Abarbanel, St John, & Kalina, 2014).

Gambling behaviour. Other gambling-related outcomes concerned gambling behaviour, notably its frequency, duration or intensity, as well as the corresponding expenditures (Abbott et al., 2017; Bickl et al., 2021; Boudreault et al., 2018; Cunningham, Hodgins, Toneatto, & Murphy, 2012; Dowling et al., 2007; Dowling, 2009; Dowling, Smith, & Thomas, 2009; Echeburúa et al., 1996, 2000; Hawker et al., 2021; Hodgins et al., 2001, 2009, 2019; Humphrey et al., 2020; Kushnir et al., 2018; Ladouceur et al., 2001, 2003; Müller, Wölfling, et al., 2017; Oei et al., 2018; Stea, Hodgins, & Fung, 2015; Sylvain et al., 1997). Certain studies also emphasized gambling-related outcomes focusing on self-efficacy, particularly in gambling participation (ability to control gambling in identified high risk situations; limiting or stopping gambling; refusing to gamble; or maintaining abstinence) (Boudreault et al., 2018; Hawker et al., 2021; Hodgins, Currie, Currie, & Fick, 2009, 2019; Ladouceur et al., 2001, 2003; Oei et al., 2018; Sylvain et al., 1997), and gambling craving/urge (managing or resisting craving/urge) (Chan, Cheung, Yeung, Kwok, & Wong, 2018; Giordano et al., 2022; Hawker et al., 2021). Other studies focused on self-control, defined as perception of control over one's gambling problem (Abbott et al., 2017; Ladouceur et al., 2001, 2003; Sylvain et al., 1997). Finally, some studies evaluated readiness, willingness, and ability to change (Humphrey et al., 2020; Wulfert et al., 2006), as well as current goals at follow-up and self-rated goal achievement (Abbott et al., 2017; Hodgins, Cunningham, Murray, & Hagopian, 2019; Stea et al., 2015). One study examined decreases in gambling-related problems and gambling harm reduction (Monnat et al., 2014).

Abstinence and relapse. Although various studies did not define "recovery" directly in terms of a state of abstinence, they used abstinence as an outcome to measure the effectiveness of the intervention in question (Dannon, Rosenberg, Schoenfeld, & Kotler, 2011; Hodgins & el-Guebaly, 2010; Jiménez-Murcia et al., 2007; Monnat et al., 2014; Oei & Gordon, 2008; Ouellet & Queloz, 2018; Sander & Peters, 2009). Similarly, the term "relapse", when included as an outcome, was defined in most studies as the exact opposite of abstinence, that is, as *any episode of gambling during treatment and/or follow-up* (Baño et al., 2021; Dannon et al., 2007, 2011; De Wilde, Goudriaan, Sabbe, Hulstijn, & Dom, 2013; Gómez-Peña et al., 2012; Granero, Blaszczynski, et al., 2020; Granero et al., 2022; Granero, Valero-Solis, et al., 2020; Hodgins & el-Guebaly, 2010; Jiménez-Murcia, Aymamí, et al., 2012; Jiménez-Murcia, Bove, et al., 2012; Jiménez-Murcia et al., 2007, 2010, 2015, 2019; Lara-Huallipe et al., 2022; Mallorquí-Bagué et al., 2018, 2019; Mena-Moreno, Testa, et al., 2022; Mestre-Bach et al., 2019, 2022; Oei & Gordon, 2008; Ouellet & Queloz, 2018; Sander & Peters, 2009; Tárrega et al., 2015; Vintró-Alcaraz, Mestre-Bach, et al., 2022).

Mental health. Some studies also assessed pre-post changes from a multidimensional perspective by examining improvements in nongambling-specific outcomes, such as mental health in termes of depression, anxiety, stress, anger, self-esteem, general psychological distress and psychopathology (Abbott et al., 2017; Boudreault et al., 2018; Chan et al., 2018; Dowling et al., 2007, 2009; Echeburúa et al., 1996,

2000; Gómez-Peña et al., 2012; Granero, Blaszczynski, et al., 2020; Grant et al., 2011; Jiménez-Murcia, Aymamí, et al., 2012; Jiménez-Murcia et al., 2007, 2010, 2015, 2016, 2017, 2019; Linardatou, Parios, Varvogli, Chrousos, & Darviri, 2014; Mena-Moreno, Munguía, et al., 2022; Müller, Naab, et al., 2017; Müller, Wölfling, et al., 2017; Oei et al., 2018; Rossini-Dib et al., 2015; Tárrega et al., 2015; Wulfert et al., 2006); alcohol abuse/dependence (Abbott et al., 2017; Boudreault et al., 2018) and current tobacco use (Abbott et al., 2017); emotion regulation (Mena-Moreno, Munguía, et al., 2022); personality traits (e.g., impulsivity) (Giordano et al., 2022; Mena-Moreno, Munguía, et al., 2022; Müller, Wölfling, et al., 2017; Rossini-Dib et al., 2015; Tárrega et al., 2015); and personality disorders (Giordano et al., 2022). One study assessed such improvements based on neuropsychological tasks (Rossini-Dib et al., 2015).

General health and lifestyle. These improvements could also pertain to general health and lifestyle (health consciousness; motivation to maintain a healthy life; daily routine in terms of meal regularity; and sleep quality and elapsed sleep time) (Chan et al., 2018; Linardatou et al., 2014).

Functioning. Some studies also focused on functioning (daily functioning; adaptation to daily life; negative consequences of gambling on life functioning; and the impacts of gambling on work, social life, and social functioning) (Abbott et al., 2017; Boudreault et al., 2018; Echeburúa et al., 1996, 2000; Grant et al., 2011; Monnat et al., 2014; Müller, Wölfling, et al., 2017).

Wellbeing, qualify of life, and life satisfaction. Other studies examined improvements in quality of life and life satisfaction (Abbott et al., 2017; Boudreault et al., 2018; Grant et al., 2011; Linardatou et al., 2014; Oei et al., 2018); and one study examined improvements in well-being (Müller, Naab, et al., 2017). Finally, one study assessed perceived improvement in material well-being (Monnat et al., 2014).

Drop-out as a form of therapeutic failure. The issue of drop-out was central to quantitative studies that aimed to evaluate treatment effectiveness, which tended to view drop-out as a form of treatment failure. Nevertheless, these studies did not all define this form of therapeutic failure in the same way. While drop-out could be defined merely as *not completing the treatment programme* (Dowling, 2009; Echeburúa, Fernández-Montalvo, & Báez, 2001; Ladouceur et al., 2001; Mena-Moreno, Munguía, et al., 2022), some studies conceptualized therapeutic failure as conditional on a specific number of missed sessions, such as at least three consecutive missed sessions (Baño et al., 2021; Jiménez-Murcia et al., 2007, 2015; Mena-Moreno, Testa, et al., 2022; Mestre-Bach et al., 2016, 2019, 2022; Vintró-Alcaraz, Mestre-Bach, et al., 2022; Vintró-Alcaraz, Munguía, et al., 2022), failure to complete 75% (Granero, Blaszczynski, et al., 2020) or 50% (Rossini-Dib et al., 2015) of the planned programme sessions, or, in the case of one RCT, failure to complete *any* treatment session (Oei et al., 2018). Other studies added the condition of not having previously notified the therapist of one's absence at an upcoming session (Aragay et al., 2015; Gómez-Peña et al., 2012; Jiménez-Murcia, Aymamí, et al., 2012; Mallorquí-Bagué et al., 2018, 2019; Ramos-Grille, Gomà-i-Freixanet, Aragay, Valero, & Vallès, 2013, 2015; Tárrega et al., 2015). Finally, in two studies, Jiménez-Murcia et al. used the term "poor attendance", which was defined as missing at least three therapy sessions (Jiménez-Murcia et al., 2016) or failing to attend more than 25% of the sessions (Jiménez-Murcia et al., 2015).

The issue of drop-out raised by these studies is debatable. Indeed, most such studies viewed drop-out as an indication of two factors, which were often considered to be intertwined: the former factor focused on the claim that the intervention was insufficiently tailored, while the latter focused on participants' own characteristics (e.g., a lack of motivation to change or specific personality traits), both of which impeded treatment compliance. However, one might argue that participants drop out because they have recovered before the intervention's end and thus believe that they no longer require treatment. In that sense, investigating the reasons underlying drop-out among these participants might be helpful, especially with regard to the phenomenon of "natural recovery" that was described in several studies (Slutske, 2006; Slutske et al., 2009; Toneatto et al., 2008).

Controlled gambling: a viable alternative goal to abstinence. Another way to define or measure recovery that emerged from these studies was the notion of controlled gambling, which was explicitly defined in three studies in terms of reduction of gambling frequency, duration and/or expenditure (Dowling, 2009; Dowling et al., 2009; Dowling & Smith, 2007). The study conducted by Dowling et al. suggested that both abstinence and controlled gambling are equally effective as treatment goals with regard to improvements in weekly gambling frequency and expenditure, psychosocial functioning outcomes (depression and anxiety), the number of DSM-IV-TR criteria met (Dowling et al., 2009), and the study conducted by Stea et al. further supported that idea, specifically in terms of the amount of money spent on gambling over the course of treatment (Stea et al., 2015).

Other studies supported the claim that controlled gambling can represent a viable alternative goal to that of abstinence. On the one hand, continued gambling participation was not necessarily associated with a GD diagnosis; in a community-based survey, 90% of participants in the recovery group participated in some form of gambling during the past year (Slutske, Piasecki, Blaszczynski, & Martin, 2010). Similarly, in two studies conducted by Müller et al., half of the participants who continued to gamble did not meet the DSM-IV criteria (Müller, Wölfling, et al., 2017), and approximately 38% of the participants who were identified as having recovered continued to gamble (Müller, Naab, et al., 2017). Likewise, three-quarters of the participants who were identified as in a condition of sustained recovery reported having gambled at some time during a 5-year follow-up (Grall-Bronnec et al., 2021). On the other

hand, at the 1-year follow-up, participants who continued to gamble but did not meet the DSM-IV criteria for GD exhibited improvements that were similar to those of participants who were abstinent in terms of both their psychopathological symptoms and functional impairment (Müller, Wölfling, et al., 2017) as well as their well-being (Müller, Naab, et al., 2017).

In several studies, the definitional criteria that were used to operationalize the concept of relapse supported the claim that gambling does not necessarily entail a relapse when gambling participation is controlled. Indeed, in these studies, relapse was no longer defined merely as the opposite of full abstinence but was instead characterized either by more than two episodes of gambling or by a loss of control, which could be quantified in terms of total expenditures higher than those reported during a week of gambling prior to entering treatment (Aragay et al., 2015; Echeburúa et al., 1996, 2000, 2001; Ramos-Grille et al., 2013, 2015). In the studies conducted by Ramos-Grille et al., such a definition of relapse enabled those authors to distinguish relapse from a mere "lapse", i.e., an isolated episode of gambling (Ramos-Grille et al., 2013, 2015). For Aragay et al., a lapse entails not only an isolated episode of gambling but is also *"associated with mild negative consequences on the patients' economy and family"* (Aragay et al., 2015); this definition was used in the study conducted by Mena-Moreno et al. to define relapse (Mena-Moreno, Munguía, et al., 2022). Finally, another option for operationalizing relapse was proposed by asking the participants the following question directly: *"Do you think that you have a gambling problem again?"* Participants who answered "yes" were categorized as relapsers (Goudriaan, Oosterlaan, De Beurs, & Van Den Brink, 2008).

Recovery in instrument validation studies

The five instrument validation studies included in this review aimed to develop and/or validate scales, questionnaires or indexes that were specifically aimed at measuring recovery. As in the quantitative studies, these studies exhibited disparities in terms of how they defined and/or operationalized the concept of recovery, i.e., by combining recovery with either clinical remission or functional remission and/or by assessing pre-post changes from a multidimensional perspective (in terms of gambling-related outcomes and nongambling-specific outcomes).

Winfree et al. focused on validating the Gamblers' Beliefs Questionnaire (GBQ) by examining differences in post-treatment GBQ scores between treatment responders and nonresponders. Treatment responders were individuals who did not meet the criteria for GD according to the DSM Questionnaire (i.e., the DSM-Q, which was based on DSM-5 diagnostic criteria) and the SOGS at post-treatment (Winfree, Ginley, Whelan, & Meyers, 2015). Hodgins et al., who examined the reliability and validity of an interview version of the Sheehan Disability Scale modified for Gambling (SDS-G), also did not define recovery but rather focused on functional remission, i.e., improvements in work, social, and family functioning at follow-up (Hodgins, 2013).

The remaining three instrument validation studies both employed holistic approaches and offered definitions of recovery. Galetti and Tavares aimed to establish a cut-off score for the Gambling Follow-up Scale Self-Report version (GFS-SR) that could reliably indicate GD remission, which was defined as a state in which the individual no longer met the DSM-5 criteria for GD. This scale included items related not only to gambling (frequency; time spent; money spent; and craving) but also to material (debts), mental (emotional distress), and social (family relationships) well-being as well as personal fulfilment (autonomy; frequency of leisure activities; and satisfaction with leisure activities) (Galetti & Tavares, 2017). Gavriel-Fried et al. aimed to develop the Holistic Recovery Capital in Gambling Disorder (HRC-GD) instrument and to investigate how that measure is connected to recovery status, indicators of psychopathology, and happiness. Recovery status was defined from a clinical perspective, i.e., as a state in which the individual did not meet any of the DSM-5 diagnostic criteria during the previous 12 months (Gavriel-Fried, Lev-El, Kraus, 2022). Finally, in their development of the Recovery Index for Gambling Disorder (RIGD), Pickering et al. offered their own definition of recovery. This definition was based both on adaptive changes related to gambling (gambling reduction: management of craving: and recovery wisdom) and on more general wellbeing outside the context of gambling (in terms of interpersonal relationships; life functioning; and psychosocial and mental health) (Pickering, Blaszczynski, & Gainsbury, 2021).

The construct of recovery

The nineteen qualitative studies included in this research aimed to explore, understand, conceptualize, and describe subjective experiences of problem gambling or GD, and/or recovery in the lives of current and/or former gamblers and/or their significant others. The present section also includes eight mixed studies containing qualitative findings related to gambling and recovery. The synthesis of the findings of these 27 studies highlighted five main results. First, the nine studies that defined recovery *a priori* either used a clinical definition of recovery or combined recovery with abstinence, while one study offered a definition based on a multidimensional perspective. The four remaining findings pertained to the core features of recovery as revealed through a meta-synthesis based on themes extracted from all these studies, namely, the insight process, the empowerment and commitment process, the enhancement of wellbeing process, and the reconsideration of the issue of relapse.

Definition of recovery. Only a few studies offered *a priori* definitions of recovery, which were mainly based on a clinical definition, i.e., not currently meeting the requirements for GD according to either the DSM diagnostic criteria (Gavriel-Fried & Lev-El, 2018, 2022; Gavriel-Fried, Vana, Lev-el, & Weinberg-Kurnik, 2022) or the SOGS score (Hodgins, Wynne, & Makarchuk, 1999). In one study, Hodgins and el-Guebaly used the term "nonresolved" gamblers instead of "recovered", and nonresolved gamblers

were identified using the DSM criteria (Hodgins & el-Guebaly, 2000). In addition, two studies included recovery as part of abstinence (Avery & Davis, 2008; Davis & Avery, 2004). Finally, Reith and Dobbie conceptualized recovery as "*a fluid process rather than a singular event, and one which incorporated various types of behavior within it*" (Reith & Dobbie, 2012).

Insight. The current or former gamblers interviewed mentioned a dissociative phenomenon in which the "gambling self" was distinguished from the "real self" (Reith & Dobbie, 2012). This dual self was correlated with a form of alienation, as if the individual were dependent upon an external force that had control over his or her identity and overwhelmed him or her, as a result of which he or she was no longer in charge of his or her own actions (Nuske & Hing, 2013; Rogier et al., 2020). In fact, the verbal language analysis conducted by Altavilla et al. highlighted poor use of first-person singular-related words during the phases of craving, relapse, and loss of control (Altavilla et al., 2020). Moreover, in the study conducted by Toneatto et al., the most common reason for quitting gambling was a crisis of self-image or self-concept (Toneatto et al., 2008). In light of these phenomena of dissociation and alienation, it appeared that one fundamental step towards recovery was the insight process, which included several components, namely, the recognition, awareness and acceptance of the individual's problem gambling or GD and the reflexive work performed to overcome the corresponding cognitive distortions.

Recognition, awareness and acceptance. First, it was necessary for the gambler to acknowledge the existence of his or her problem (Pickering, Spoelma, Dawczyk, Gainsbury, & Blaszczynski, 2020) or disorder (Rogier et al., 2020) and the difficulties faced. In other words, this insight required introspection into the gambler's own behaviour and its impacts. Nonetheless, it was also necessary for this awareness of one's disorder and its consequences to be followed by acceptance, especially of the wounds caused by gambling. However, such recognition and acceptance of these wounds should not be viewed as synonymous with fatality but should rather be considered in terms of the positive aspects of this approach, such the fact that it provides an opportunity to initiate the process of recovery (Nixon & Solowoniuk, 2006). As a reason for change, some gamblers reported having experienced a "turning point", which occurs "*when an individual reaches an upper limit of harm and suffering, makes a critical decision to change one's lifestyle, and succeeds in doing this*" (Samuelsson, Sundqvist, & Binde, 2018).

Overcoming cognitive distortions. The insight process also requires the exertion of genuine effort to address gambling-related cognitions (Oakes, Pols, Lawn, Battersby, & Lubman, 2019; Pickering et al., 2020; Rogier et al., 2020; Samuelsson et al., 2018). For example, in the study conducted by Hodgins and el-Guebaly, the most frequently reported reason for relapse was "optimism about winning" (Hodgins & el-Guebaly, 2004). Cognitive distortions have indeed been conceptualized as representing negative recovery capital (Gavriel-Fried & Lev-El, 2022), whereas "reconstruction skills" ("*critical awareness about gambling, to change conceptions and beliefs that characterized the gambling period by realistic and critical view of gambling games*") have been viewed as representing recovery capital (Gavriel-Fried & Lev-El, 2018). Among the actions that the gamblers interviewed as part of another study conducted by Hodgins and el-Guebaly took to resolve their problems, the respondents mentioned "cognitive strategies" (consciously considering the negative aspects of gambling or the benefits of quitting) (Hodgins & el-Guebaly, 2000).

Empowerment and commitment. By acknowledging and admitting his or her problem/disorder, the problem gambler could initiate an empowerment process whereby he or she could take responsibility for his or her own gambling behaviour and engage in his or her own recovery process (Nixon & Solowoniuk, 2006; Nuske & Hing, 2013; Pickering et al., 2020). In the study conducted by Samuelsson and Cisneros Örnberg on ideological dilemmas regarding responsibility, participants highlighted the necessity of taking responsibility for their gambling behaviour to become an active agent in the recovery process, whereas blaming gambling companies or the regulating state or considering oneself to be a victim were viewed as unhelpful for promoting active change and as irrational in some way (Samuelsson & Cisneros Örnberg, 2022).

This notion of being "an active agent" was described as essential to the recovery process and, as such, requiring active commitment. The "lack of motivation to recover" was identified as a component of negative recovery capital (Gavriel-Fried & Lev-El, 2022), whereas "self-efficacy", defined as an "*individual's belief in one's ability to stop gambling and adhere to that decision*", was recognized as a resource associated with recovery capital (Gavriel-Fried & Lev-El, 2018). This active commitment became manifest in the new ways in which the individual behaved, including both gambling-related behaviours (such as reducing or quitting gambling) and nongambling-specific behaviours based on substitute activities (Pickering et al., 2020). Limiting access to or avoiding gambling and engaging in new and alternative activities were the actions that the participants in various studies mentioned most frequently as facilitating their recovery (Avery & Davis, 2008; Davis & Avery, 2004; Hodgins et al., 1999; Hodgins & el-Guebaly, 2000; Rodda, Booth, Vacaru, Knaebe, & Hodgins, 2018; Toneatto et al., 2008). The central role played by alternative activities in the recovery process could be explained by reference to a feeling of boredom, which was cited as a reason to gamble by most participants in two studies (Avery & Davis, 2008; Davis & Avery, 2004). In addition, participants in the study conducted by Pickering et al. mentioned that after addressing their problematic gambling habits, they felt a sense of loss, as gambling had previously consumed a significant portion of their daily lives. Consequently, replacing gambling with meaningful activities was endorsed

as an adaptive strategy for addressing such boredom (Pickering et al., 2020). However, as highlighted by Pickering et al., engaging in alternative activities did not focus primarily on managing boredom but rather on discovering new activities that held significance for the individual. Indeed, in the study conducted Gavriel-Fried & Lev-el, inactivity (inaction and a lack of involvement in work or leisure activities) was identified as a component of negative recovery capital, as such a state could cause the individual to experience a sense of emptiness, prompting him or her to gamble to fill this void (Gavriel-Fried & Lev-El, 2022). Similarly, in the study conducted by Samuelsson et al., meaningful employment was a factor that decreased gambling, while a lack of meaningful employment was identified as a factor that increased gambling (Samuelsson et al., 2018).

Therefore, such an active commitment within the recovery process could not be reduced to mere engagement in arbitrary alternative activities with the goal of "killing time" and coping with boredom to avoid gambling. The pursuit of new extrinsic goals beyond the sphere of gambling as well as the optimization of daily life beyond the level of mere abstinence, required the individual to redefine his or her value system to ensure that the actions in which he or she engaged became more value-oriented, thus making them more meaningful. In that sense, Gavriel-Fried & Lev-el distinguished between "self-control skills", which focus on avoiding negative behaviours or situations, and "proactive coping skills", which focus on fostering positive behaviours and enhancing one's life. The participants interviewed explained that setting goals was a way of maintaining and strengthening the recovery process and that engaging in activities provided them with a daily structure; alleviated their boredom; filled the void left by the absence of gambling; and contributed to a sense of increased value, meaning, and improved self-image for recovering gamblers (Gavriel-Fried & Lev-El, 2018). Nixon and Solowoniuk referred to this meaningful commitment to new activities as "entering the flow of life" (Nixon & Solowoniuk, 2006) and noted that it could enable gamblers to overcome the identity associated with addiction. As the verbal language analysis conducted by Altavilla et al. showed, future tense-related words were used less frequently than present and past tense-related words, suggesting not only a static representation of the individual's condition as a pathological gambler but also a poor ability to self-project into the future (Altavilla et al., 2020). In that sense, one path to recovery appeared to be "moving forwards", i.e., generating new roles and responsibilities in the future (employment, new relationships, starting a family, purchasing a property, etc.) that could open up new ways of being and foster new conceptions of the self (Reith & Dobbie, 2012; Vasiliadis & Thomas, 2018).

The enhancement of wellbeing. Once the recovery process had begun, the main goal that these individuals pursued was the enhancement of their wellbeing, which focused on various aspects of their lives, notably their mental wellbeing, financial wellbeing, and social wellbeing.

Mental wellbeing. One objective of the recovery process is to allow the gambler to experience relief from negative emotions (such as stress, depression, or guilt) (Avery & Davis, 2008; Hodgins et al., 1999; Hodgins & el-Guebaly, 2000; Pickering et al., 2020). The enhancement of mental health appeared to be even more important because wellbeing and recovery exhibited a dynamic and reciprocal relationship with one another, such that the improvement or alteration of one of these factors led to a similar change in the other. In fact, "subjective wellbeing" was identified as a resource associated with recovery capital (Gavriel-Fried & Lev-El, 2018), whereas negative emotions and stressful life events were identified as components of negative recovery capital (Gavriel-Fried & Lev-El, 2022). Moreover, gambling may exhibit a coping function that allows gamblers to escape their everyday troubles (Oakes et al., 2019; Samuelsson et al., 2018).

Material wellbeing. In addition to promoting mental health, another objective of the recovery process is to promote material wellbeing, i.e., the factor that Heiskanen called "financial recovery". This concept involves *"resolving the financial problems caused by problem gambling and the attempts to achieve balance in everyday financial matters of (former) problem gamblers"* (Heiskanen, 2017). Indeed, in the study conducted by Hodgins and el-Guebaly, the financial domain was the area of life that was most strongly affected by GD, which had extremely negative consequences in this context (Hodgins & el-Guebaly, 2004).

Nonetheless, the idea of financial recovery was not unambiguous. Indeed, "financial distress" was mentioned as a component of negative recovery capital (Gavriel-Fried & Lev-El, 2022), and the resolution of financial problems was viewed as an integral part of the recovery process (Hodgins et al., 1999; Hodgins & el-Guebaly, 2000; Pickering et al., 2020). In addition to becoming debt free and obtaining sufficient financial assets, the inclusion of "financial capital" as part of recovery capital also referred to a lack of spare cash since such a lack of money could immediately prevent gambling (Gavriel-Fried & Lev-El, 2018). The gamblers interviewed as part of the study conducted by Oakes et al. explained that after having paid their essential bills, they spent the money they had "left over" (i.e. any remaining founds) on gambling, even if this money was not truly available for gambling purposes (Oakes et al., 2019). Additionally, in the study conducted by Samuelsson et al. (2018), other gamblers reported that while a high level of access to money increased their gambling, a low level could either decrease their gambling (due to the lack of money available for gambling) or increase their gambling (with the aim of "winning one's money back") (Samuelsson et al., 2018). Moreover, as the study conducted by Heiskanen suggested, gamblers who lived on welfare benefits often and almost entirely used those benefits for gambling in an attempt to increase their income, despite the fact that they needed such financial support to overcome their problem gambling (Heiskanen, 2017). Similarly, a second reason for relapse that was cited by participants in the study conducted by

Hodgins and el-Guebaly was the need to make money because of financial pressure or the desire to chase losses (Hodgins & el-Guebaly, 2004).

Social wellbeing. Finally, numerous studies emphasized the importance of social relationships in the recovery process. Recovery may enable individuals to (re)establish close, open, and honest relationships (Pickering et al., 2020); reciprocally, these social relationships can play an important part in the recovery process (Avery & Davis, 2008; Toneatto et al., 2008) and were thus identified as components of recovery capital (Gavriel-Fried & Lev-El, 2018). In that sense, the social well-being and support that results from those social relationships also depend on personal elements, such as openness and honesty, which were described as qualities that the individual should cultivate. Being open and honest in his or her relationships can enable the individual to reveal his or her gambling behaviour and to foster mutual comprehension and communication with his or her family, partner, and/or friends (Gavriel-Fried, Vana, et al., 2022; Hodgins & el-Guebaly, 2000; Nilsson, Simonsson, & Hellner, 2021; Rogier et al., 2020; Samuelsson et al., 2018; Tremblay et al., 2018); in contrast, the inability to share/seek help was a factor that led to an increase in gambling according to the findings of the study conducted by Samuelsson et al. (2018). Moreover, in the study conducted by Gavriel-Fried et al., interviewees of both genders emphasized the fact that for women, the responsibilities of being a mother and the tasks associated with household management could play significant roles in recovery; in addition, for men, their role as family providers could play the same role (Gavriel-Fried, Vana, et al., 2022).

Furthermore, these individuals' concerned significant others (friends, family) could also represent an *impetus* to initiate the recovery process indirectly by serving as living proof of the individuals' problem gambling, which also impacts these significant others (Reith & Dobbie, 2012). They could also do so directly, namely, by confronting the individual with such problems (Vasiliadis & Thomas, 2018), or even more directly and actively, namely, by seeking help for the problem gambler on their own initiative (Hing, Tiyce, Holdsworth, & Nuske, 2013). In a recent survey conducted by Hodgins et al., most participants who accessed treatment reported that a family member or a friend obtained the information for them, and being married or in a common-law relationship was the demographic variable that was most strongly associated with higher levels of treatment-seeking behaviour (Hodgins et al., 2022).

Finally, the authors discussed another type of social relationship that helped problem gamblers recover, i.e., the relationships among members of mutual-support groups. Within those groups, based on a "shared narrative", gamblers could access various resources, such as emotional and social support, motivation, psychological insight, and practical advice (Avery & Davis, 2008; Binde, 2012; Nuske & Hing, 2013; Syvertsen, Erevik, Mentzoni, & Pallesen, 2020).

Reconsideration of the issue of relapse. Another essential feature of the recovery process that gamblers reported was being aware of and admitting the potential for relapse(s) that is inherent to this process. Individuals who engage in this process must accept its potentially cyclical nature and, consequently, its ambivalence (Nixon & Solowoniuk, 2006). Indeed, relapses could elicit negative emotions and thoughts regarding one's capability to change or even hopelessness (Nilsson et al., 2021). Consequently, gamblers must reframe such relapse(s) positively (Pickering et al., 2020). Interestingly, Hodgins and el-Guebaly distinguished between "major relapses", i.e., those with extreme consequences, and "minor relapses", i.e., those that are not associated with any consequences (Hodgins & el-Guebaly, 2004), emphasizing the fact that relapses should be conceptualized in terms of their consequences on one's life rather than as "failures" *per se*.

DISCUSSION

The present scoping review aimed to explore the ways in which the concept of recovery from GD has been defined and/or operationalized in the literature as well as to identify any existing gaps in this research area; its ultimate goal was to report findings that could contribute to the development of more holistic and patient-centred approaches. Accordingly, we first examined the definitions of recovery offered by a selected corpus of quantitative and instrument validation studies (and mixed studies classified with the quantitative studies) alongside the outcomes used to measure recovery in these studies. Despite some common features in terms of their conceptualizations, the results reported in the present review exhibited discrepancies not only in terms of the way in which they defined recovery but also in terms of the range of outcomes they measured as well as in the variables they used to operationalize those outcomes. These findings allowed us to confirm and extend the findings previously reported by Nower and Blaszczynski in their conceptual study (Nower & Blaszczynski, 2008) as well as by Pickering et al. in their systematic review (Pickering et al., 2018), both of which highlighted the existing gap in the literature regarding the definition of recovery from GD and the corresponding inconsistencies in terms of the ways in which that factor is measured. In addition, this issue has also been highlighted in the substance use disorder literature (Donovan et al., 2012; White & Godley, 2005).

Then, we focused on the few definitions of recovery that have been provided by a selected corpus of qualitative studies (and mixed studies classified with the qualitative studies), which were similar to the definitions that we found in the quantitative and instrument validation studies. We also examined the themes provided by former or current gamblers in their narratives of recovery in the context of these qualitative studies and produced a meta-synthesis that made it possible to identify the core features of recovery, which was viewed as a dynamic process rather than an endpoint or a definitive state that should be attained. Four central components of that process emerged from a holistic perspective: the insight process, the empowerment and commitment process, the wellbeing enhancement process, and the reconsideration of the issue of relapse.

Recovery as a diffuse but evolving concept: from abstinence to more holistic and patient-centred approaches

One main finding of this scoping review pertains to the persistence of the dogma of abstinence. Indeed, several studies defined "recovery" in terms of being abstinent (i.e., not gambling at all) (Avery & Davis, 2008; Bormann et al., 2019; Dannon et al., 2005, 2007; Davis & Avery, 2004; Echeburúa et al., 1996, 2000; Granero, Valero-Solis, et al., 2020; Hodgins et al., 2005; Jiménez-Murcia et al., 2015, 2016, 2019; Vintró-Alcaraz, Munguía, et al., 2022; Walsh et al., 2007) or used abstinence as a benchmark to measure the effectiveness of an intervention (Dannon et al., 2011; Hodgins & el-Guebaly, 2010; Jiménez-Murcia et al., 2007; Monnat et al., 2014; Oei & Gordon, 2008; Ouellet & Queloz, 2018; Sander & Peters, 2009). This interchangeability between recovery and abstinence is based on a traditional medical model of addiction, which is notably the approach taken by mutual self-help groups. According to such a model, addiction is viewed as a disease, in which context an individual who has previously exhibited GD will never be able to engage in controlled gambling (Binde, 2012), thus making abstinence the only viable and acceptable goal.

Nonetheless, such a conceptualization of recovery is becoming increasingly controversial. How are we to account for pathological or problem gamblers who were already abstinent before entering treatment? Should we consider them to have recovered only because they were abstinent? Conversely, does the fact that they still need help indicate that they have not yet recovered? Alternatively, should being conscious of one's own vulnerability be viewed as an indicator of recovery? In a study regarding pre-treatment abstinence among seekers of treatment for substance abuse, Rosengren et al. reported that abstinence prior to treatment was neither a predictor of treatment completion nor a predictor of treatment outcomes (Rosengren, Downey, & Donovan, 2000). In addition, as noted by Nower and Blaszczynski, the content of the notion of "abstinence" is not always clear: unlike alcohol use disorder, in which context abstinence implies not consuming any amount or type of alcoholic drink, participation in "soft" forms of gambling (e.g., lotteries) is not necessarily viewed as a violation of abstinence (Nower & Blaszczynski, 2008). This more flexible approach to abstinence is reflected in the concept of "controlled gambling", which several studies have proposed as a more realistic and appealing goal for gamblers who aim to achieve recovery (Dowling et al., 2009; Grall-Bronnec et al., 2021; Müller, Naab, et al., 2017; Müller, Wölfling, et al., 2017; Slutske et al., 2010; Stea et al., 2015). Indeed, in the study of Dowling and Smith, many gamblers who sought to achieve recovery chose controlled gambling as their treatment goal because they believed that abstinence was unrealistic or overwhelming (Dowling & Smith, 2007). Thus, using abstinence as the sole criterion for successful recovery may discourage pathological gamblers from seeking help or may lead to treatment dropout (Ladouceur, 2005), which has been a genuine issue in studies aiming to evaluate the effectiveness of an intervention. However, this approach also comes with certain limitations. As Nower and Blaszczynski also emphasized, defining "controlled gambling" is nonobvious since, in contrast to alcohol, such a thing as an accepted standard single unit of gambling expenditure does not exist. Determining controlled gambling in terms of money spent and/or based on the gambler's income does not constitute a reliable measurement given the inherent subjectivity that characterizes gamblers' estimates of expenditure as well as variations in their income and financial situation (Nower & Blaszczynski, 2008).

In that effort to both overcome the classical belief that abstinence should be a requirement of the recovery process and adopt a more patient-centred perspective, several studies defined recovery in terms of the absence of a diagnosis of GD according to the DSM criteria or the SOGS score (Bischof et al., 2020; Galetti & Tavares, 2017, 2017; Gavriel-Fried, 2018; Gavriel-Fried et al., 2019, 2020a, 2020b, 2020c; Gavriel-Fried, Lev-El, et al., 2022; Gavriel-Fried, Vana, et al., 2022; Gavriel-Fried & Lev-El, 2018, 2022; Grall-Bronnec et al., 2021; Hodgins & el-Guebaly, 2000; Müller, Naab, et al., 2017; Müller, Wölfling, et al., 2017; Rossini-Dib et al., 2015; Slutske, 2006; Slutske et al., 2009, 2010; Winfree et al., 2015). However, the main limitation of this approach lies in the fact that it defines recovery solely from a clinical perspective. Similarly, four other studies also aimed to define recovery based on the severity of gambling through participants' scores on certain gambling-related questionnaires (Dannon et al., 2007; Grant et al., 2011; Hawker et al., 2021; Humphrey et al., 2020). Nevertheless, such a perspective is also limited since it focuses on gambling symptoms and behaviour. Even in studies that aimed to embrace a more holistic approach to recovery either by assessing treatment effects in terms of pre-post changes from a multidimensional perspective or by developing nongambling-specific items in the case of instrument validation studies, their approach was limited to mental health (Dowling et al., 2007, 2009; Giordano et al., 2022; Gómez-Peña et al., 2012; Granero, Blaszczynski, et al., 2020; Jiménez-Murcia, Aymamí, et al., 2012; Jiménez-Murcia et al., 2007, 2010, 2015, 2016, 2017, 2019; Mena-Moreno, Munguía, et al., 2022; Tárrega et al., 2015; Wulfert et al., 2006). The less restrictive studies failed to range beyond a functional definition, i.e., a definition in terms of "living/doing better with" (Chan et al., 2018; Echeburúa et al., 1996, 2000; Galetti & Tavares, 2017; Hodgins, 2013; Monnat et al., 2014; Müller, Wölfling, et al., 2017; Pickering et al., 2021; Rossini-Dib et al., 2015), and they thereby omitted the intrinsically subjective dimension of recovery in terms of redefining one's system of values and life priorities. Indeed, it is noteworthy that only a few of these studies considered subjective aspects of recovery, such as quality of life, life satisfaction or wellbeing (Abbott et al., 2017; Boudreault et al., 2018; Gavriel-Fried, Lev-El, et al., 2022; Grant et al., 2011; Linardatou et al., 2014; Müller, Naab, et al., 2017; Oei et al., 2018). However, the instruments they used were primarily standardized and quantitative in nature, which may not fully capture the nuanced experiences and personal stakes involved in the

concept of recovery for those directly affected. This aspect was more effectively addressed by qualitative studies, which directly interviewed individuals in recovery or who had recovered.

Core features of recovery from GD

Alongside a key reference to the enhancement of mental wellbeing, recovery exhibits certain common features across mental health and addiction (Davidson & White, 2007). In light of two recent systematic reviews on the topic of personal recovery among patients with severe mental illness—one concerning personal recovery among patients with bipolar disorders (Chirio-Espitalier et al., 2022) and the other concerning personal recovery among patients with schizophrenia (Leendertse et al., 2021)—it seems that recovery from GD shares three features related to personal recovery with those two disorders: empowerment, the meaningfulness of life, and hope.

The meta-synthesis of qualitative findings showed that empowerment is crucial to the recovery process, which, in turn, is based on an active commitment to one's own recovery. Accordingly, individuals must engage in new behaviours, which could be either gambling-specific (notably, reducing or quitting gambling) or not related to gambling. In fact, participants described experiencing boredom, which often led them to gamble. In a more existential sense, boredom can be related to a sense of emptiness in gamblers' lives, which prompts them to use gambling as an adaptive strategy to address this void. Therefore, engaging in new activities does not merely include avoiding inactivity and remaining busy to reduce or terminate one's gambling. This process also entails becoming involved in activities that are meaningful for the individuals in question and that are in line with the redefinition of their value system. Pursuing goals that are not specific to gambling enables the individual to overcome the identity associated with addiction and thus to confer on life a meaning that ranges beyond the level of mere addiction. Concerning hope, gamblers who are engaged in a recovery process must progressively admit its potentially cyclical nature and recognize its ambivalence; consequently, they must understand and accept the fact that relapses are often inherent steps in that process rather than signs of failure. Moreover, one factor that recovery from GD shares with personal recovery in the context of bipolar disorder is openness to others. One core feature of recovery from GD is the enhancement of wellbeing, including social wellbeing, i.e., the establishment of social relationships that are based on trust, openness, and closeness, which may help the gambler during the recovery process. Such relationships can involve friends and family as well as mutual support groups.

Nonetheless, this review highlighted specific features of recovery from GD. The first such feature is the insight process: GD seems to be closely linked to a process dissociation, as part of which the individual's own identity is momentarily set aside and replaced by a gambler identity. This phenomenon is explained by reference to the alienation that gamblers experience, in which context it seems to gamblers as if an external force were in control of their behaviour. Consequently, the first step in the recovery process involves introspective work that should lead individuals to become aware of their GD and, after having acknowledged that disorder, to accept it. Through this insight process, individuals must also question their own beliefs about gambling, given that gambling behaviour is characterized by cognitive distortions. Thus, individuals provide themselves with the means to adopt a realistic perspective on gambling, notably with regard to its negative impacts on their lives and reasons for terminating or at least reducing their gambling activity. Finally, the enhancement of material wellbeing also seems to be a component of recovery specific to gambling. Termed "financial recovery" (Heiskanen, 2017), it should enable individuals to pay off the loans and debts that have been incurred due to gambling and to achieve financial stability with regard to daily matters. However, a peculiar ambivalence characterizes this form of recovery. Access to money is essential for everyday life but is also likely to provide individuals with the means to gamble. Conversely, a lack of access to money prevents gambling but may also trigger desperate attempts to earn back money that has been lost, even in the absence of readily available funds, by using credit or borrowing money from friends or family—which are common behaviours among individuals with gambling problems.

Limitations

This review has several limitations. First, strict eligibility criteria were employed. In particular, only articles that were written in English or French were selected, leading to the exclusion of potentially relevant articles written in other languages. However, this limitation also represents a strength of this review, which was both focused on a specific subject and based on certain criteria regarding the generalizability of results in the context of a scoping review. By adhering to such specific criteria, we were able to maintain rigor and coherence in our analysis. Overall, while this limitation may have restricted the scope of our review, it ultimately contributed to the clarity and specificity of our findings within the defined parameters of our research objectives.

Second, the interrater reliability among the raters was initially fair (at the first and second screenings of titles and abstracts) and then moderate (at the third screening of titles and abstracts). However, this limitation was counterbalanced by the fact that the research process used for this review required a consensus (i.e., agreement among at least 3 of 4 researchers) to be reached in cases featuring divergent opinions, a process which involved a discussion among the four researchers with regard to each abstract. Third, only one author performed the full-text screening and the data extraction. Nonetheless, before the production of the final dataset, the four authors involved discussed the requirements for extracting the data from the records.

CONCLUSIONS AND DIRECTIONS FOR FUTURE RESEARCH

One main result of this review was the substantial heterogeneity it revealed regarding definitions of recovery—in terms of abstinence, controlled gambling, the complete absence of diagnostic criteria, not exceeding the DSM-5 threshold criteria, severity of GD, or else functional remission. Furthermore, this discrepancy was also apparent with regard to the outcomes that were selected as indices of recovery across the quantitative and instrument validation studies; while some such studies measured recovery in terms of improvements in gambling severity, psychopathology, and behaviour, others also assessed the enhancement of mental health, general health and lifestyle, functioning, social relationships, or quality of life/life satisfaction/wellbeing. This disparity regarding both definitional and operational criteria precludes the development of best-practice treatments and hinders progress in research on this topic. To optimize treatment strategies for GD, future therapeutic studies should include appropriate and comparable outcome variables. Accordingly, the minimum requirements for reporting the efficacy of GD treatment proposed by Walker et al. could serve as a useful resource in this context (Walker et al., 2006).

This lack of definitional clarity also emphasizes the need for further qualitative studies, in which context former/current gamblers' subjective experiences could help researchers conceptualize recovery from a holistic and patient-centred perspective. Such qualitative studies could contribute to the formulation of a unified operational definition of recovery and to provide clinicians, researchers, policy-makers, and the prevention community with consistent standards for promoting recovery from a multidimensional and tailored perspective. Although Neale et al. focused on recovery from substance use, their research effectively illustrated the relevance of identifying indicators upon which most stakeholders agree when attempting to measure recovery, at least to the point of reaching a "working consensus" (Neale et al., 2015). Indeed, public health policy and recovery-oriented services should rely on clear guidelines that capture multiple stakeholder perspectives with the aim of providing gamblers with appropriate support.

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Appendix

Table A1. Quantitative studies: Characteristics and outcomes

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Abbott et al. (2017)	New Zealand	Protocol (for a pragmatic RCT)	3- and 12-month	Authors plan to recruit a sample of 300 participants			Days spent gambling and amount of money spent per day gambling over the previous 2 months (timeline follow-back interview); Gambling severity (PGSI); Gambling urge (GUS); Gambling-related cognitions (GRCS); Control over gambling (scored on a scale ranging from 0 to 10); Self-rated goal obtainment (scored on a scale ranging from 0 to 10)	Depression (PRIME-MD); General psychological distress (K10); Alcohol abuse/dependence (PRIME-MD) and current tobacco use; Quality of life (EUROHIS-QOL 8-Item Index); Gambling impacts (i.e., work, social life, family and physical health); Direct and indirect costs associated with treatment (self-reported data)
Aragay et al. (2015)	Spain	Longitudinal	6-month intervention; 6-month follow-up	566 male participants		"Lapse": An isolated episode of gambling associated with mild negative consequences on the patients' economy and family; "Relapse": More than two episodes of gambling documented during two consecutive visits or one gambling episode that featured no sense of control, with loss of control being defined in terms of a total expenditure higher than that of 1 week of gambling prior to entering therapy; "Drop-out": Missing 3 or more sessions without previous notification		

(continued)

Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Baño et al. (2021)	Spain	Longitudinal	16-session intervention	214 female participants		"Relapse": The occurrence of a gambling episode after treatment had been started; "Drop-out": Not attending 3 consecutive sessions of CBT therapy		
Bickl et al. (2021)	Germany	Longitudinal	6-, 12-, 24-, and 36-month	145 participants			Gambling frequency, i.e., average number of gambling days per week, and gambling intensity, i.e., average number of hours spent gambling per gambling per day (participants' self-report); Gambling severity (DSM-5)	
Bischof et al. (2020)	Germany	Cross-sectional		118 participants	"Recovery": Meeting no DSM-IV criteria for pathological gambling within the past 12 months prior to the study		Recovery/current gambling problems (DSM-IV)	
Bormann et al. (2019)	USA	Longitudinal	A mean of 2.6-year follow-up (with an assessment every 6 months)	163 participants	"Remission": No gambling for 8-weeks		Weekly course of PG (LIFE)	
Boudreault et al. (2018)	Canada	Longitudinal	11-week; 1-, 6-, and 12-month	62 participants			Gambling frequency, gambling time, and amount of money spent on gambling, during the month preceding assessments (open-ended questions); Gambling severity (PGDI DSM-5 Version); Self-efficacy, i.e., ability to control gambling in identified high-risk situations (self-efficacy questionnaire)	Depression (BDI-II); Anxiety (BAI); Alcohol abuse/dependence (SADDQ); Life satisfaction (Life-satisfaction questionnaire); Negative consequences of gambling over life functioning (PGDI DSM-5 Version); Satisfaction with the treatment programme and workbook completion

(continued)

Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Chan et al. (2018)	Hong Kong	Longitudinal	Interim-test; postintervention; 2-month follow-up	86 participants (52 with GD)			Self-efficacy to control addictive behaviour in response to urges (Self-Efficacy of Urge Management Scale)	General psychological distress (K10); Likelihood/willingness to disclose psychological distress to others (Distress Disclosure Scale); Health consciousness (Health Consciousness Scale); Motivation to build a healthy life (Motivation to Change Scale); Perceived disturbance due to addiction
Cunningham et al. (2012)	Canada	Randomized controlled trial	3-, 6-, and 12-month	209 participants			Number of days during the past 30 days on which participant gambled, amount of money spent on gambling in the past 30 days, and largest amount of money spent on gambling in one day (questionnaire); Perceived norms regarding other's gambling variables 1/Beliefs regarding gambling abuse; 2/Treatment necessity; 3/Predictors of the beliefs regarding need for treatment and need for abstinence	
Cunningham et al. (2011)	Canada	Survey		8,467 participants				
Dannon et al. (2007)	Israel	Longitudinal	6-month	43 male participants	"Full response": The absence of gambling for a 1-month duration alongside improvement on the Clinical Global Improvement scale	"Abstinence": No gambling behaviour (including any forms of gambling) during the month preceding the follow-up visit; "Relapse": Any gambling behaviour during the month preceding the follow-up visit		

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Dannon et al. (2011)	Israel	Longitudinal	6-month	17 male participants		"Abstinence": No gambling behaviour (including any forms of gambling) during the month preceding the follow-up visit; "Relapse": Any gambling behaviour during the month preceding the follow-up visit		
Dannon et al. (2005)	Israel	Randomized blind-rater comparison study	12-week intervention; postintervention	31 male participants	"Full remission": Total abstinence from gambling behaviour		Gambling severity (CGI-I)	
De Wilde et al. (2013)	Belgium	Longitudinal	12-month	52 participants		"Relapse": The presence of any gambling behaviour, as measured by the SCID-I and SOGS; relapse was coded as a binary variable (abstinent/nonabstinent)		
Dowling (2009)	Australia	Longitudinal	6-month	77 female participants	Participants were classified into the following groups: "Abstinence": No episodes of gambling during the 1-month period or for the predominant proportion of the inter-evaluation period (i.e., the 5 months after completion of the treatment programme); "Controlled gambling": Spending no more than AUS$20 per week and spending no more than	"Drop-out": Participants who commenced but did not complete the 12-week treatment programme	Weekly gambling frequency and expenditure in the month prior to the completion of treatment	

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
					intended during any one gambling session during the month and for the predominant proportion of the 5-month inter-evaluation period; "Uncontrolled gambling behaviour": Gambling behaviour on the part of participants that did not meet the criteria for abstinence or controlled gambling			
Dowling et al. (2007)	Australia	Longitudinal	Post-intervention; 6-month	56 female participants			Weekly ambling frequency, weekly amount of money inserted, weekly amount of money won/lost, and weekly gambling duration (continuous gambling diary records); Gambling severity (DSM-IV-TR)	Depression (BDI-II); Anxiety (STAI); Self-esteem (CSEI)
Dowling et al. (2009)	Australia	Longitudinal	Post-intervention; 6-month	41 female participants	"Controlled gambling": controlled gambling goals were defined in terms of frequency (no more than one gaming session per week), duration (no more than 1 h of gaming per week), and weekly amount of money spent on gaming (between AUS$10 and AUS$50)	"Abstinence": No participation in electronic gaming	Weekly number of gaming sessions and gambling expenditure (continuous gambling diary records); Gambling severity (DSM-IV-TR)	Depression (BDI-II); Anxiety (STAI)

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Dowling and Smith (2007)	Australia	Exploratory study		85 female participants		"Abstinence": No participation in electronic gaming; "Controlled gambling": Controlled gambling goals were defined in terms of frequency (no more than one gaming session per week), duration (no more than 1 h of gaming per week), and weekly amount of money spent on gaming (between AUS$10 and AUS$50)	1/Reasons for selecting the goal of controlled gambling; 2/Reasons for selecting the goal of abstinence	
Echeburúa et al. (1996)	Spain	Longitudinal	Post-intervention; 1-, 3-, 6-, and 12-month	64 participants	"Therapeutic success": Abstinence or the occurrence of only 1 or 2 episodes of gambling during the period of 12 months (6 months in the control group) following therapy, provided that the total amount of money spent was not greater than a week's worth of gambling in the phase prior to treatment		Frequency, amount of money spent gambling, and time dedicated to gambling on a weekly basis, patient's perception of the seriousness of the frequency, money and time invested in gambling, and family member assessment of the seriousness of the frequency, money and time invested in gambling by the patient (Gambling Dependent Variables Questionnaire); Patient's perception of the subjective need to play and family member assessment of the patient's subjective need to play (Gambling Dependent Variables Questionnaire); Patient's perception of the	Depression (BDI); Anxiety (STAI); Inadaptation to daily life (Adaptation Scale)

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
							frequency of experiencing thoughts about gambling, and Family member assessment of the patient's frequency of experiencing thoughts about gambling (Gambling Dependent Variables Questionnaire)	
Echeburúa et al. (2001)	Spain	Longitudinal	Post-intervention; 12-month	69 participants		"Relapse": More than two isolated episodes of gambling during the 12 months of follow-up or a total expense higher than a week of gambling before the treatment; "Drop-out": When a gambler left the treatment before completing it; "Therapeutic failure": Includes both drop-out and relapse		
Echeburúa, Fernández-Montalvo, and Báez (2000)	Spain	Longitudinal	Post-intervention; 1-, 3-, 6-, and 12-month	69 participants	"Therapeutic success": Abstinence or the occurrence of only 1 or 2 episodes of gambling during the 12 months following therapy, provided that the total amount of money spent was not greater than a week's worth of gambling in the phase prior to treatment	"Therapeutic failure": Exceeding the criteria for "therapeutic success" + drop-out	Frequency, amount of money spent, and time dedicated to gambling on a weekly basis, patient's perception of the seriousness of the frequency, money and time invested in gambling, and family member assessment of the seriousness of the frequency, money and time invested in gambling by the patient (Gambling Dependent Variables Questionnaire);	Depression (BDI); Anxiety (STAI); Inadaptation to daily life (Inadaptation scale)

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
							Patient's perception of the subjective need to play and family member assessment of the patient's subjective need to play (Gambling Dependent Variables Questionnaire); Patient's perception of the frequency of experiencing thoughts about gambling, and family member assessment of the patient's frequency of experiencing thoughts about gambling (Gambling Dependent Variables Questionnaire)	
Freidenberg et al. (2002)	USA	Longitudinal	Post-intervention	8 participants			Gambling severity (SOGS); Average level of physiological arousal (heart rate (HR) upon exposure to imagined gambling vignettes, as measured by a Critikon Dinemap monitor)	
Gavriel-Fried (2018)	Israel	Cross-sectional		140 participants	"Recovered": Below the threshold of four DSM-5 [diagnostic criteria]		Recovered/nonrecovered (DSM-5)	
Gavriel-Fried et al. (2020a)	Israel	Cross-sectional		140 participants	"Improvement in GD symptoms": Calculated by subtracting GD symptoms during the previous year from lifetime symptoms (according to the DSM-5 criteria)		Improvement in GD symptoms (DSM-5)	
Gavriel-Fried et al. (2020b)	Israel	Cross-sectional		140 participants	"Recovery": A combination of lifetime GD and zero past-year DSM symptoms (according to the DSM-5);		Recovered/nonrecovered (DSM-5). Gambling severity (DSM-5)	Anxiety (GAD-7); Depression (PHQ-9)

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Gavriel-Fried et al. (2020c)	Israel	Cross-sectional		140 participants	"Recovered": Individuals who indicted 0 GD DSM-5 symptoms "GD symptom improvement": Calculated by subtracting GD symptoms in the previous year from lifetime symptoms (according to the DSM-5 criteria)		Improvement in GD symptoms (DSM-5)	
Gavriel-Fried et al. (2019)	Israel	Cross-sectional		140 participants	"GD symptom improvement": Calculated by subtracting GD symptoms in the previous year from lifetime symptoms (according to the DSM-5 criteria)		Improvement in GD symptoms (DSM-5)	
Giordano et al. (2022)	Italy	Protocol	Post-intervention; 1-month	Authors plan to recruit a sample of approximately 60 participants			Gambling severity (SOGS) Gambling-related cognitive distortions (GRCS); Gambling self-efficacy (MGSES); Gambling craving (VAS, biofeedback EvU-TPS)	Personality disorders (MCMI-III); Impulsiveness (BIS-11)
Gómez-Peña et al. (2012)	Spain	Longitudinal	16-session intervention; postintervention	191 male participants		"Relapse": The presence of any episode of gambling associated with a previously problematic game during treatment; "Drop-out": Missing group sessions on three or more consecutive occasions without notifying the therapist	Gambling severity (SOGS)	Psychological distress and psychopathology (SCL-90-R)

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Goudriaan et al. (2008)	Netherlands	Longitudinal	12-month	46 participants		"Relapse": Participants who answered "yes" to the question "Do you think that you have a gambling problem again?" were categorized as relapsers, whereas those who indicated that they had no problems with gambling were categorized as nonrelapsers, even if they answered "yes" to the two previous questions ("After being treated for gambling problems, did you gamble again?" and "Did you experience a loss of control over gambling when you engaged in gambling again?")		
Grall-Bronnec et al. (2021)	France	Longitudinal	1-, 2-, 3-, 4-, 5-year	87 participants	"Sustained recovery": The absence of GD (less than 4 criteria) at two consecutive follow-up visits	"Relapse": The reoccurrence of GD (the presence of at least 4 out of 9 criteria according to the DSM-5 "Gambling Disorder" section) at the N+1st visit following the absence of GD at the Nth visit		
Granero, Blaszczynski, et al. (2020)	Spain	Longitudinal	16-session intervention; postintervention	998 males participants		"Relapse": The occurrence of an episode of gambling activity during the CBT intervention; "Drop-out": Not completing 75% of the programme's 16 therapeutic sessions	Gambling severity (SOGS)	Psychological distress and psychopathology (SCL-90-R)

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Granero et al. (2022)	Spain	Longitudinal	12-session intervention; postintervention	318 female participants (221 GD + 97 BSD)		"Relapse": Gambling episodes		
Granero, Valero-Solis, et al. (2020)	Spain	Longitudinal	Post-intervention; 6-month	192 participants	"Full recovery": Definitive abstinence from all types of gambling	"Relapse": The presence of any gambling episode during which the patients make some kind of bet	Gambling severity (SOGS)	
Grant et al. (2011)	USA	Longitudinal	Post-intervention; 6-month	68 participants	"Treatment response": A 35% reduction in PG-YBOCS total score continuing for at least 1 month at the final assessment		Gambling severity (PG-YBOCS; G-SAS; CGI-Severity scales)	Depression (HAM-D); Anxiety (HAM-A); Functioning (SDS); Quality of life (QOLI)
Hawker et al. (2021)	Australia	Longitudinal	Post-intervention; 1-month	36 participants	Four categories of change were created: "Recovered": The final G-SAS score indicated a reliable change and was in the functional range; "Improved": The final G-SAS score indicated a reliable change but was in the dysfunctional range; "Unchanged": The final G-SAS score did not indicate a reliable change; "Deteriorated": The final G-SAS score indicated a reliable change in the negative direction		Past-month gambling frequency (number of days) and expenditure; Gambling severity (G-SAS); Gambling craving (G-SAS Urge Subscale for craving intensity, frequency, duration, and subjective control); Craving self-efficacy (ability to resist a craving to gamble as measured on a VAS); Gambling self-efficacy (ability to limit or stop one's gambling as measured on a VAS)	Acceptability, i.e., helpfulness of each urge-curbing tip or activity, the relevance and burden of EMA items (VAS), satisfaction with the intervention (CSQ-3), impact of the intervention on participants' awareness, knowledge, attitude, intention to change, help-seeking behaviour, and behaviour change in relation to gambling cravings (MARS), a series of open-ended items assessing suggested improvements for any tip or activity that participants rated as 5 or less (out of 10) with regard to helpfulness, any technical issues, and general feedback about the app intervention; Feasibility (as assessed by the participants at baseline,

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
								retention at postintervention and follow-up evaluation, EMA compliance, EMI compliance, and intervention use)
Hodgins et al. (2001)	Canada	Longitudinal	1-, 3-, 6-, 12-month	102 participants	"Improved": A 50% or greater reduction in dollars lost compared with pretreatment		Days gambled per month, total amount of dollars lost per month, and mean amount of dollars lost per gambling day (timeline follow-back interview); Gambling severity (SOGS)	Treatment or GA involvement; Whether participants read the workbook, and if so, whether they had followed the procedures and used the strategies contained therein
Hodgins et al. (2019)	Canada	Randomized controlled trial	3-, 6-, and 12-month	187 participants			Mean days of gambling per month, mean dollars lost per gambling day, and total dollars lost (timeline follow-back interview); Gambling severity (PGSI; NODS); Self-efficacy (GASS); Self-rated goal obtainment (meeting one's goal over the past 3 months)	Use of website
Hodgins et al. (2009)	Canada	Randomized controlled trial	6-week; 3-, 6-, 9-, and 12-month	314 participants	At each follow-up evaluation, participants were classified as follows: "Improved": 50% or greater reduction in expenditures; "Not improved"; "Abstinent"		Mean days of gambling and net dollar losses per gambling activity per month (timeline follow-back interview); Gambling severity (NODS); Self-efficacy (GASS); Current goal	Proportion of participants entering treatment; Satisfaction with treatment
Hodgins et al. (2005)	Canada	Longitudinal	3-, 6-, and 12-month	101 participants	"Stable outcome": A period of 3 months of continuous abstinence from the types of gambling that had caused the individual problems, as identified at the initial interview			Lifetime and current mood and substance abuse disorders (SCID, Mood and Substance Disorders modules)

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Hodgins and el-Guebaly (2010)	Canada	Longitudinal	3-, 6-, and 12-month; 5-year	101 participants		"Stable abstinence": Periods of continuous abstinence of 3, 6 and 12 months	Gambling severity (SOGS; NODS)	Lifetime and current mood and substance abuse disorders (SCID, Mood and Substance Disorders modules); Lifetime and current history of gambling treatment
Humphrey et al. (2020)	New Zealand	Protocol (for a pragmatic RCT)	4-, 8-, and 12-week	Authors plan to recruit a sample of 284 participants	At each follow-up evaluation, participants were classified as follows: "Recovered": The final G-SAS score falls into the functional range (i.e., a score of 20 or less) and corresponds to a reliable change; "Improved": The final G-SAS score corresponds to a reliable change but falls into the dysfunctional range; "Unchanged": Final G-SAS score does not correspond to a reliable change; "Deteriorated": Final G-SAS score corresponds to a reliable change in the negative direction		Number of days and hours and amount of money spent in the past 4 weeks; Gambling severity (G-SAS); Gambling urges (G-SAS first 4 items); Readiness, willingness, and ability to change; Frequency of engagement with the app (number of different interactions); Intensity of engagement (modules viewed, activities completed, actions undertaken); Total amount of time spent using the app; Type of app engagement (active recording of activities and actions, use of active tools vs. passive (didactic) information reading, use of assistive tools such as assessments and reflections) and the number of days between each instance of active app use; Pattern of app us (i.e., what modules are accessed and in what order);	

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
							Self-reported experiential attributes such as attractiveness, perspicuity, efficiency, reliability, stimulating, perceived positive effect, depth of use, and attention	
Jiménez-Murcia et al. (2010)	Spain	Longitudinal	4-month intervention	904 participants		"Relapse": Any episode of gambling (commercial or noncommercial gambling involving a money bet) during the 4-month treatment	Current gambling severity (SOGS; DSM-IV)	Current psychopathological status (SCL-90-R); Personality traits (TCI-R)
Jiménez-Murcia et al. (2007)	Spain	Longitudinal	16-session intervention; postintervention; 1-, 3-, and 6-month follow-up	290 participants		"Abstinence": Reporting the absence of pathological gambling and not fulfilling any DSM-IV criteria for the disorder; "Relapse": Any episode of gambling associated with the main gambling problem during treatment or follow-up; "Drop-out": No group attendance for more than 3 sessions	Gambling severity (SOGS)	Psychological distress and psychopathology (SCL-90-R)
Jiménez-Murcia et al. (2019)	Spain	Longitudinal	Post-intervention; 1-, 3-, 6-, and 12-month	603 male participants	"Full recovery": The absence of gambling episodes	"Relapse": The presence of gambling episodes	Gambling severity (SOGS)	Psychological distress and psychopathology (SCL-90-R)
Jiménez-Murcia, Aymamí et al. (2012)	Spain	Longitudinal	16-session intervention; postintervention	502 male participants		"Relapse": Any episode of gambling associated with the main gambling problem during treatment; "Drop-out": Missing groups sessions on three or more occasions without notifying the therapist	Gambling severity (SOGS)	Psychological distress and psychopathology (SCL-90-R)

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Jiménez-Murcia et al. (2015)	Spain	Longitudinal	16-session intervention; postintervention; 3-month follow-up	440 participants	"Full recovery": The full abstinence from all types of gambling behaviour	"Relapse": One or more gambling episodes; "Drop-out": Absence from three or more consecutive sessions; "Poor compliance with treatment": A failure to complete the entire therapy programme; "Poor attendance at the therapy sessions": Skipping more than 25% of the scheduled sessions	Gambling severity (SOGS)	Psychological distress and psychopathology (SCL-90-R)
Jiménez-Murcia et al. (2016)	Spain	Longitudinal	16-session intervention; postintervention	111 male participants	"Full recovery": Full abstinence from all types of gambling behaviour	"Poor attendance": Missing at least three sessions	Gambling severity (SOGS)	Psychological distress and psychopathology (SCL-90-R)
Jiménez-Murcia et al. (2017)	Spain	Longitudinal	16-session intervention; postintervention; 3-month follow-up	675 male participants			Gambling severity (SOGS); Missing at least 3 group sessions	Psychological distress and psychopathology (SCL-90-R)
Kushnir et al. (2018)	Canada	Longitudinal	3-, 6-, 9-, 12-, and 18-month	204 participants			Number of times per month participants engaged in gambling activities over the past 3 months and total and largest amount spent over the past three months (online survey); Gambling severity (PGSI)	
Ladouceur et al. (2001)	Canada	Longitudinal	Post-intervention; 6-, 12-month	66 participants		"Drop-out": A gambler was considered a drop out if he or she stopped treatment any time after the third session	Number of gambling sessions, total amount of money spent on gambling, and number of hours spent gambling during the previous week; Gambling severity (DSM-IV);	

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Ladouceur et al. (2003)	Canada	Longitudinal	Post-intervention; 6-, 12-, and 24-month	59 participants			Desire to gamble (using a scale ranging from 0 to 10); Self-efficacy to refrain from gambling in identified high-risk situations (using a scale ranging from 0 to 10); Self-control, i.e., perception of control over one's gambling problem (using a scale ranging from 0 to 100) Frequency of gambling: number of gambling sessions, total amount of money spent on gambling, and number of hours spent gambling during the previous week; Gambling severity (DSM-IV); Desire to gamble (using a scale ranging from 0 to 10); Self-efficacy to refrain from gambling in identified high-risk situations (using a scale ranging from 0 to 10); Self-control, i.e., perception of control over one's gambling problem (using a scale ranging from 0 to 100)	
Lara-Huallipe et al. (2022)	Spain	Longitudinal	16-session intervention	163 female participants		"Relapse": Patients registering gambling-episodes during the treatment		
Linardatou et al. (2014)	Greece	Randomized controlled trial	Post-intervention	45 participants				Depression, anxiety, and stress (DASS-21); Subjective perception of stress (using a scale ranging from 0 to 10);

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
								Daily routine (participants' regularity in matters of brunch and afternoon meals, breakfast, midday sleep and lunch, and dinner); Sleep quality and length of sleep time; Life satisfaction (using a 5-point scale)
Mallorquí-Bagué et al. (2019)	Spain	Longitudinal	16-session intervention; postintervention	245 male participants		"Relapse": Presenting a gambling episode after CBT treatment started (regardless of whether the relapse featured the specific type of gambling preferred or a different type), i.e., any gambling episode; "Drop-out": Missing a treatment session on three or more occasions without notifying the clinician beforehand		
Mallorquí-Bagué et al. (2018)	Spain	Longitudinal	16-session intervention; 6-month follow-up	144 male participants		"Relapse": The occurrence of a gambling episode after treatment had begun; "Drop-out": A patient missing therapy sessions on three or more occasions without previously notifying the clinician; "Low therapy compliance": A breach of 4 or more intersession tasks		

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Mena-Moreno, Testa et al. (2022)	Spain	Longitudinal	16-session intervention	133 male participants		"Relapse": A full gambling episode; "Drop-out": Failure to attend three consecutive CBT sessions		
Mena-Moreno, Munguía, et al. (2022)	Spain	Longitudinal	16-session intervention; postintervention	104 participants		"Relapse": An isolated episode of gambling associated with mild negative consequences on the patients' economic situation and family; "Drop-out": Interruption of the cognitive-behavioural treatment before completion; "Treatment compliance": Determined by whether the patient completes the weekly records at home (e.g., reporting the amount of money spent on each activity) and depends on whether the patient meets the guidelines on a session-by-session basis (i.e., level of participation in the sessions)	Gambling severity (DSM-5, SOGS)	Psychological distress and psychopathology (SCL-90-R); Emotion regulation (DERS, ERQ); Impulsivity (UPPS–P)
Mestre-Bach et al. (2016)	Spain	Longitudinal	12-session intervention	61 female participants (GD)		"Drop-out": Failure to attend three consecutive CBT sessions		
Mestre-Bach et al. (2022)	Spain	Longitudinal	16-week intervention	1,248 participants		"Relapse": The occurrence of a gambling episode after treatment had begun; "Drop-out": Failure to attend three consecutive CBT sessions		

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Mestre-Bach et al. (2019)	Spain	Longitudinal	16-session intervention; 24-month follow-up	398 male participants		"Relapse": The occurrence of a gambling episode after treatment had begun; "Drop-out": Failure to attend three consecutive CBT sessions		
Monnat et al. (2014)	USA	Longitudinal	3-month	361 participants		"Abstinence": No gambling whatsoever since completing treatment	Time spent thinking about gambling; Minimization of problems related to gambling; Gambling harm reduction	Perceived improvement in daily functioning, social functioning, material well-being
Müller, Naab, et al. (2017)	Germany	Longitudinal	12-month	76 participants	"Recovered": Participants with no persistent symptoms of GD at follow-up according to the Lie/Bet-Questionnaire + SOGS. Thus, at follow-up, patients were classified according to score as follows: (a) exhibiting complete abstinence from any gambling activity; (b) continuing to participate in gambling but without meeting the diagnostic criteria for GD; (c) continuing to be classified as exhibiting GD		Gambling severity (Lie/Bet-Questionnaire; SOGS)	Psychological distress and psychopathology (SCL-9); Well-being (Ryff Scales)
Müller, Wölfling, et al. (2017)	Germany	Longitudinal	Post-intervention; 12-month	270 participants	At follow-up, participants were classified in one of the following groups		GD severity (SCI-PG based on DSM-IV); Gambling participation	Personality traits (NEO-FFI); Functional impairment (SDS);

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
					(according to SCI-PG DSM-IV criteria): "Abstinence group": Complete abstinence from gambling activities related to GD at follow-up; "Relapse group": Being classified as exhibiting GD at follow-up; "Asymptomatic group": Participating in gambling without being classified as exhibiting GD at follow-up			Psychological distress and psychopathology (SCL-9)
Oei and Gordon (2008)	Australia	Cross-sectional		75 participants		"Abstinence": 12 months of refraining from gambling prior to the completion of the questionnaire; "Relapse": Having gambled in the 12 months prior to completing the questionnaire	GA membership	
Oei et al. (2018)	Australia	Randomized controlled trial	Post-intervention	55 participants		"Drop-out": Not completing any treatment sessions	Frequency and amount of money spent on gambling per day (questionnaire); Gambling severity (CPGI); Gambling urge (Gambling urge); Gambling-related cognitions (GRCS); Self-efficacy, i.e., level of confidence in refusing to gamble (GRSEQ)	Depression, anxiety, and stress (DASS-21); Quality of life (WHOQOL-bref); Life satisfaction (SWLS); Feedback on using the treatment manual, i.e., the clarity and ease of understanding the content of the manual, and perceived difficulty level in completing the activities contained in the manual over the course of the treatment period

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Ouellet and Queloz (2018)	Canada	Longitudinal (retrospective)	36 months preceding the participants' entry into therapy	100 participants		"Abstinence": At least one month; "Relapse": Relapse was considered to occur in the first month of gambling following abstinence for at least one month	Relative loss (ratio of gambling losses to legal income in each month)	
Ramos-Grille, Gomà-i-Freixanet, Aragay, Valero, and Vallès (2015)	Spain	Longitudinal	6-month intervention; 6-month follow-up	132 participants		"Relapse": More than two isolated episodes of gambling during the 12-month follow-up or one episode with a loss of control, which was quantified as a total expense higher than a week of gambling prior to entering treatment (relapse was thus distinguished from "lapse", i.e., an isolated episode of pathological gambling); "Drop-out": The client initiated termination occurring without discussion with the therapist, or the therapist believed the client was in need of further therapy but the client quit therapy		
Ramos-Grille et al. (2013)	Spain	Longitudinal	12-month	73 participants		"Relapse": More than two isolated episodes of gambling during the 12-month follow-up or one episode with a loss of control, which was		

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
						quantified as a total expense higher than a week of gambling prior to entering treatment (relapse was thus distinguished from "lapse", i.e., an isolated episode of pathological gambling); "Drop-out": The client initiated termination occurring without discussion with the therapist, or the therapist believed the client was in need of further therapy but the client quit therapy		
Rossini-Dib et al. (2015)	Brazil	Longitudinal	6-month	72 participants	"Recovery": patients who no longer met the criteria for GD (according to the DSM-5) and achieved a score higher than 33 on the self-report of the GFS at the posttreatment assessment were considered to have recovered		Gambling severity (DSM-5, GFS); Gambling-related cognitive distortions (GBQ)	Negative affectivity (depression and anxiety) (BDI; BAI); Trait impulsivity (BIS-11); Cognitive flexibility (WCST); Planning (ROCF); Inhibitory control (GST); Decision-making (IGT)
Sander and Peters (2009)	Germany	Longitudinal	Post-intervention; 12-month	281 participants		"Abstinence": Not having gambled during follow-up; "Abstinence after relapse": Being abstinent at follow-up for at least 3 months after relapse; "Relapse": Any gambling during the 12-month follow-up		

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Slutske (2006)	USA	Survey		GIBS: 21 participants NESARC: 185 participants	"Recovery": An absence of pathological gambling symptoms during the past year, i.e., the prevalence of recovery was estimated as the percentage of individuals with a lifetime history of pathological gambling according to DSM-IV who did not exhibit any pathological gambling symptoms during the past 12 months		Using telephone interviews (GIBS) and in-person interviews (NESARC): 1/Prevalence of treatment-seeking; 2/Prevalence of recovery; 3/Prevalence of natural recovery	
Slutske et al. (2010)	Australia	Survey		104 participants	"Recovery": A lifetime history of DSM-IV PG without exhibiting any PG symptoms (zero) during the past 12 months		Using structured psychiatric telephone interviews: 1/Gambling involvement, i.e., the number of days spent gambling, the number of hours spent gambling, and the percent of yearly income spent on gambling in the past year; 2/Number of days gambling and number of hours gambling during the heaviest gambling period; 3/Gambling problem recognition	
Slutske et al. (2009)	Australia	Survey		104 participants	"Recovery": A lifetime history of DSM-IV PG without exhibiting any PG symptoms (zero) during the past 12 months		Using structured psychiatric telephone interviews: 1/Prevalence of treatment-seeking; 2/Prevalence of recovery; 3/Prevalence of natural recovery; 4/Gambling problem recognition	

(continued)

Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
Stea et al. (2015)	Canada	Longitudinal	3-, 6-, 9-, and 12-month	314 participants			Average number of days gambling, dollars gambled, and dollars per day gambled; Goal selection; Perceived goal achievement Number of gambling sessions, number of hours spent gambling, and total amount of money spent on gambling, during the previous week; Gambling severity (DSM-III-R, SOGS); Desire to gamble (using a scale ranging from 0 to 10); Self-efficacy to refrain from gambling in identified high-risk situations (using a scale ranging from 0 to 10); Self-control, i.e., perception of control over one's gambling problem (using a scale ranging from 0 to 10)	
Sylvain et al. (1997)	Canada	Longitudinal	Post-intervention; 6- and 12-month	29 male participants				
Tárrega et al. (2015)	Spain	Longitudinal	16-session intervention; postintervention	16 male participants		"Relapse": The presence of gambling episodes during the treatment; "Drop-out": Missing group sessions on three or more consecutive occasions without notifying the therapist	Gambling severity (SOGS)	Anxiety (STAI-S-T); Anger (STAXI-2); Impulsivity (BIS-11; 17 Impulsiveness Questionnaire); Psychological distress and psychopathology (SCL-90-R); Novelty-seeking (TCI-R)
Vintró-Alcaraz, Munguía et al. (2022)	Spain	Longitudinal	16-session intervention	459 participants (182 with GD + 277 with ED)	"Full remission": One or no instances of relapse during the treatment; "Partial remission":	"Drop-out": Missing 3 consecutive sessions		

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Table A1. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Specific terms related to the outcomes and operationalization (definitional criteria)	Gambling-related outcomes (and tools)	Nongambling-related outcomes (and tools)
					Two or more instances of relapse of problem gambling activity during the treatment; "Nonremission": Gambling behaviour at the end of the treatment			
Vintró-Alcaraz, Mestre-Bach et al. (2022)	Spain	Longitudinal	16-session intervention	117 participants		"Relapse": The occurrence of a full gambling episode after CBT had begun; "Drop-out": Failure to attend 3 consecutive sessions		
Walsh et al. (2007)	USA	Cross-sectional		100 participants	"Recovery": Measured by the amount of time (in months) since last bet		Time since last bet (in months) (Demographic Questionnaire)	Positive and negative affects (Affect Balance Scale); Cognitive well-being (SWLS)
Wulfert et al. (2006)	USA	Longitudinal	16-session intervention; postintervention; 3-, 6-, and 12-month	21 participants			Gambling severity (DSM-IV; SOGS); Readiness to change (two questions)	Depression (BDI); Anxiety (STAI)

AAI = Alcoholics Anonymous Involvement Scale; AAS = Addiction Acknowledgement Scale; ACG = Adverse Consequences from Drinking Questionnaire (ACD), adapted version for gambling; ADP-IV = Assessment of DSM-IV Personality disorders; ARC = Assessment of Recovery Capital; AUDIT = Alcohol Use Disorders Identification Test;
BAI = Beck Anxiety Inventory; BARC, BARC-10 = Brief Assessment of Recovery Capital; BAS = Behavioral Activation Scale; BDI, BDI-II = Beck Depression Inventory; BIS-11 = Barratt Impulsiveness Scale;
CGI = Clinical Global Impression; CGI-I = Clinical Global Impression-Improvement; CIDI = Composite International Diagnostic Interview; CPGI = Canadian Problem Gambling Index; CPT = Card Playing Task; CSEI = Coopersmith Self-Esteem Inventory; CSQ-3 = Client-Satisfaction Questionnaire-3;
DASS-21 = Depression, Anxiety and Stress Scale 21; DAST-10 = Drug Abuse Screening Test; DBC = Drake Beliefs About Chance Inventory; DERS = Difficulties in Emotion Regulation Scale; DIS-IV = Diagnostic Interview Schedule for DSM-IV; DDT = Delay Discounting Task; DSM-III-R = Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised; DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition; DSM-IV-TR = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision; DSM-5 = Diagnostic and Statistical Manual of Mental Disorders Fifth Edition; DUREL = Duke University Religion Index for Religious Assessment;
EPI = Eysenck Personality Inventory; ERQ = Emotion Regulation Questionnaire; EUROHIS-QOL = European Health Interview Survey-Quality of Life;
G-SAS = Gambling Symptom Assessment Scale; GA-20 = Gamblers Anonymous 20 Questions; GABS = Gambling Attitude and Beliefs Survey; GAD-7 = Generalized Anxiety Disorder Scale; GASS = Gambling Abstinence Self-efficacy Scale; GBQ = Gambling Beliefs Questionnaire; GFS = Gambling Follow-up Scale; GRCS = Gambling Related Cognitions Scale; GRSEQ = Gambling Refusal Self-Efficacy Questionnaire; GST = Go-Stop Test; GUS = Gambling Urge Scale;
HAM-A = Hamilton Anxiety Rating Scale; HAM-D = Hamilton Depression Rating Scale; HRSA = Hamilton Rating Scale for Anxiety; HDRS = Hamilton Depression Rating Scale;

ICD-10 = International Statistical Classification of Diseases and Related Health Problems, 10th revision; IGT = Iowa Gambling Task; ISS = Intrinsic Spirituality Scale;
K10 = Kessler 10;
LIFE = Longitudinal Interval Follow-up Evaluation; LSC = Low Self-Control scale;
M-CIDI = Munich Composite International Diagnostic Interview for lifetime Axis I Disorders; MARS = Mobile App Rating Scale; MCMI-III = Millon Clinical Multiaxial Inventory-III;
MGSES = Multidimensional Gambling Self-Efficacy Scale; MHSIP = Mental Health Statistics Improvement; MINI = Mini International Neuropsychiatric Interview; MMPI-II = Minnesota Multiphasic Personality Inventory-2; MOS = Medical Outcomes Study;
NART = Revised National Adult Reading Test; NEO-FFI = Neuroticism-Extraversion-Openness Five-Factor Inventory; NEO PI-R = Revised Neuroticism, Extraversion, Openness Personality Inventory; NODS = National Opinion Research Center DSM Screen for Gambling Problems;
PG-YBOCS = Yale-Brown Obsessive Compulsive Scale Modified for Pathological Gambling; PGDI = Pathological Gambling Diagnostic Interview; PGSI = Problem Gambling Severity Index;
PHQ-9 = Patient Health Questionnaire-9; PRIME-MD = Primary Care Evaluation of Mental Disorders;
QOLI = Quality of Life Inventory;
Raven PM = Raven Progressive Matrices; RBB = Religious Background and Behaviour Questionnaire; ROCF = Rey–Osterrieth Complex Figure Test;
SADDQ = Short Alcohol Dependence Data Questionnaire; SCI-PG = Structured Clinical Interview for Pathological Gambling; SCID-I = Structured Clinical Interview for the DSM-IV disorders, Axis 1 disorders; SCID-II = Structured Clinical Interview for DSM-IV, Axis II Personality Disorders; SCID-R = Structured Clinical Interview for the DSM-IV; SCL-9 = Symptom Checklist-9; SCL-90-R = Symptom Checklist-90-Revised; SCWT = Stroop Color Word Task; SDS = Sheehan Disability Scale; SOGS = South Oaks Gambling Screen; SPSRQ = Sensitivity to Punishment and Sensitivity to Reward Questionnaires; SRT = Stop Signal Reaction Time; SS-A = Social Support Appraisal Scale; SSD = Social Pressure Scale; STAI = State-Trait Anxiety Inventory; STAXI-2 = State-Trait Anger Expression Inventory 2; STS = Spiritual Transcendence Scale; SWLS = Satisfaction with Life Scale;
TCI-125 = Temperament and Character Inventory, shorter 125-item version; TCI-R = Temperament and Character Inventory-Revised;
URICA = University of Rhode Island Change Assessment scale; UPPS-P = Urgency, Premeditation (lack of), Perseverance (lack of), Sensation Seeking, Positive Urgency;
VAS = Visual Analogue Scale;
WAIS = Wechsler Adult Intelligence Scale; WCST = Wisconsin Card Sorting Test; WHOQOL-bref = World Health Organization Quality of Life-bref;
ZKPQ = Zuckerman–Kuhlman Personality Questionnaire.

Table A2. Instrument validation studies: characteristics and outcomes

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Gambling-related items	Nongambling-related items
Galetti and Tavares (2017)	Brazil	Instrument (scale) validation study	6-month	120 participants	"Remission": The patient no longer meets the DSM-5 criteria for pathological gambling; "Recovered": Participants meeting fewer than four of the DSM-5 criteria were classified as having recovered (responders), whereas those meeting four or more were classified as unrecovered (nonresponders)	Gambling frequency; Time spent gambling; Money spent on gambling; Gambling craving	Debts; Emotional distress; Family relationships; Autonomy; Frequency of leisure activities; Satisfaction with leisure activities
Gavriel-Fried, Lev-el et al. (2022)	Israel	Instrument (index) validation study		164 participants	"Recovery": A self-reported lifetime history of DSM-5 GD and the complete absence of all GD criteria over the previous 12 months	Human recovery capital (gambling urges, beliefs about gambling cost-effectiveness, the willingness and self-confidence necessary to recover, lying about gambling problems); Community recovery capital (treatment resources, self-help groups, accessibility of gambling venues); Financial recovery capital (gambling debts); Social recovery capital (contacts with gamblers)	Human recovery capital (work and activities, life's goal, life satisfaction and positive feelings, negative feelings, need to seek out thrills); Financial recovery capital (sufficient financial assets, financial difficulties); Social recovery capital (family support, family involvement in financial management, tensions and quarrels with family)
Hodgins (2013)	Canada	Instrument (scale) validation study	6 and 12-month	169 participants			Work; Social; Family
Pickering et al. (2021)	Australia	Instrument (index) validation study	6-month	204 participants	"Recovery": Maintained improvements across several domains, ranging from gambling-specific domains to more general wellbeing. The former refers to a shift towards adaptive beliefs and attitudes regarding oneself in	Gambling reduction; Urge coping; Recovery wisdom	Interpersonal relationships; Life functioning; Mental health

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Table A2. Continued

Authors	Country	Design	Follow-up	Size of the sample	Definition of recovery	Gambling-related items	Nongambling-related items
					relation to one's gambling, the reduction of gambling in line with personal goals, and the remission or successful management of gambling urges. The latter concerns engagement with a life outside gambling that provides personal meaning and includes good psychosocial health and functioning"		
Winfree et al. (2015)	USA	Instrument (questionnaire) validation study	1-month	170 participants	"Treatment responders": Participants who did not meet criteria for probable disordered gambling criteria according to the DSM-Q and SOGS at posttreatment	Gambling-related cognitive distortions	

ASI-G = gambling subscale of the Addiction Severity Index;
CES = Centre of Epidemiologic Studies – Depressed Mood Scale;
DASS-21 + Depression, Anxiety and Stress Scale 21; DSM-IV-TR = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision;
DSM Q = Diagnostic and Statistical Manual of Mental Disorders Questionnaire; DSM-5 = Diagnostic and Statistical Manual of Mental Disorders Fifth Edition;
EGM-CS, W-CS = Electronic Gaming Machine and Wagering Cognitions scales;
G-SAS = Gambling Symptom Assessment Scale; GASS = Gambling Abstinence Self-efficacy Scale; GBQ = Gambling Self-Efficacy Questionnaire; GFS-SR = Gambling Follow-up Scale, Self-Report version; GSE-6 = General Self-Efficacy scale, short version; GUS = Gambling Urges Scale;
HRC-GD = Holistic Recovery Capital in Gambling Disorder;
NODS = National Opinion Research Center DSM Screen for Gambling Problems;
PGSI = Problem Gambling Severity Index; PHQ-4 = Patient Health Questionnaire-4;
RIGD = Recovery Index for Gambling Disorder;
SAS = Social Adjustment Scale; SDS-G = Sheenhan Disability Scale modified for Gambling; SOGS = South Oaks Gambling Screen;
TLFB-GD = timeline follow-back interview adapted for gambling disorder;
WHOQOL-BREF = World Health Organization Quality of Life scale, brief version.

Table A3. Qualitative studies: characteristics and outcomes

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
Altavilla et al. (2020)	Italy	Qualitative	30 participants		Semistructured interviews; Verbal language analysis, in which the variables analysed were emotion-related words, the use of pronoun-related words, and tense-related words	1/definition of addiction; 2/Reasons and causes of the onset of addiction; 3/Reasons for which the state of addiction was maintained and became chronic; 4/Reasons that caused relapses; 5/Desire and craving towards the object of addiction; 6/Loss of control; 7/Strategies of control used during the treatment; 8/Effectiveness of treatment on the control of addictive behaviour
Avery and Davis (2008)	USA	Survey	136 female participants	"Women in recovery": Recovery is included as part of abstinence	Online survey featuring some open-ended questions	Reasons for gambling; 1/Reasons for stopping gambling; 2/Recovery methods; 3/Type and frequency of professional help; 4/Not disclosing gambling problems to treatment professionals; 5/GA; 6/Recovery without professional help or GA; 7/Methods for recovery on one's own; 8/Recovery support and benefits
Binde (2012)	Sweden	Qualitative			Semistructured interviews and observation	1/What meetings provide: (1) Social support; (2) Emotional support; (3) Motivation; (4) Insight; (5) Practical advice; 2/Narratives of suffering and recovery; 3/Mutual support and professional psychological treatment
Davis and Avery (2004)	USA	Survey	252 female participants	"Women in recovery": Classified according to their length of abstinence, i.e., (1) 6 or more months; (2) 1–5 months; (3) less than 1 month or still gambling	Online survey	1/Reasons for gambling; 2/Negative consequences of gambling

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Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
Gavriel-Fried, Vana et al. (2022)	Israel	Qualitative	133 participants	"Recovered individuals": Participants who reported a lifetime history of DSM-5 GD without exceeding the DSM-5 GD criteria during the past year	Face-to-face interviews, analysed using an inductive content analysis	1/Gender is not a significant factor in the recovery process: (1) Gender blindness: "I don't know, I have no idea"; (2) Gender neutral: there is no difference between the genders – it is the same coping process; 2/Gender awareness: gender is a meaningful factor in recovery: (1) Gender stereotypes; (2) Gender roles and power relations in the domestic sphere; (3) Sex in exchange for money to sustain women's gambling addiction; (4) A tense mixed-gender therapeutic space
Gavriel-Fried and Lev-El (2018)	Israel	Qualitative	91 participants	Participants were considered to have "recovered" if they had a self-reported lifetime history of DSM-5 GD without exceeding the DSM-5 GD threshold criteria in the previous 12 months	Face-to-face interviews, analysed using a directed content analysis	"Recovery capital": A conceptual framework that defines a set of internal and external resources on which individuals can draw throughout the recovery process. The four main RC domains examined in the present study were as follows: 1/Human capital: skills, knowledge, and other personal attributes or characteristics—acquired or inherited—that enable an individual to function properly and achieve goals, such as the following: Self-control skills (urge management strategies, financial management, and controlled gambling); Proactive coping skills (involvement in activities and goal setting); Reconstruction skills (positive construction of life events and critical awareness of gambling); Socioemotional skills (emotional engagement and engagement in social relationships); Self-efficacy; and Subjective well-being. 2/Social capital: the sum of a person's tangible or virtual resources, such as family relationships and broader social

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Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
						networks. This term refers to the benefits of participating in social groups and networks, such as the following: Family (family support and family supervision) and Friends without GD. 3/Community capital: treatment resources such as formal organizations and informal groups provided by the community. This form of capital also includes policies and attitudes that support the availability of these resources, and promote social norms and recovery lifestyle as a whole, such as the following: A professional therapeutic milieu (a safe therapeutic space and an instructive therapeutic space); A recovering gamblers' peer group (informal treatment resources and social relationships with recovering gamblers); and a prorecovery environment. 4/Financial capital: This term relates mainly to financial assets such as income, property, wealth, and housing, such as the following: Prorecovery financial states (being debt-free, lack of spare cash, and financial assets).
Gavriel-Fried and Lev-El (2022)	Israel	Qualitative	133 participants	"Recovery": A self-reported lifetime history of GD according to DSM-5 without exceeding the DSM-5 GD criteria during the past year; "Nonrecovered": Participants who exhibited four DSM-5 criteria or more	Semistructured interviews	"Negative recovery capital": Internal and external negative recovery capital (NRC) resources are defined as obstacles that impede individuals from coping with their addiction. The four main NRC domains examined in the present study were as follows: 1/Negative human capital: personal characteristics, negative emotional, cognitive and behavioural patterns and states, and negative life circumstances, such as the following: Urges and uncontrolled urges; Cognitive distortions (misconceptions about

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Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
						gambling, cognitive distortions regarding the gambler him/herself, and inherent memory bias); Inaction; Sensation seeking; Stressful life events; Negative emotions; Ability to conceal and inability to share/seek help; and Lack of motivation to recover. 2/Negative social capital: The lack of emotional or tangible support from family and friends that can facilitate recovery, such as the following: Lack of social and familial networks; and Conflictual or dangerous social networks. 3/Negative community capital: Physical or virtual communities that facilitate the availability, accessibility, advertising and marketing of gambling, such as the following: An environment that encourages gambling and Money lenders. 4/Negative financial capital: Economic distress, lack of money, and debts incurred from gambling. Paradoxically, the availability of cash constituted a risk factor that could cause participants to return to gambling, -such as the following: Financial distress and debts and Money as a risk factor
Heiskanen (2017)	Finland	Qualitative	17 participants	"Financial recovery": "Resolving the financial problems caused by problem gambling and the attempts to achieve balance in everyday financial matters of (former) problem gamblers"	Open-ended and semistructured interviews, analysed using thematic content analysis	1/Participants' experiences of the ways in which their financial concerns were taken into account in different treatment facilities for problem gambling; 2/The situation of being outside the realm of financial social assistance from public services; 3/Problem gamblers as receivers of financial social assistance; 4/Informal (family and NGOs) as well as controlling solutions to financial problems

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Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
Hing et al. (2013)	Australia	Survey	48 participants		Telephone interviews	Motivators and barriers to the use of professional and nonprofessional gambling help and self-help measures
Hodgins et al. (2022)	Canada	Survey	10,054 participants		Online survey	1/Whether participants had tried to cut down or stop gambling in the past year; participants who indicated "yes" and who also had a PGSI score of 5 or higher were asked whether they tried to achieve this goal primarily on their own or with the help of others; 2/Participants who attempted to change on their own were asked why they did not seek external help; 3/Participants who sought the help of others were asked what kind of help they received and whether their attempt at change was successful (not at all, somewhat, quite, very successful)
Hodgins and el-Guebaly (2000)	Canada	Exploratory study	106 participants (43 resolved gamblers and 63 nonresolved gamblers)	"Nonresolved": Participants who met at least 5 DSM-IV diagnostic criteria	Structured and semistructured interviews and self-report scales	1/Reasons for resolution; 2/Actions taken towards resolution; 3/Factors maintaining changes; 4/Role of life events in recovery (LEQ); 5/Reasons for not seeking treatment
Hodgins et al. (1999)	Canada	Survey	6 participants	"Recovered": Participants above the cut-off for the lifetime questions but below the cut-off for the past year (according to SOGS scores)	Follow-up telephone survey featuring some open-ended questions	1/Treatment attended and reasons for not attending treatment; 2/Reasons for recovery; 3/Actions taken to resolve gambling problems
Hodgins and el-Guebaly (2004)	Canada	Exploratory study with a 12-month follow-up	101 participants	"Relapse": Any gambling that violated one's personal goal after a 2 week period of abstinence. Participants whose goal was abstinence from all forms of gambling reported on any gambling, whereas participants whose goal was abstinence from types of gambling that had caused problems	REI; Timeline follow-back interview	1/Emotional and situational precipitants of a specific instance of gambling; 2/Emotional, behavioural, and social consequences of relapse; 3/Degree to which finances were "on their mind" prior to relapse; 4/Days gambled and money spent on gambling

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Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
				reported on those types of gambling; "Major relapses": Relapses with extreme consequences; "Minor relapses": Relapses without extreme consequences		
Nilsson et al. (2021)	Sweden	Qualitative	16 participants (8 individuals with gambling problems who had dropped out of treatment and 8 concerned significant others (CSOs) to gamblers who had dropped out of treatment)		Semistructured interviews, analysed using thematic analysis	"Drop-out": Having completed half of the treatment modules or fewer. 1/Obstacles to stay in treatment: (1) Relapse and increased negative emotions; (2) Difficulty committing to treatment and the impact of the surrounding context; 2/Both facilitating and impeding factors regarding stay in treatment and recovery: (1) Content and format of treatment; (2) Impact of who took action to change, i.e., the problem gambler or the CSO; 3/Facilitators of staying in treatment and recovery: (1) Importance of the first steps; (2) Openness and support
Nixon and Solowoniuk (2006)	Canada	Qualitative	11 participants		Narrative interviews based on the existential phenomenological method	1/Embracing the wound to initiate recovery; 2/Finding courage & taking responsibility; 3/Facing ambivalence: relapsing & recommitting; 4/Confronting and moving beyond the addicted identity; 5/Freedom from the past: demystifying addiction; 6/Entering the flow of life; 7/Meaning making by extending hope
Nuske and Hing (2013)	Australia	Qualitative	10 participants		Semistructured interviews, analysed using narrative analysis	1/Self-loathing and loss of identity; 2/Fear; 3/Negotiation of control; 4/Change; 5/The shared narrative

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Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
Oakes et al. (2019)	Australia	Qualitative	29 participants		Focus groups and in-depth interviews, analysed using thematic analysis	1/Creating available money: (1) Paying only essential bills; (2) Viewing 'pokies money' as not being real money; (3) Anticipating future income; (4) Expecting the mythical win; 2/Minimizing gambling as a problem: (1) Pseudocontrol; (2) Ignoring harms; (3) Developing a relationship with the machine; 3/Struggling with overwhelming emotions: (1) Avoiding negative emotions; (2) Succumbing to conflicting urges and cognitions
Pickering et al. (2020)	Australia	Qualitative	32 participants		Semistructured interviews, analysed using thematic analysis	Recovery was described by participants as a difficult and sometimes painful process, which required considerable personal resources and commitment. Simultaneously, this process was highly rewarding and provided opportunities for personal development and growth. Most participants expressed a general belief that recovery was ongoing and included cycles of progress and relapse. Participants were reluctant to specify a timeframe for full recovery. In terms of the composition of recovery, the analysis yielded a range of themes, thus highlighting the need for a holistic multidimensional approach. Seven key themes of recovery were identified: 1/Insight (awareness of impacts, awareness of triggers, realistic thinking, and positively reframing relapse); 2/Sense of agency (personal empowerment, i.e., self-help and personal responsibility, and addictive disease, i.e., real vs. addict self, and inability to control);

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Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
						3/Modified behaviour (both gambling specific, i.e., abstinence and control, and nongambling specific, i.e., substitute activities and increased productivity); 4/Gambling urge management (the extinction of urges and effective coping strategies); 5/General mental health and wellbeing (relieving negative emotions, fostering positive emotion, and managing psychological comorbidities); 6/Social networks (open and honest relationships, rebuilding trust, supportive friends and family, and withdrawing from negative influences); 7/Financial stability (money to pay bills and finance one's lifestyle as well as paying off or managing gambling debt)
Reith and Dobbie (2012)	Scotland	Qualitative	31 participants	"Recovery": "A fluid process rather than a singular event, and one which incorporated various types of behavior within it"	Loosely structured interviews, based on a narrative approach	1/Recognizing problem gambling: "disordered identities": (1) Dual selves; (2) The loss of the self; 2/Paths towards recovery: (1) Looking backwards: spoiled identities and identity reverting; (2) Moving forwards: new roles; (3) Addict identities: GA
Rodda et al. (2018)	Australia	Qualitative	1,370 online posts met the inclusion criterion, and a total of 2,937 change strategies were extracted		A data dictionary was developed using both a deductive (codes were generated from the gambling literature) and inductive (codes were generated via thematic analysis) approach	1/Predecisional phase: (1) Barriers – behavioural (external); (2) Barriers – psychological (internal); (3) Decisional balance; (4) Realization behaviour; (5) Realization cognitions; (6) Set reasons to change; (7) Seek knowledge and information; (8) Self-assessment; 2/Preactional phase: (1) Action planning; (2) Commitment; (3) Goal setting; 3/Actional phase: (1) Alternative activity; (2) Avoidance – abstinence; (3) Avoidance – environment;

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Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
						(4) Avoidance – financial; (5) Behavioural substitution; (6) Consumption control; (7) Cognitive restructuring; (8) Maintain readiness; (9) Reinforcement; (10) Seek inspiration; (11) Self-monitoring; (12) Spiritual; (13) Urge management; 4/Multiphase: (1) External support; (2) Social support; (3) Well-being
Rogier et al. (2020)	Italy	Qualitative	15 male participants		Semistructured interviews, analysed using cluster analysis	1/Gambling as dissociation; 2/Materialism; 3/Escape from social difficulties; 4/Awareness; 5/Closeness
Samuelsson et al. (2018)	Sweden	Qualitative	40 participants		Semistructured telephone interviews, analysed using thematic analysis	1/Harm levels (no harm, low harm, harm, and substantial harm gamblers) and patterns of change (stable, decreasing, fluctuating, and increasing); 2/Configurations of change and harm: (1) Stable, low-frequency gambling with no or minor harm; (2) High frequency of gambling with occasional harm, decreasing; (3) Periodic gambling with moderate harm, fluctuating pattern; (4) High-frequency gambling with substantial harm, increasing
Samuelsson and Cisneros Örnberg (2022)	Sweden	Qualitative	37 participants		Semistructured interviews, which featured a discourse analytical approach	Five different ideological dilemmas were identified: 1/Individual responsibility vs. medical brain disease (notions of capacity and control); 2/Agent of recovery vs. victim of the gambling industry (tension between presenting gambling companies as unscrupulous exploiters, which implies a position of the gambler as a victim, and

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Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
						being a self-governing subject, which implies taking responsibility for one's actions and choices with the aim of proving one's ability to oneself, one's significant others and one's peers); 3/Corporate social responsibility vs. gambling as an ordinary commodity; 4/External control vs. the will to gamble in the moment; 5/Stricter regulation vs. freedom and personal integrity
Syvertsen et al. (2020)	Norway	Qualitative	9 participants		Semistructured interviews, based on a phenomenological approach, and analysed using thematic analysis	1/Shared narratives and understanding; 2/Keeping it relevant to problem gambling: (1) Complete sharing; (2) Finding solutions; 3/Changes over time
Toneatto et al. (2008)	Canada	Exploratory study	37 participants (Study 1)		A structured interview and self-report scales featuring some open-ended questions	1/Reasons for quitting gambling; 2/Recovery techniques; 3/Maintenance of recovery; 4/Advice to other gamblers
Tremblay et al. (2018)	Canada	Qualitative	21 couples		Semistructured interviews based on a descriptive phenomenological approach, and analysed using thematic analysis	1/Revealing gambling behaviours to the partner; 2/The need to develop mutual comprehension and the need for help to attain it: (1) The partner's need to understand the change process; (2) The need to have discussions about their mutual experience; (3) The benefits of having a neutral person present; (4) The practice of communication; 3/Better mutual comprehension improves mutual support: (1) The couple approaches the gambling problem together; (2) No longer reinforcing gambling behaviour; (3) Gambling behaviour being interpreted as meanness; (4) Gamblers developing a better understanding of their partners' suffering;

(continued)

Table A3. Continued

Authors	Country	Design	Size of the sample	Definition of recovery	Methodology	Theme(s) related to GD and/or recovery
						(5) The partners helping the gamblers avoid relapses; (6) The couple beginning to engage in enjoyable activities together once again; 4/Commitment to and regularity in treatment; 5/For many, gambling is a relational problem 6/In some gamblers' opinion, gambling does not concern the couple; 7/Format and structure; 8/Conditions favouring one treatment or the other: (1) Conditions favouring individual treatment; (2) Conditions favouring couple treatment
Vasiliadis and Thomas (2018)	Australia	Qualitative	32 participants		Narrative telephone interviews, analysed using narrative thematic analysis	1/Externally directed recovery pathway; 2/Self-directed recovery pathway

DEBA = Dépistage/Évaluation du Besoin d'Aide (Assessment and Screening of Assistance Needs); DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition; DSM-IV-TR = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision; DSM-5 = Diagnostic and Statistical Manual of Mental Disorders Fifth Edition;
LEQ = Life Event Questionnaire;
PGSI = Problem Gambling Severity Index;
REI = Relapse Experience Interview;
SOGS = South Oaks Gambling Screen;
WHM-CIDI = World Mental Health survey initiative version of the World Health Organization Composite International Diagnosis Interview.