Psychological assessment in substance use disorders: psychometric properties and instrument validity

Evaluación psicológica en el ámbito de las drogodependencias: propiedades psicométricas y utilidad de los instrumentos

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Abstract

The aim of this study is to determine whether the assessment instruments used in the field of substance dependence are reliable and valid. To this end, a literature review was conducted following the guidelines of the latest version of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020). The following databases were consulted: PubMed, Scopus, Web of Science, EMBASE, and PsycINFO, with no restrictions on publication date. The search equation combined keywords and MeSH terms related to ("psychological assessment" [OR] "assessment instruments" [OR] "outcome assessment" [OR] "outcome measurement" [OR] "psychometric") [AND] ("substance-related disorders" [OR] "substance use disorder" [OR] "drug addiction" [OR] "drug dependence" [OR] "drug abuse" [OR] "substance abuse"). Of the 47 studies analyzed, 44 demonstrated good methodological quality and scientific rigor, while three exhibited poor methodology and insufficient rigor. In some cases, statistical biases were identified, such as lack of specification of the quantitative variables used in the analyses or insufficient detail regarding the statistical procedures employed for sample size calculation. Overall, the instruments showed strong reliability and validity scores, although a potential publication bias cannot be ruled out. Furthermore, several instruments—such as the MMPI, NEO-PI, BDI-II, and STAI—have historically demonstrated robust psychometric properties. However, in certain cases (e.g., depression), it has been suggested that cutoff scores may need to be adjusted for populations with substance use disorders.

Keywords

Psychological assessment, psychometric propierties, reliability, validity, drug addiction, measurement tools.

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Resumen

El objetivo de este trabajo es conocer si los instrumentos de evaluación utilizados en el ámbito de las drogodependencias son fiables y válidos. Para ellos se llevó a cabo una revisión de la literatura de acuerdo con las directrices de la última versión del Preferred Reporting Items for Systematic Reviews and Meta-Analyzes - PRISMA 2020. Se han utilizado las bases de datos siguientes: PubMed, Scopus, Web of Science, EMBASE y PsycINFO, sin restricción por fecha de publicación. En la ecuación de búsqueda se utilizó la combinación de palabras clave y términos MeSH relacionados «(“psychological assessment” [OR] “assessment instruments” [OR] “outcome assessment” [OR] “outcome measurement” [OR] “psychometric”) [AND] (“substance-related disorders” [OR] “substance use disorder” [OR] “drug addiction” [OR] “drug dependence” [OR] “drug abuse” [OR] “substance abuse”)». De los 47 estudios analizados, 44 artículos mostraron una buena calidad metodológica y rigor científico, y tres presentaron una metodología y rigor científico deficientes. En algunos casos se han observado determinados sesgos estadísticos como, falta de especificación de las variables cuantitativas empleadas en los análisis o del proceso estadístico seguido para el cálculo de la muestra. Se observan buenas puntuaciones en fiabilidad y validez, aunque quizá haya un sesgo de publicación. Además, algunos de los instrumentos gozan de unas propiedades psicométricas avaladas históricamente como pueden ser el MMPI, NEO-PI, el BDI-II o el STAI, si bien en algunos casos (e.g.depresión) se ha informado de que el punto de corte debería ser diferente para la población de consumidores de sustancias adictivas.

Palabras clave

Evaluación psicológica, propiedades psicométricas, validez, fiabilidad, drogodependencias.

1. INTRODUCTION

According to the WHO, the impact of alcohol, tobacco, and psychoactive drug consumption on the population is extremely high, and for those of working age, it exceeds the impact of any other risk factor (WHO, 2024). The UN estimates that by 2030, the number of people using drugs will increase by 11%, potentially reaching up to 40% in some African countries (EFESALUD, n.d.). The Spanish Observatory on Drugs and Addictions has released its latest report on alcohol, tobacco, and illegal drugs in Spain (OEDA, 2024), which includes information on drug use, perceptions, and opinions among students aged 14 to 18 from 1994 to 2023. Some of the conclusions are:

- In 2023, the most used drugs among young people (ages 14–18) were legal substances (alcohol and tobacco), followed by cannabis. Gender differences were observed: legal drug use was more prevalent among females, while the use of all illegal drugs was more prevalent among males (except for hypnotic sedatives) (p.13).
- In 2022, there were 45,873 admissions to treatment in Spain for abuse or dependence on psychoactive substances (excluding alcohol and tobacco), representing a 3.4% increase compared to 2021 (p.17).
- In 2022, 6,627 emergency episodes were reported related to the non-therapeutic or non-medical use of some drug (p.18). Substance use is also relatively common

among individuals diagnosed with a mental disorder. For example, it is known to be elevated in people diagnosed with a psychotic disorder. In a study by Vargas Aragón et al. (2021) on dual pathology, a predominant use of legal substances such as tobacco, coffee, and alcohol was identified, followed by cannabis use, gambling addiction, and other behavioural addictions. This comorbidity (personality disorders, psychosis, affective disorders) is also present in individuals who use substances and commit suicide (Bermúdez et al., 2024).

Substance use is also relatively common among individuals diagnosed with mental disorders; for instance, it is known to be elevated in those diagnosed with psychotic disorders. In a study by Vargas Aragón et al. (2021) on dual pathology, a predominant use of legal substances such as tobacco, coffee, and alcohol was identified, followed by cannabis use, gambling disorder, and other behavioural addictions. This comorbidity—encompassing personality disorders, psychosis, and affective disorders—is also present among individuals who use substances and commit suicide (Bermúdez et al., 2024).

At this juncture, it becomes essential to delve into the assessment of drug use and abuse to effectively intervene in the affected population. As is well known, assessment and diagnosis are the two foundational pillars that enable us to analyse the core aspects of any process or behaviour requiring subsequent intervention, allowing us to target the most relevant factors identified. Moreover, "the underlying assumption of any assessment is that there is something that can be measured and that this measurement can be represented on some type of scale" (Vargas-Bustos, 2023, p.4). While assessment cannot be reduced to the mere application of tests or its psychometric dimension (Martinez-Besteiro et al., 2023), it remains one of the fundamental areas of study. Over the past twenty years, efforts have been directed toward developing standards, principles, and guidelines to regulate and optimize both practical and scientific activities—such as test construction and their adaptation to other cultures or languages (Fdez-Ballesteros et al., 2003)—with the aim of ensuring the use of instruments that truly demonstrate strong psychometric indices of reliability and validity.

The objective of our research has been to analyse studies focused on the assessment of drug consumption, use, and abuse within the field of substance dependence, in order to identify key aspects such as constructs related to drug use, consumption patterns, craving, mental status examination, among others. The aim is to determine whether the instruments employed are useful and appropriate within this area of analysis.

2. METHODS

The review was conducted in accordance with the guidelines outlined in the latest version of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) (Page et al., 2021).

2.1. Search Strategy

The literature search was conducted across five databases: PubMed, Scopus, Web of Science, EMBASE, and PsycINFO, with no restrictions on publication date. A combination of keywords and related MeSH terms was used: ("psychological assessment" [OR] "assessment instruments" [OR] "outcome assessment" [OR] "outcome measurement" [OR] "psychometric") [AND] ("substance-related disorders" [OR] "substance use disorder" [OR] "drug addiction" [OR] "drug dependence" [OR] "drug abuse" [OR] "substance abuse"), to identify records up to July 31, 2024. Additionally, the reference lists of the selected studies were reviewed to identify further studies that met the inclusion criteria.

2.2. Selection Criteria

Original studies were included if they explored the characteristics of psychological assessment instruments in relation to various outcomes of interest associated with mental health constructs (e.g., psychopathology and/or personality traits) in individuals with substance use disorders and addictive behaviors. Eligible studies had to report quantitative data on the psychometric properties of the assessment instruments and be published in either English or Spanish. Furthermore, only data from peer-reviewed articles were considered, as defined on the journal's website or based on the full-text content of the article.

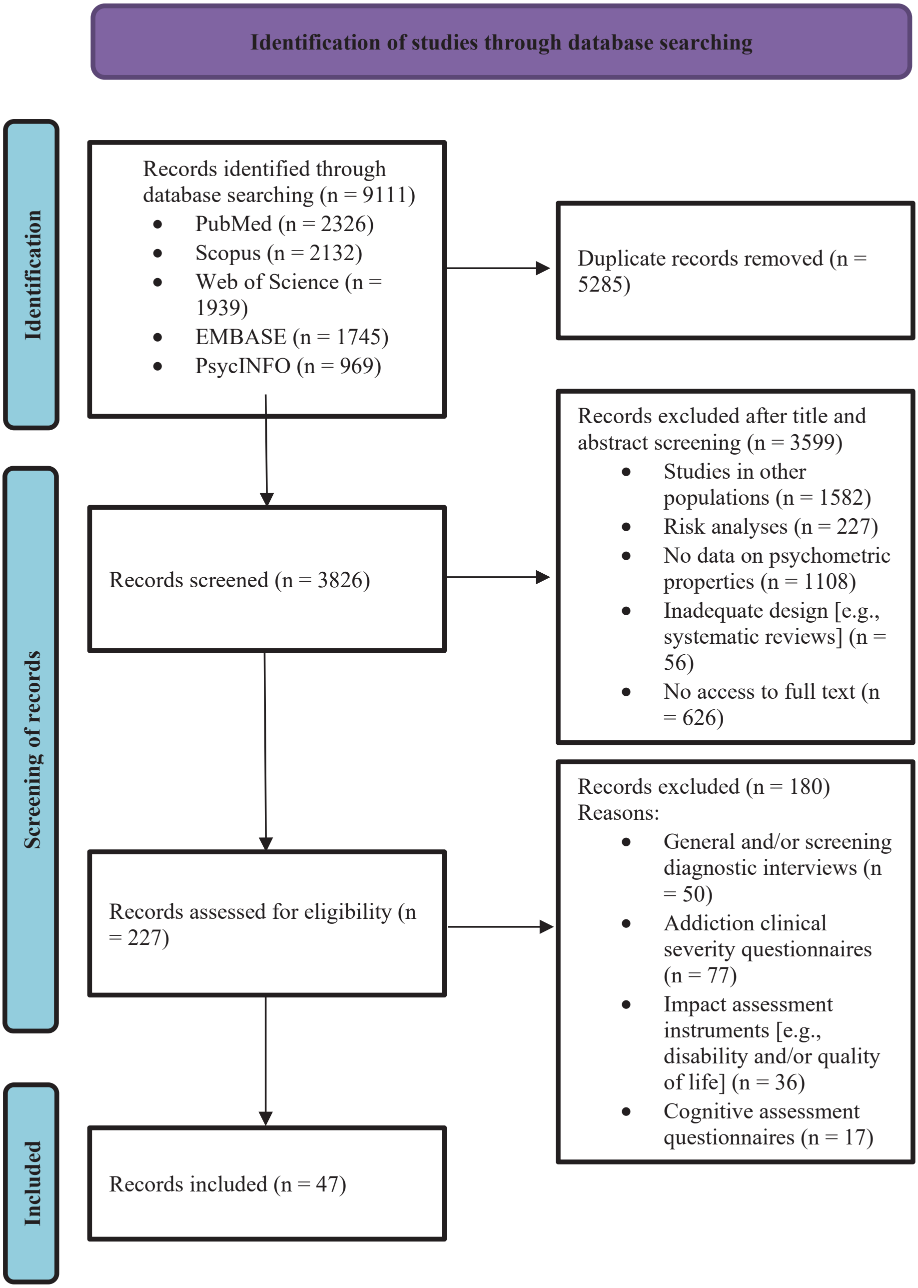
Regarding study design, original research aimed at validating the use of an instrument in a specific population was included. Studies were excluded if they: (i) examined the validity of the instrument in other populations (e.g., chronic pain, fibromyalgia); (ii) included substance use and addictive behaviors as a secondary or comorbid diagnosis; (iii) assessed performance and/or cognitive domains; (iv) focused on risk analysis in psychological assessment; (v) did not provide data on the psychometric properties of psychological assessment instruments; (vi) had a design not suitable for inclusion in a systematic review, such as review articles, meta-analyses, case series, opinion pieces, or dissertations; (vii) lacked a full-text version. Excluded articles and the corresponding reasons for exclusion are presented in the flow diagram (Figure 1).

2.3. Study Selection and Data Extraction

The identified articles were imported into the Rayyan platform (www.rayyan.ai) (Ouzzani et al., 2016) to detect and remove duplicates. Two reviewers independently and blindly screened the titles and abstracts of the articles, assessing their eligibility according to the predefined selection criteria. In the next step, the reviewers examined the full texts of studies deemed potentially eligible to confirm their inclusion. Any discrepancies between reviewers were resolved through discussion and consensus with the lead author.

The following data were extracted from each article: authors, year of publication, country, mental disorder diagnosis, dual pathology, sample size and characteristics (sex and age), assessment instruments, quantified psychological construct, and main findings. Validity and reliability measures reported in the studies were estimated using the following statistical indicators: (i) convergent validity, assessed through Pearson's correlation coefficients (r) and related metrics (e.g., point-biserial correlation); (ii) internal consistency, quantified using Cronbach's alpha (α) or McDonald's omega (ω); and (iii) inter-rater reliability, estimated using r values.

Figure 1. PRISMA ScR Flow Diagram



2.4. Quality Assessment of the Studies

The quality of the studies was assessed using the STrengthening the Reporting of OBservational studies in Epidemiology (STROBE) tool for observational cohort, case-control, and cross-sectional studies (von Elm et al., 2007). The tool consists of 22 items, each rated as affirmative, negative, not available, or not applicable. These items cover various aspects of the articles, including the title and abstract (item 1), introduction (items 2 and 3), methodology (items 4–12), results (items 13–17), and discussion (items 18–21), as well as other relevant sections (item 22 related to funding). Studies were classified into three quality categories—high, moderate, and low—based on the criteria proposed by STROBE.

3. RESULTS

3.1. Description of the Reviewed Studies

A total of 9,111 records were retrieved from the consulted databases: 2,326 from PubMed, 2,132 from Scopus, 1,939 from Web of Science, 1,745 from EMBASE, and 969 from PsycINFO. After removing duplicates and applying the selection criteria, 47 eligible articles were included in this systematic review (see flow diagram in Figure 1).

The studies were published between 1989 and 2023. Table 1 summarizes the main characteristics of the reviewed studies, including: authors and year of publication, country, mental illness diagnosis, dual pathology, sample characteristics (sample size and sociodemographic variables [age of participants and proportion of female subjects]), assessment instruments, quantified psychological constructs, and key psychometric findings.

In total, 22,281 participants were recorded, of whom 10,177 were in outpatient settings, 2,882 in inpatient settings, and 9,222 in unspecified healthcare settings. Approximately half of the participants were female (42.5%). The mean age of participants ranged from 15.5 to 56.2 years. The most frequently reported substance was alcohol (n = 5,136), followed by cannabis (n = 3,025), nicotine (n = 2,939), caffeine (n = 2,042), heroin (n = 1,381), cocaine (n = 1,142), opioids (n = 439), gambling addiction (n = 274), methamphetamine (n = 92), unspecified stimulants (n = 37), unspecified sedatives (n = 6), and gamma-hydroxybutyric acid (n = 1). Furthermore, 23% of the participants were diagnosed with unspecified substance use (n = 5,053), and 11% (n = 2,519) were identified as polysubstance users.

Sample sizes across the studies ranged from 27 to 2,042 individuals. Of the 47 articles included, the majority did not provide valid information regarding the occurrence of dual pathology (k = 43): 39.5% did not specify a mental illness diagnosis, and 60.5% omitted this information entirely. Among the remaining four studies (Hesse et al., 2008; Hesselbrock et al., 1999; Mathias et al., 2018; Vincent et al., 2011), the most frequently reported mental disorder was depressive disorder (n = 233), followed by bipolar disorder (n = 188), disruptive behavior disorder (n = 151), attention-deficit/hyperactivity disorder (n = 148), anxiety disorder (n = 127), schizoaffective disorder (n = 89), schizophrenia (n = 33), eating disorders (n = 19), antisocial personality disorder (n = 13), panic disorder (n = 12), psychotic disorder (n = 4), and social phobia (n = 4). In 2.7% of cases, the mental illness diagnosis was not specified.

Table 1. Characteristics of the studies included in the systematic review according to PICOS criteria (Population, Intervention, Comparison, Outcome, and Study Design)

Study Reference / Country	Diagnosis (criteria)	Dual pathology (criteria)	Sample characteristics	Assessment instrument(s)	Quantified construct	Results
Beaufort et al., 2017 (Netherlands)	Use of: Alcohol (n = 24) Cannabis (n = 9) Cocaine (n = 6) Opioids (n = 3) Sedatives (n = 2) Stimulants (n = 2) GHB (n = 1) (DSM-IV)	Unspecified	Hospitalized (n=47) Age (43 ± 13.1) Sex (48.9%)	DASS-21: Depression Anxiety Stress-Scale	Subjective complaints of depression and anxiety	*Reliability* Adequate internal consistency (α=0.93)
Beitel et al., 2015 (USA)	Opioid use (DSM-IV)	Unspecified	Outpatients (n=150) Age (41.5 ± 10.2) Sex (43.3%)	IPDS: Iowa Personality Disorder Screen	Personality Traits	*Reliability* Moderate internal consistency (α=0.62) *Validity* Adequate convergent validity (r=0.18–0.66)
Bennett et al., 2006 (USA)	SUD – Unspecified substance (DSM-IV)	Unspecified	Outpatients (n=662) Age (42.8 ± 6.6) Sex (25.4%)	SUESS: Substance Use Event Survey for Severe Mental Illness	Psychosocial risk factors (precipitating, predisposing, and maintaining)	*Reliability* Moderate internal consistency (α=0.53) Adequate test-retest reliability (0.72–0.95) *Validity* Adequate convergent validity (r=0.61–0.89)
Buckley et al., 2001 (USA)	Use of: Alcohol (n=183) Cocaine (n=46) Alcohol + Cocaine (n=129) Unspecified substance (n=58) (DSM-III-R)	No	Hospitalized patients (n=416) Age (45 ± 8.2) Sex (0%)	BDI-II: Beck depression inventory-II	Severity of depressive symptoms	*Reliability* Moderate internal consistency (α=0.60) *Validity* Adequate convergent validity (r=0.43–0.66)
Buckner et al., 2013 (USA)	Cannabis use (DSM-IV)	No	Unspecified healthcare setting (n = 969) Age (19.5 ± 1.4) Sex (73%)	MEEQ: Marijuana Expectancies Questionnaire	Expectancies related to cannabis use	*Reliability* Adequate internal consistency (α=0.82) *Validity* Adequate convergent validity (r=0.32–0.61)
Brown et al., 1998 (USA)	SUD – Unspecified substance (DSM-III-R)	Unspecified	Hospitalized patients (n=281) Age (15.5 ± 1.5) Sex (46%)	CDDR: Customary Drinking and Drag Use Record	Negative consequences associated with psychological/ behavioural dependence (e.g., rituals and habits, perceptions or feelings of safety, reward value)	*Reliability* Adequate internal consistency (α=0.82) Adequate test-retest reliability (r=0.70–0.92) *Validity* Adequate convergent validity (r=0.24–0.57)
Carballo et al., 2023 (Spain)	Nicotine use (DSM-IV)	No	Outpatients (n=341) Age (56.2 ± 9.8) Sex (53.1%)	GN-SBQ: Glover–Nilsson Smoking Behavioral Questionnaire	Negative consequences associated with psychological/behavioral dependence	*Reliability* Adequate internal consistency (=0.75) *Validity* Adequate convergent validity (r=0.11–0.49)

Study Reference / Country	Diagnosis (criteria)	Dual pathology (criteria)	Sample characteristics	Assessment instrument(s)	Quantified construct	Results
Coffey et al., 1998 (USA)	SUD – Unspecified substance (DSM-III-R)	No	Outpatients (n=118) Age (34 ± 8.7) Sex (57%)	PSS-SR: Post-traumatic stress disorder Symptom Scale-Self Report	Post-traumatic stress symptoms	*Reliability* Adequate internal consistency (α=0.77) *Validity* Adequate convergent validity (r=0.57–0.79)
Corbin et al., 2008 (USA)	Alcohol use (DSM-IV)	No	Unspecified healthcare setting (n=277) Age (19,8 ± 1,4) Sex (56,5%)	PDCQ: Positive Drinking Consequences Questionnaire	Positive consequences of psychological/ behavioural dependence (beliefs about expected outcomes of substance use)	*Reliability* Adequate internal consistency (α = 0,88). *Validity* Adequate convergent validity (r = 0,23-0,68).
Cornil et al., 2019 (France/Belgium)	Gambling addiction (DSM-IV)	Unspecified	Outpatients (n=274) Age (28,5 ± 11,1) Sex (55,4%)	g-CEQ: gambling craving experience questionnaire	Craving (Subjective urge to experience the psychological effects of drug use)	*Reliability* Adequate internal consistency (α = 0,89). *Validity* Adequate convergent validity (r = 0,21-0,69).
Cubells et al., 2005 (USA)	Cocaine use Nicotine (n = 187) Alcohol (n = 181) Cannabis (n = 122) Opioids (n = 108) Sedatives (n = 30) Stimulants (n = 28) Unspecified substance (n = 61) (DSM-IV)	No	Outpatients (n=243) Age (39,5 ± 7,3) Sex (41,2%)	SAPS-CIP: Scale for Assessment of Positive Symptoms for Cocaine-Induced Psychosis	Severity and types of transient delusions and hallucinations induced by substance use	*Validity* Adequate convergent validity (r = 0,20-0,82).
Delawalla et al., 2023 (USA)	Alcohol use (DSM-IV)	No	Unspecified healthcare setting (n=496) Age (18,7 ± 1,2) Sex (72,3%)	MMPI-3: Minnesota Multiphasic Personality Inventory, Third Edition	Personality Traits	*Reliability* Adequate internal consistency (α = 0,70). *Validity* Adequate convergent validity (r = 0,16-0,60).
Delaney et al., 2020 (USA)	Alcohol use (DSM-IV)	No	Unspecified healthcare setting (n=394) Age (16,9 ± 1,0) Sex (13%)	BSCQ: Brief Situational Confidence Questionnaire	Ability to resist drinking in high-risk contexts	*Reliability* Adequate internal consistency (α = 0,85). *Validity* Adequate convergent validity (r = 0,55-0,66).
Dorard et al., 2008 (France)	Cannabis use (DSM-IV)	Unspecified	Unspecified healthcare setting (n=87) Age (18,4 ± 2,8) Sex (22,9%)	OAS: Observer Alexithymia Scale	Alexithymia (inability to identify, recognize, or describe emotions or feelings)	*Reliability* Adequate internal consistency (α = 0,85). *Validity* Adequate convergent validity (r = 0,15-0,49).
Dowd et al., 2019 (USA)	Nicotine use (DSM-IV)	No	Outpatients (n=433) Age (32,8 ± 8,7) Sex (65,6%)	QVC: Questionnaire of Vaping Craving	Craving	*Reliability* Adequate internal consistency (α = 0,97).

Study Reference / Country	Diagnosis (criteria)	Dual pathology (criteria)	Sample characteristics	Assessment instrument(s)	Quantified construct	Results
Drummond y Phillips, 2002 (United Kingdom)	Alcohol use (DSM-IV)	Unspecified	Outpatients (n=80) Age (41,7 ± 8,1) Sex (37,5%)	AUQ: Alcohol Urge Questionnaire	Craving	*Reliability* Adequate internal consistency (α = 0,93). *Validity* Adequate convergent validity (r = 0,31-0,51).
Eggert et al., 1996 (USA)	SUD – Unspecified substance (DSM-IV)	No	Unspecified healthcare setting (n=705) Age (16 ± 0,8) Sex (48%)	DISA: Drug Involvement Scale for Adolescents	Psychosocial risk factors (precipitating, predisposing, and maintaining)	*Reliability* Adequate internal consistency (α = 0,91). *Validity* Adequate convergent validity (r = 0,12-0,69).
Gottlieb et al., 2013 (USA)	Nicotine use (DSM-IV) Non-smokers (n=354) Smokers (n=312) Non-combustible nicotine users(n=302)	Unspecified	Unspecified healthcare setting (n=968) Age (19,6 ± 2,8) Sex (59%)	STES: Smokeless Tobacco Expectancies Scale	Expectancies about the effects of Nicotine use	*Reliability* Adequate internal consistency (α = 0,88).
Farris et al., 2015 (USA)	Nicotine use (DSM-IV)	Unspecified	Unspecified healthcare setting (n=465) Age (17,8 ± 9,6) Sex (48,1%)	AIS: Avoidance and Inflexibility Scale	Experiential avoidance (inflexibility/avoidance of difficult thoughts, feelings, and sensations related to smoking)	*Reliability* Adequate internal consistency (α = 0,93). Adequate Reliability test-retest (0,53-0,76). *Validity* Adequate convergent validity (r = 0,12-0,69).
Henly y Winters, 1989 (USA)	SUD – Unspecified substance Alcohol (n=369) Cannabis (n=259) Stimulants (n = 102) Hallucinogens (n =68) Cocaine (n = 49) Sedatives (n = 21) Opioids (n = 16) (DSM-III-R)	No	Outpatients (n=458) Age (34 ± 8,7) Sex (38,4%)	PES: Personal Experience Scales	Psychosocial risk factors (precipitating, predisposing, and maintaining)	*Reliability* Adequate internal consistency (α = 0,82). *Validity* Adequate convergent validity (r = 0,26-0,60).
Hesse et al., 2012 (Denmark)	Use of: Alcohol (n=128) Unspecified substance (n=95) (DSM-IV)	No	Outpatients (n=186) Age (37 ± 20,4) Sex (31%)	MCMI-III: Millon Clinical Multiaxial Inventory-III	Personality Traits	*Validity* Adequate convergent validity (r = 0,26-0,70).

Study Reference / Country	Diagnosis (criteria)	Dual pathology (criteria)	Sample characteristics	Assessment instrument(s)	Quantified construct	Results
Hesse et al., 2008 (Denmark)	Opioid use (DSM-IV)	Anxiety (n = 24) Depressive disorder (n = 13) Psychotic disorder (n = 4) Unspecified (n=17)	Outpatients (n=58) Age (39,9 ± 8,9) Sex (27,5%)	SAPAS: Standardized Assessment of Personality, Abbreviated Scale	Personality Traits	*Reliability* Moderate internal consistency Denmark(α=0,62). *Validity* Adequate convergent validity (r = 0,29-0,43).
Hesselbrock et al., 1999 (USA)	Use of: Alcohol (n=35) Cocaine (n = 30) Cannabis (n = 18) Opioids (n = 10) Sedatives (n = 4) Stimulants (n = 3) (DSM-III-R)	Depressive disorder (n = 40) Antisocial personality disorder (n = 13) Panic disorder (n=12) Social phobia (n=4) Unspecified (n=11)	Outpatients (n=80) Age (34,1 ± 10,7) Sex (52,5%)	SSAGA: Semi-Structured Assessment for the Genetics of Alcoholism	Risk factors (precipitating, predisposing, and maintaining)	*Validity* Adequate convergent validity (r = 0,53-0,85)
Huntley y Juliano, 2012 (USA)	Caffeine consumption (daily coffee intake)	No	Unspecified healthcare setting (n=2042) Age (28,6 ± 11,0) Sex (72,5%)	CaffEQ: Caffeine Expectancy Questionnaire	Expectancies about the effects of caffeine consumption	*Reliability* Adequate internal consistency (α = 0,91) Adequate Reliability test-retest (0,83-0,93)
Kadi et al., 2023 (France)	Use of: Alcohol (n = 100) Opioids (n = 218) (DSM-IV)	Unspecified	Outpatients (n=318) Age (38,3 ± 10,5) Sex (22%)	COPE: Brief Coping Orientation to Problem Experienced inventory	Coping strategies	*Reliability* Adequate internal consistency (ω = 0,96)
López-Núñez et al., 2023 (Spain)	Alcohol use (DSM-IV)	Unspecified	Outpatients (n=480) Age (32,4 ± 11,7) Sex (63,1%)	B-WISDM: Brief Wisconsin Inventory of Smoking Dependence Motives	Motivational aspects (e.g., cognitive and affective enhancement, social/environmental contexts, weight control)	*Reliability* Adequate internal consistency (α = 0,95) *Validity* Adequate convergent validity (r = 0,62-0,78)
Lord et al., 2011 (USA)	SUD – Unspecified substance (DSM-IV)	Unspecified	Outpatients (n=454) Age (16,2 ± 1,2) Sex (45,5%)	CHAT: Comprehensive Health Assessment for Teens	Risk factors (precipitating, predisposing, and maintaining)	*Reliability* Adequate internal consistency (α = 0,73) Adequate Reliability test-retest (r = 0,71-0,89) *Validity* Adequate convergent validity (r = 0,29-0,77)
McGillicuddy et al., 2004 (USA)	SUD – Unspecified substance (DSM-IV)	No	Unspecified healthcare regimen (n=200) Age (39,5 ± 5,8) Sex (77%)	PSI: Parent Situation Inventory	Coping strategies	*Reliability* Adequate internal consistency (α = 0,80) Adequate Reliability test-retest (r = 0,62-0,78)

Study Reference / Country	Diagnosis (criteria)	Dual pathology (criteria)	Sample characteristics	Assessment instrument(s)	Quantified construct	Results
Mathias et al., 2018 (USA)	SUD – Unspecified substance (DSM-IV)	Depressive disorder (n = 180) Disruptive behavior disorder (n = 151) Attention-deficit/ hyperactivity disorder (ADHD) (n = 148) Anxiety disorder (n = 103) Bipolar disorder (n = 32) Eating disorders (n = 19) (DSM-IV)	Unspecified healthcare setting (n=658) Age (15,5 ± 3,8) Sex (53,6%) Hospitalized patients (n=322) Age (21,9 ± 4,4) Sex (50,6%)	BIS-11: Barratt Impulsiveness Scale	Impulsivity Personality Traits	*Reliability* Adequate internal consistency (α = 0,88) *Validity* Adequate convergent validity (r = 0,72-0,74)
Martins-da-Silva et al., 2023 (Brazil)	SUD – Unspecified substance (DSM-IV)	Unspecified	Outpatients (n=239) Age (42,4 ± 11,1) Sex (20,8%)	MATE: Measurement in the Addictions for Triage and Evaluation	Risk factors (precipitating, predisposing, and maintaining)	*Reliability* Adequate internal consistency (α = 0,79) *Validity* Adequate convergent validity (r = 0,15-0,69)
Morean et al., 2013 (USA)	Alcohol use (DSM-IV)	Unspecified	Outpatients (n=215) Age (22,8 ± 2,3) Sex (25,6%)	SEAS: Subjective Effects of Alcohol Scale	Expectancies about the effects of alcohol use	*Reliability* Adequate internal consistency (α = 0,87) *Validity* Adequate convergent validity (r = 0,94-0,96)
Myers y Brown, 1996 (USA)	SUD – Unspecified substance (DSM-III-R)	Unspecified	Hospitalized patients (n=136) Age (16,9 ± 1,3) Sex (41,9%)	ARCQ: Adolescent Relapse Coping Questionnaire	Coping strategies in high-risk relapse situations	*Reliability* Adequate internal consistency (α = 0,80) *Validity* Adequate convergent validity (r = 0,22-0,34)
Northrup et al., 2015 (USA)	Use of: Cocaine (n = 177) Methamphetamine (n= 92) Stimulants (n = 32) (DSM-IV)	Unspecified	Outpatients (n=301) Age (39 ± 10,8) Sex (39,9%)	STCQ: Stimulant Craving Questionnaire	Craving	*Reliability* Adequate internal consistency (α = 0,83)

Study Reference / Country	Diagnosis (criteria)	Dual pathology (criteria)	Sample characteristics	Assessment instrument(s)	Quantified construct	Results
Piedmont et al., 2000 (USA)	Use of: Cocaine (n = 96) Alcohol (n = 86) Heroin (n = 55) (DSM-IV)	No	Outpatients (n=132) Age (35 ± 15,7) Sex (37,8%)	PPCA: Personal Problems Check-list for Adults	Severity of anxiety/distress	*Reliability* Adequate internal consistency (α = 0,95) Adequate Reliability test-retest (0,28-0,61) *Validity* Adequate convergent validity (r = 0,19-0,50)
Pilatti et al., 2016 (Argentina)	Alcohol use (DSM-IV)	No	Unspecified healthcare regimen (n=251) Age (21,1 ± 1,8) Sex (76,1%)	S-YAACQ: Spanish Version of the Young Adult Alcohol Consequences Questionnaire	Negative consequences of alcohol use	*Reliability* Adequate internal consistency (α = 0,80) *Validity* Adequate convergent validity (r = 0,37-0,75)
Quirk et al., 2003 (USA)	Alcohol use Cannabis (n = 960) Cocaine (n = 945) Opiates (n = 452) Sedatives (n = 339) Amphetamines (n=296) *(DSM-III-R)*	No	Hospitalized patients (n=1411) Age (44,1 ± 8,3) Sex (5%)	NEO-PI–R: Revised NEO Personality Inventory	Personality Traits (*Extraversion*, *Openness to experience*, *Agreeableness*, *Conscientiousness*, *Neuroticism*)	*Validity* Adequate convergent validity (r = 0,14-0,41)
Rojas et al., 2015 (USA)	SUD – Unspecified substance (DSM-IV)	Unspecified	Outpatients (n=227) Age (30,0 ± 8,4) Sex (53%) Unspecified healthcare setting(n=233) Age (20,4 ± 4,3) Sex (65%)	MBPD: Minnesota Borderline Personality Disorder Scale	Borderline Personality Traits	*Reliability* Adequate internal consistency (α = 0,82) Adequate Reliability test-retest (0,67-0,72) *Validity* Adequate convergent validity (r = 0,16-0,70)
Sklar y Turner, 1999 (Canada)	Use of: Alcohol (n = 344) Cocaine (n = 253) Heroin (n = 53) Cannabis (n = 43) Unspecified substance (n=20) (DSM-IV)	No	Outpatients (n=713) Age (35,2 ± 8,3) Sex (24,1%)	DTCQ: Drug-Taking Confidence Questionnaire User's Guide	Coping strategies	*Validity* Adequate convergent validity (r = 0,18-0,42)
Sanchez-Garcia et al., 2015 (Spain)	Use of: Alcohol (n = 40) Cocaine (n = 38) Heroin (n = 37) Cannabis (n = 23) Unspecified substance (n=32) (DSM-IV)	No	Outpatients (n=170) Age (38,9 ± 10,8) Sex (20,7%)	ASRS: Attention-deficit hyperactivity disorder (ADHD) Self-Report Scale	Symptoms of inattention/ concentration deficits and hyperactivity	*Reliability* Moderate internal consistency (α=0,56) *Validity* Adequate convergent validity (r = 0,71-0,75)

Study Reference / Country	Diagnosis (criteria)	Dual pathology (criteria)	Sample characteristics	Assessment instrument(s)	Quantified construct	Results
Santisteban et al., 1999 (USA)	SUD – Unspecified substance (DSM-III-R)	No	Outpatients (n=135) Age (38,9 ± 10,8) Sex (23,7%)	POSIT: Problem Oriented Screening Instrument for Teenagers, Family Scale	Coping strategies and family relationships	*Reliability* Adequate internal consistency (α = 0,74) *Validity* Adequate convergent validity (r = 0,24-0,88)
Seabra et al., 2018 (Portugal)	Heroin use (DSM-IV)	No	Outpatients (n=1183) Age (41 ± 7,5) Sex (27,7%)	SAC: Substance Addiction Consequences Scale	Negative consequences of substance use	*Reliability* Adequate internal consistency (α = 0,85) Adequate Reliability test-retest (r = 0,53-0,81) *Validity* Adequate convergent validity (r = 0,38-0,55)
Sklar et al., 1997 (USA)	Use of: Alcohol (n = 344) Cocaine (n = 253) Heroin (n = 53) Cannabis (n = 43) Unspecified substance (n=20) (DSM-III-R)	No	Outpatients (n=713) Age (34,3 ± 7,3) Sex (24,6%)	DTCQ: Drug-Taking Confidence Questionnaire	Coping strategies	*Reliability* Adequate internal consistency (α = 0,98) *Validity* Adequate convergent validity (r = 0,15-0,56)
Smith et al., 2021 (USA)	Nicotine use (DSM-5)	No	Outpatients (n=1086) Age (48,1 ± 11,6) Sex (52%)	WSWS: Wisconsin Smoking Withdrawal Scale	Psychopathology	*Reliability* Adequate internal consistency (α = 0,75) Adequate Reliability test-retest (r = 0,60-0,73) *Validity* Adequate convergent validity (r = 0,18-0,68)
Vincent et al., 2011 (USA)	Alcohol use Use of: Cocaine (n = 211) Cannabis (n = 128) Opiates (n = 64) Sedatives (n = 45) Amphetamines (n=**25)** (DSM-IV)	Bipolar disorder (n = 156) Schizoaffective disorder (n = 89) Schizophrenia (n=33) (DSM-IV)	Outpatients (n=278) Age (39,4 ± 8,3) Sex (54%)	PASUPP-R: revised Problems Assessment for Substance Using Psychiatric Patients	Negative consequences of substance use	*Reliability* Adequate internal consistency (α = 0,79) Adequate Reliability test-retest (r = 0,67-0,73) *Validity* Adequate convergent validity (r = 0,16-0,73)

Study Reference / Country	Diagnosis (criteria)	Dual pathology (criteria)	Sample characteristics	Assessment instrument(s)	Quantified construct	Results
Vilsaint et al., 2017 (Scotland/Australia)	Alcohol use (DSM-IV)	No	Outpatients (n=450) Age (35 ± 10,7) Sex (34,7%)	BARC-10: Brief Assessment of Recovery Capital	Recovery capital *(the quantity and quality of internal and external resources that can be used to initiate and sustain addiction recovery)*	*Reliability* Adequate internal consistency (α = 0,90) *Validity* Adequate convergent validity (r = 0,55-0,90)
Waddell et al., 2021 (USA)	Cannabis use (DSM-IV)	No	Unspecified healthcare regimen (n=1564) Age (22,0 ± 3,3) Sex (45%)	AECS: Anticipated Effects of Cannabis Scale	Expectancies about the effects of cannabis use	*Reliability* Adequate internal consistency (ω = 0,81) *Validity* Adequate convergent validity (r = 0,60- 0,85)
Weiss et al., 2023 (USA)	Cannabis use (DSM-IV)	No	Hospitalized patients (n=269) Age (37,0 ± 14,3) Sex (66,9%)	CEEQ–M: Cannabis Effects Expectancy Questionnaire–Medical	Expectancies about the effects of cannabis use	*Reliability* Adequate internal consistency (α = 0,90)

Note: Age (x̄ ± σ), Sex (% female). Abbreviations (in alphabetical order): DSM-IV = *Diagnostic and Statistical Manual of Mental Disorders, 4th edition*; n = total number of participants; x̄ = arithmetic mean; σ = standard deviation; % = percentage; α = Cronbach's alpha; ω = McDonald's omega; rpb = point-biserial correlation; GHB = gamma-hydroxybutyric acid; SUD = Substance Use Disorder

Although the studies were conducted in various countries, only two included participants from multiple regions: one study from Scotland and Australia (k = 1), and another from France and Belgium (k = 1). The vast majority of studies were conducted in the United States (k = 32), followed by Spain (k = 3), France (k = 2), Denmark (k = 2), and one study each from the Netherlands, United Kingdom, Brazil, Argentina, Canada, and Portugal.

Regarding the assessment instruments, the following psychological constructs were examined: personality traits, risk factors (precipitating, predisposing, and maintaining), substance use-related expectancies, specificity and consequences associated with substance use, coping strategies, craving, and symptomatology. The findings related to these constructs are summarized below.

Personality traits

The consumption of psychoactive substances induces alterations in an individual's personality pattern, potentially exacerbating traits such as impulsivity (e.g., alcohol abuse), euphoria or heightened arousal (e.g., cocaine), increased aggressiveness, among others. These changes may be accompanied by the manifestation of specific personality disorders. In certain treatment-focused studies, authors have noted a methodological limitation: the instrument employed—the Iowa Personality Disorder Screening (IPDS; Beitel et al., 2015)—does not include items that directly assess antisocial personality disorder, despite its high prevalence among individuals undergoing methadone maintenance therapy. This observation leads into the domain of dual pathology, characterized by the co-occurrence of substance use and psychiatric disorders.

Within this context, the Standardized Assessment of Personality – Abbreviated Scale (SAPAS; Hesse et al., 2008) has been proposed as a modestly valid and relatively reliable tool for identifying personality disorders in patients with ongoing substance abuse. Its utility extends to both low-resource clinical settings and preliminary screening purposes. As previously noted, impulsivity is a frequently observed trait, cited in studies such as Mathias et al. (2018), who identified its presence in adolescents at risk for substance use (e.g., those with a family history of abuse), thereby supporting the application of the BIS-Brief instrument. Regarding alcohol and personality, Delawalla et al. (2023) endorsed the use of the MMPI-3 for assessing college students who consume alcohol, highlighting the relevance of scales measuring social avoidance, impulsivity, and anxiety-related experiences. Individuals who begin to engage in drug abuse or addictive behaviours often exhibit avoidant behavioural patterns, attempting to conceal their substance use and increasing social isolation—except with those who share an interest in drug-related environments. Other studies have employed the MMPI-2 and the NEO-PI-R (Quirk et al., 2003), indicating that personality trait scores were substantially associated with DSM Axis I diagnostic categories. Finally, in the study by Rojas et al. (2015) on borderline personality disorder, scores on the McLean Screening Instrument for Borderline Personality Disorder (MBPD) were significantly correlated with symptoms of major depressive disorder, anxiety disorders, conduct problems, and adult antisocial behaviour, but not with symptoms of alcohol or drug dependence.

Risk Factors (Precipitating, Predisposing, and Maintaining)

The Substance Use Event Survey for Severe Mental Illness (SUESS) appears to be a well-tolerated and comprehensible assessment tool for patients with dual diagnoses, demonstrating good reliability and validity (Bennett et al., 2006). It is also useful for evaluating patients undergoing treatment by analysing variables such as lifestyle changes, the subjective experience of traumatic events, and the worsening of psychiatric symptoms. Additionally, it can reflect motivational aspects that facilitate therapeutic adherence.

Another instrument with strong psychometric properties is the Drug Involvement Scale for Adolescents (DISA) (Eggert et al., 1996), which helps differentiate substance use among high-risk students versus typical high school students. In the same vein, the Personal Experience Scales (PES) (Heniy & Winters, 1989) are a self-report measure developed to assess psychosocial factors related to the perpetuation of substance use/abuse and treatment complications.

Hesselbrock et al. (1999) report that the Semi-Structured Assessment for the Genetics of Alcoholism (SSAGA) is a highly reliable and valid instrument for use in studies involving a range of psychiatric disorders, including alcohol and drug dependence. The Comprehensive Health Assessment for Teens (CHAT) (Lord et al., 2011) is a multidimensional self-report tool that evaluates behaviours related to alcohol and other drugs, psychosocial risk factors, family and peer contexts, strengths, and social supports. It also provides normative data for scale scores, and validation studies indicate that the problem severity dimensions are psychometrically robust.

The Measurement in Addictions for Triage and Evaluation (MATE) (Martins-da-Silva et al., 2023) demonstrated strong internal consistency, particularly in the personality module and the module assessing medical and psychiatric consultation indicators, showing significant correlations between its sections and strong discriminant validity.

Expectancies Related to Substance Use

Expectations regarding the effects of various psychoactive substances are significant predictors of both the initiation and maintenance of substance use, and they also influence the clinical application of cannabis. In this regard, the Marijuana Effect Expectancy Questionnaire – Version V (MEEQ-V; Buckner et al., 2013) demonstrated adequate internal consistency, with most of its subscales correlating with the corresponding MEEQ scales, providing some support for convergent validity.

Concerning alcohol, Morean et al. (2013) developed the Subjective Effects of Alcohol Scale (SEAS), whose exploratory and confirmatory analyses identified a 14-item, four-factor model categorizing effects into affective quadrants (high/low positive arousal; high/low negative arousal), with good internal consistency.

Regarding cannabis, Waddell et al. (2021) and Weiss et al. (2023) also examined expectancies. Using the Anticipated Effects of Cannabis Scale (AECS), they proposed a three-factor structure (general positive, high negative arousal, low negative arousal). Positive expectancies were strongly associated with cannabis use, while low negative arousal expectancies were protective against frequent use. High negative arousal expectancies were strongly linked to more negative consequences and symptoms of dependence.

The Cannabis Effects Expectancy Questionnaire – Medical (CEEQ-M) indicated that expectancies measured by the CEEQ-M did not predict changes in self-reported cannabis use or symptoms of pain, insomnia, anxiety, depression, or well-being. However, increased clinical cannabis use predicted more positive changes in expectancies. The authors suggest further research is needed to understand how medical cannabis expectancies are maintained and how they diverge from expectancies related to recreational substance use.

Specifically regarding tobacco, the Smoking Termination Expectancy Scale (STES; Gottlieb et al., 2013) identified ten items through exploratory factor analysis, loading onto two factors: (1) Negative health consequences and (2) Positive reinforcement—a structure supported by confirmatory factor analysis.

For caffeine, the exploratory factor analysis of the Caffeine Expectancy Questionnaire (CaffEQ; Huntley & Juliano, 2012) yielded a seven-factor solution with very good reliability. Frequency and quantity of caffeine consumption were associated with stronger expectancies for withdrawal/dependence, increased energy/work performance, appetite suppression, enhanced social/mood state, and improved physical performance, and with weaker expectancies for negative physical effects/anxiety and sleep disturbances. Notably, caffeine expectancies related to coffee consumption were stronger than those associated with soda or tea.

Specificity and Consequences Associated with Substance Use

The Glover-Nilsson Smoking Behavioral Questionnaire (GN-SBQ) is a reliable and valid instrument for assessing behavioral aspects of tobacco addiction in clinical settings, with the added advantage of requiring minimal administration time—a common constraint in public health services (Carballo et al., 2023).

The Customary Drinking and Drug Use Record (CDDR) effectively differentiates between adolescents with and without substance abuse, outperforming other instruments in this regard. It demonstrates robust psychometric properties that support its use in both research and clinical contexts (Brown et al., 1998).

The Positive Drinking Consequences Questionnaire (PDCQ) identified a unidimensional structure with strong internal consistency and split-half reliability. It also showed discriminant validity relative to positive expectancy measures and incremental validity in predicting drinking behavior (Corbin et al., 2008).

The Young Adult Alcohol Consequences Questionnaire (S-YAACQ) comprises eight factors, each with high internal consistency, and is significantly associated with other measures of alcohol-related problems. At lower severity levels, males were more likely to endorse behaviours such as property damage, physical fights, and drunk driving, whereas females more frequently reported embarrassing actions or statements and drinking more than intended. Overall, findings suggest that this version is more suitable than its abbreviated counterpart for identifying young individuals experiencing alcohol-related issues. It successfully distinguishes individuals along the severity continuum and may facilitate early identification of students at risk of progressing to more severe stages of alcohol-related problems (Pilatti et al., 2016).

The Portuguese version of the Substance Addiction Consequences (SAC) scale demonstrated strong psychometric properties and identified four consequence-related factors, reinforcing the multidimensional nature of the phenomenon. Seabra et al. (2018) concluded that the scale is a valid tool for measuring the consequences of substance addiction and for assessing health status in the context of nursing interventions in clinical settings.

The Problems Assessment for Substance-Using Psychiatric Patients – Revised (PAS-UPP-R) was designed to measure problems experienced by individuals with co-occurring psychiatric and substance use disorders. It yielded four related factors and demonstrated good internal consistency and test-retest reliability (Vincent et al., 2011).

Coping Strategies

Assessing maladaptive family functioning among adolescents with substance use disorders is particularly important, as such dysfunction has been linked to abusive and delinquent behaviours. The 11-item Problem-Oriented Screening Instrument for Teenagers – Family Scale (POSIT) is used with clinically referred youth exhibiting behavioural problems and demonstrates strong classification accuracy in identifying families based on their level of functioning. Additionally, score differences by gender and race/ethnicity were observed—patterns not unique to the POSIT but consistent with adolescent-reported family functioning across other family measures (Santisteban et al., 1999).

The French brief version of the Coping Orientation to Problems Experienced Inventory (Brief COPE) revealed a robust and valid nine-factor structure for assessing coping strategies in French outpatients with opioid or alcohol use disorders (Kadi et al., 2023).

The Parent Situation Inventory (PSI) is a role-play measure of coping skills in parents of adolescents experiencing drug and alcohol use problems. It demonstrates satisfactory test-retest reliability and shows promise as a valid coping assessment tool for this population. Its application has direct implications for the development and evaluation of skill-based parent training programs (McGillicuddy et al., 2004).

The Adolescent Relapse Coping Questionnaire (ARCQ), administered as part of one- and two-year post-treatment interviews, assesses relapse coping in adolescents with alcohol and drug abuse. It reveals structural differences between adolescents and adults and yields a three-factor model with good internal consistency (Myers & Brown, 1996).

Finally, the study by Sklar et al. (1997) provided strong evidence for the specificity of the Drug-Taking Confidence Questionnaire (DTCQ), identifying one first-order factor and three second-order factors applicable to users of alcohol and other substances (e.g., cocaine, heroin, cannabis). The eight subscales of the DTCQ demonstrated good reliability and yielded positive findings regarding convergent and discriminant validity. Subsequently, Sklar and Turner (1999) developed an abbreviated eight-item version (DTCQ-8), which their studies suggest is a promising research tool for inclusion in outcome assessment batteries requiring a brief, reliable, and valid measure of coping self-efficacy.

Craving

Both research and clinical practice recognize craving as a critical factor in the maintenance and relapse of addictive disorders. The Elaborated Intrusion Theory (EIT) has been widely applied to psychoactive substances and eating behaviors; however, its application to gambling remains relatively unexplored. The Craving Experience Questionnaire (CEQ), a theoretically and psychometrically robust instrument based on EIT, has demonstrated strong psychometric properties in its gambling-specific version (g-CEQ; Cornil et al., 2019).

This construct has also been examined in the context of vaping dependence. Findings by Dowd et al. (2019) support the reliability and validity of the Questionnaire of Vaping Craving (QVC), suggesting its suitability for use in both clinical and laboratory settings as a psychometrically sound measure of vaping desire. Notably, craving was more strongly associated with electronic cigarette dependence than with traditional tobacco dependence.

In relation to alcohol, the Alcohol Use Questionnaire (AUQ) has proven useful in clinical and experimental research on alcohol-related craving (Drummond & Phillips, 2002). However, it is important to note that results did not support the hypothesis that anxiety (measured by the STAI) and personality traits (measured by the EPQ) predict craving when controlling for drinking-related variables.

Regarding stimulants, Northrup et al. (2015) found that the Stimulant Craving Questionnaire (STCQ) is a valuable tool for assessing craving among stimulant users, with significantly higher craving levels observed in methamphetamine users compared to those using cocaine.

Resistance to Use and Motivational Aspects

The Brief Situational Confidence Questionnaire (BSCQ) appears to be an efficient and valuable tool for clinicians and researchers aiming to effectively intervene with incarcerated adolescents (Delaney et al., 2020). Due to its brevity, the BSCQ can yield valid and reliable scores for use in this population, particularly in contexts where time and resources are limited.

Other researchers have explored motivational aspects of tobacco use, highlighting the utility of the Spanish-culturally adapted version of the Brief Wisconsin Inventory of Smoking Dependence Motives (B-WISDM), administered via online questionnaire. This instrument effectively captures the multidimensional nature of nicotine dependence (López-Núñez et al., 2023).

Recovery Capital

Recovery capital refers to the breadth and depth of internal and external resources that individuals can mobilize to initiate and sustain recovery from severe addiction-related problems. A shortened version of the original 50-item Assessment of Recovery Capital (ARC), comprising 10 subscales, was developed. The brief 10-item measure (BARC-10) reflects a unidimensional structure and demonstrates strong psychometric properties (Vilsaint et al., 2017).

Experiential Avoidance

The Avoidance and Inflexibility Scale (AIS) was administered at three time points—baseline, quit day, and one-month post-cessation—as part of a broader smoking cessation trial. Exploratory factor analysis revealed a two-factor solution, characterized by inflexibility and avoidance in response to smoking-related “thoughts/feelings” and “somatic sensations.” Psychometric analyses of the AIS demonstrated high internal consistency and test-retest reliability, as well as strong convergent, discriminant, and incremental predictive validity with affective and smoking-related variables of theoretical relevance. Current findings suggest that the AIS is a valid and reliable index of smoking-specific experiential avoidance (Farris et al., 2015).

Clinical Symptomatology

Symptomatology has been addressed in relatively few studies, primarily focusing on depression, anxiety, alexithymia, ADHD, and psychosis. Depression is a common comorbid disorder among individuals with alcohol use disorder. Notably, the Beck Depression Inventory-II (BDI-II) has been widely used, with findings suggesting that cutoff scores for individuals with substance dependence should be higher than those applied to other clinical populations to avoid overdiagnosis of depression (Buckley et al., 2001). The authors also note that substance-induced somatic symptoms may diminish once individuals achieve sobriety, although this has not been empirically confirmed, nor has the potential comorbidity with other disorders been thoroughly examined.

Another instrument, the Depression Anxiety Stress Scales (DASS-21), has been evaluated for its utility in screening depressive disorders in individuals with alcohol use disorder. Beaufort et al. (2017) concluded that the DASS-21 may be appropriate for brief administration following detoxification.

The Personal Problems Checklist for Adults (PPCA), used in outpatient drug rehabilitation programs, can assist clinicians in identifying specific life domains requiring immediate clinical attention. A comprehensive assessment plan should also include evaluation of symptoms, personality traits, and psychosocial context (Piedmont et al., 2000).

The modified version of the PTSD Symptom Scale – Self-Report (PSS-SR), which assesses both frequency and severity of PTSD symptoms, demonstrated good internal consistency and correlated with other self-report measures of trauma-related symptomatology in patients with substance use disorders (Coffey et al., 1998).

Alexithymia has been specifically studied in cannabis users and their family members (observers), using the Observer Alexithymia Scale (OAS) alongside instruments such as the BDI and the State-Trait Anxiety Inventory (STAI). Dorard et al. (2008) supported the validity of the OAS, encouraging multimethod assessment of alexithymia in both research and clinical practice. They emphasized that one-third of study participants may be at risk for a wide range of problems associated with poor emotional regulation, and that evaluating alexithymia in individuals under the influence of substances is crucial, given frequent concerns about the validity of self-report measures in this context.

The Adult ADHD Self-Report Scale (ASRS) is one of the most widely used instruments for detecting attention-deficit/hyperactivity disorder (ADHD) in adults. In a study conducted in Spain by Sánchez-García et al. (2015) involving patients with substance use disorders, a revised version of the ASRS was developed, demonstrating improved psychometric properties and greater diagnostic utility than the original screening scale. It also proved more effective in identifying inattentive and hyperactive ADHD subtypes.

Regarding psychosis, a new instrument—the Scale for the Assessment of Positive Symptoms in Cocaine-Induced Psychosis (SAPS-CIP)—was developed based on the validated Scale for the Assessment of Positive Symptoms (SAPS). Findings suggest that cocaine-induced psychosis includes transient delusional and hallucinatory symptoms that tend to co-occur and covary in severity. The SAPS-CIP is useful for quantifying the severity of such psychosis according to operational criteria, and the Cocaine Experience Questionnaire (CEQ) can identify most individuals experiencing this condition (Cubells et al., 2005).

Finally, tobacco withdrawal assessment is important for both research and clinical purposes. Smith et al. (2021) described the psychometric development of a revised version of the Wisconsin Smoking Withdrawal Scale (WSWS), available in two formats: the 19-item WSWS2-L and the brief 6-item WSWS2-B. Both scales assess six core constructs related to withdrawal: craving, negative affect, sleep disturbance, restlessness, concentration, and hunger. While both versions exhibit strong psychometric properties, the authors recommend using the WSWS2-B in contexts involving repeated assessments (e.g., ecological momentary assessment studies) or when part of a larger evaluation battery. The WSWS2-L, however, showed slightly stronger associations with withdrawal outcomes and allows for internal consistency evaluation at any given point, making it preferable when individual-level withdrawal assessment is prioritized.

3.2. Psychometric Properties

Overall, the average reliability value (measured as internal consistency) across instruments (k = 40) was α = 0.69, while the average, minimum, and maximum values for convergent validity (k = 39) ranged from r = 0.33 to 0.67. Specifically:

- For instruments assessing personality trait constructs: α = 0.73 (k = 5), r = 0.27–0.60 (k = 7)
- For risk factors (precipitating, predisposing, and maintaining): α = 0.76 (k = 5), r = 0.39–0.75 (k = 6)
- For substance use expectancies: α = 0.86 (k = 6), r = 0.62–0.81 (k = 3)
- For consequences associated with substance use: α = 0.81 (k = 6), r = 0.25–0.63 (k = 6)
- For coping strategies: α = 0.85 (k = 5), r = 0.28–0.60 (k = 5)
- For craving: α = 0.90 (k = 4), r = 0.26–0.60 (k = 2)
- For resistance to use: α = 0.85, r = 0.55–0.66 (k = 1)
- For motivational aspects: α = 0.95, r = 0.62–0.78 (k = 1)
- For recovery capital: α = 0.90, r = 0.55–0.90 (k = 1)

Regarding symptomatology:

- Depressive symptoms: α = 0.60, r = 0.43–0.66 (k = 1)
- Anxiety symptoms: α = 0.95, r = 0.19–0.50 (k = 1)
- Mixed depression-anxiety symptoms: α = 0.93 (k = 1)
- Post-traumatic stress symptoms: α = 0.77, r = 0.57–0.79 (k = 1)
- Alexithymia: α = 0.85, r = 0.15–0.49 (k = 1)
- Attention/concentration and hyperactivity symptoms: α = 0.56, r = 0.71–0.75 (k = 1)
- Psychotic symptoms: r = 0.20–0.82 (k = 1)
- General psychopathology: α = 0.75, r = 0.18–0.68 (k = 1)
- Experiential avoidance: α = 0.93, r = 0.12–0.69 (k = 1)
- Additionally, eleven studies reported test-retest reliability, with correlation coefficients ranging from r = 0.62 to 0.80.

3.3. Quality Assessment

The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines were used to assess the quality of the 47 studies reviewed. Of these, 44 articles demonstrated sound methodological quality and scientific rigor, while 3 articles exhibited methodological limitations and insufficient rigor. Approximately half of the studies showed deficiencies in one or more of the following areas: specifying the procedures used to assess potential biases, detailing the quantitative variables included in the analyses, clarifying the generalizability of the findings, and reporting the sources of study funding. None of the articles explicitly described the statistical procedures used for sample size calculation.

4. CONCLUSIONS

The aim of this article was to examine the scientific literature focused on the assessment of substance use and abuse within the field of addiction, in order to determine whether the instruments employed are useful and appropriate for evaluating constructs related to drug consumption.

From an initial pool of 9,111 records retrieved from the consulted databases, and after removing 5,285 duplicates, a substantial number of exclusions (n = 1,164) were due to instruments lacking psychometric information or being systematic reviews. Among the selected articles, most demonstrated sound methodological quality and scientific rigor, although certain statistical biases were noted—such as the lack of specification regarding quantitative variables used in analyses or the statistical procedures employed for sample size calculation.

The instruments generally showed good reliability and validity scores, which are understandable when examining individual components. However, a potential publication bias may exist, as it is well known that journals tend to favor submissions reporting acceptable and positive findings on the topic under study.

Comparing instruments proved challenging due to differences in scope—some assessed specific substances (e.g., cannabis, alcohol), while others evaluated multiple substances within the same study or used varying numbers of factors. Alcohol was the most frequently assessed substance, followed by cannabis, nicotine, and caffeine.

Regarding the psychological constructs analyzed, a high degree of heterogeneity was observed in the instruments used. Prominent among these were tools assessing personality traits, risk factors (precipitating, predisposing, and maintaining), substance use expectancies, consequences associated with use, coping strategies, craving, and symptomatology. Several instruments demonstrated well-established psychometric properties, such as the MMPI and NEO-PI for personality assessment, the BDI-II for depression, and the STAI for anxiety. However, in some cases (e.g., depression), it has been suggested that cutoff scores should be adjusted for populations with substance dependence.

Limitations of this study include the exclusion of 626 articles due to lack of full-text access, which may have introduced bias into the analysis. Additionally, although behavioral addictions were initially excluded from the review, one article on gambling was included due to its focus on the psychometric properties of a craving-related instrument—an essential component in both dependence and abstinence maintenance. This study was grounded in Kavanagh's Elaborated Intrusion Theory (Kavanagh et al., 2005), which posits that cravings for addictive substances and other desired goals are often marked by vivid imagery, particularly when intense. Subsequent research (May et al., 2015) has suggested that this theory has led to the development of new assessment tools and inspired novel treatment approaches that train individuals to use vivid sensory imagery for functional goals.

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