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# Greater Than the Sum of Its Parts: Integrating Approaches to Co-construct New Meanings

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Submitted in fulfilment of the requirements for

the Professional Doctorate in Counselling Psychology (DPsych)

City, University of London

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I would further like to thank my friends and family from the bottom of my heart for their unwavering support, patience and sacrifices over the years so I could pursue this dream. Thank you to my parents for letting me run out into the world while always giving me a loving home I can return to. Thank you to my partner Alex, my Samwise, who carried me because he could not carry it for me. Thank you to Elli, Jana, Nina, and Astrid for keeping me from becoming a complete hermit. I love you all and I look forward to all our future adventures. My twin brother once said that my being a student has been the only constant in life – it is time for a new era to begin and I am thrilled to be able to be present for it.

There are many more people to thank than I can name here but I am grateful to everyone at City and across my clinical placements who has taught, inspired, and supported me over the course of my training. I am leaving this programme as part of a wonderful cohort of Counselling Psychologists. I am excited for our future in the field and treasure the friendships I have gained along the way.

Dedication

For my uncle Peter, whom I never got to meet, and Georgia, whom I will never forget.

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## Preface

This portfolio comprises three parts which are connected by themes of integration and co-creation to create something new. My past is characterised by a strive for perfection and a need for certainty, and yet, I have come to embrace a pluralistic philosophy. I no longer seek one true or perfect answer and instead my eyes have been opened to the infinite ways in which we come together to make new meanings in therapy, in research, and outside in the world, every minute of every day. This has enabled me to work in integrative ways to explore new avenues to change, knowledge-creation, and meaning-making.

In Part A I present my doctoral research thesis, a study exploring how individuals presenting with different substance use patterns, professional experts, and experts by experience construct the phenomenon of problematic substance use (PSU). Through previous research endeavours and my background of working with people experiencing substance use problems and addiction, I have come to believe that traditional substance use disorder constructs miss important nuances and experiences of PSU. I thus set out to develop a new construct to address this conceptual gap and explore how the generated knowledge could be used to design screening tools to identify individuals at risk of developing addiction. I used a constructivist approach to answering my research questions, acknowledging and embracing that the data collected, and the meanings derived from them are at their core co-constructed – in interaction between me and my study participants, between me and the data, and my grappling with my own biases and assumptions. It must further be acknowledged that there are significant power imbalances inherent in dominant research paradigms and in particular traditional approaches to conceptualising distress and psychological difficulties. I take a critical stance towards the pathologizing of distress, which naturally permeated my quest as I sought to understand how PSU was constructed by those experiencing it as well as those who would not consider themselves to be. As substance use of all manner is deeply embedded within the prevalent culture in the UK, it is likely that most people's lives are touched by it one way or another. In involving both experts by profession and experts by experience throughout the research process, I aimed to heed the call to do my part to democratise research paradigms and centre lived experience in knowledge generation. While there exists a vast body of literature on substance addiction, the outputs of my research reflect and integrate the meaning-making around PSU of all those involved in the research, resulting in the co-creation of a novel construct to define PSU.

Part B comprises a piece of clinical work conducted during my final year as a Trainee Counselling Psychologist on clinical placement. The client this work centres on, Sophie, presented to the service to seek help around binge eating and experienced a sense of stuckness that soon permeated our sessions, impeding therapeutic progress. I had just begun

my placement and was learning how to practise using enhanced cognitive-behavioural therapy (CBT-E), which represents a fairly structured manualised approach to the treatment of disordered eating and body image problems. This stuckness experienced with Sophie challenged me greatly, as she struggled to engage with the approach despite agreeing with the formulation and I felt like what I was doing was not helpful. I chose this particular piece of work to present within this portfolio as overcoming these obstacles was a tremendously formative experience and contributed greatly to shaping me into the integrative therapist I consider myself to be at the end of my training. I have come to believe that therapy, learning, and growing are processes that are fundamentally about change in our experience of ourselves and the world around us and the meanings we make of this and that these meanings are co-created. It was the integration of a different, more relational approach, that helped Sophie and me gain a different understanding of what was making us stuck and enabled us to co-create an idiosyncratic longitudinal formulation and begin moving towards change.

Finally, the journal article presented in Part C focusses on the methodology utilised in my doctoral research. In my endeavour to co-construct a definition for problematic substance use, I was, like all researchers, presented with a wealth of different research methods to select from. Given my research question and aims, constructivist grounded theory seemed like a good fit and my research supervisor suggested I explore the use of a Delphi survey as this would enable me to involve a panel of experts throughout the research process. In exploring this option, I came across the Grounded Delphi Method, an integrated approach combining grounded theory analysis with the Delphi method and I subsequently modified this approach by conceptualising it from the viewpoint of a constructivist epistemology. This has finally resulted in the creation of a new methodology, which I have termed the Constructivist Grounded Delphi Method. The paper explores the theoretical underpinnings and application of the approach, contributing a new methodology to the research literature.

As I sit here writing these lines and reflecting on the wonderful and challenging process of producing this portfolio, I realise that I myself and my emerging professional identity as a Counselling Psychologist ready to complete my training, are the product of co-creation, of synthesis and integration of everything I have learned and experienced, influenced by those who came before me and those whom I have had the honour of encountering on my journey.

This portfolio has been a labour of love, but also blood, sweat, and tears. It was created to meet the examination criteria allowing me graduate from my training programme and become a qualified Counselling Psychologist and forms the end point of my 11-year long journey towards this profession. It is the culmination of an uncountable number of valuable and transformative experiences, everything I have learned from my tutors, supervisors,

colleagues, peers, clients, and therapists and reflects how they have shaped me into who I am at the end of this journey.

At the same time, it is only the beginning.

To me, it truly is greater than the sum of its parts.

# Part A: Doctoral Research Thesis: Using a Constructivist Grounded Delphi Method to Define and Identify Problematic Substance Use

**Research Supervisor**

Dr Jessica Jones Nielsen

Abstract

*Background:* The DSM-5 defines problematic substance use as substance use patterns resulting in functional impairment or distress. Most existing screening tools such as the AUDIT (Saunders et al., 1993) and DUDIT (Berman et al., 2005) are derived from this substance use disorder (SUD) construct. It is argued that the SUD construct does not present a sojourn time, deeming it inappropriate in the context of early detection of problematic substance use. It is further argued that there exists a lack of definitional clarity of what constitutes problematic substance use within the literature. *Objectives:* To define a problematic substance use construct informed by a psychological paradigm and to use the categories generated in the analytic process to develop a pilot inventory for potential future screening tools. *Method:* The study followed a qualitative design and employed a constructivist grounded Delphi method (CGDM) approach to data collection and analysis. Data were collected in two phases: (1) A focus group phase and (2) a Delphi survey administered to a mixed panel of experts by profession and experts by experience. *Findings:* A model to describe the process of how participants defined problematic substance use was constructed, comprising the analytic categories of *evaluating substance use*, *quality of relating*, *level of safety*, and *experience of sober state*. A definition for the construct of 'problematic substance use' and a pilot inventory based on this are proposed.

List of Abbreviations

AUD – Alcohol Use Disorder

CGDM – Constructivist Grounded Delphi Method

CGT – Constructivist grounded theory

CoP – Counselling psychology

DSM-V – Diagnostic and Statistical Manual of Mental Disorders (5th edition)

FG – Focus group

GT – Grounded theory

ICD-11 – International Statistical Classification of Diseases and Related Health Problems (11th edition)

IST – Incentive Sensitisation Theory

PSU – Problematic substance use

SMH – Self-medication Hypothesis

SUD – Substance use disorder / disorder due to substance use

# 1 Introduction

## 1.1 Overview

In this chapter I will describe the context and rationale for my research into how *problematic substance use* (PSU) may be defined and operationalised. I begin by contextualising the research and grapple with the conceptual discrepancies between the constructs of *substance use disorders (SUDs)*, *addiction*, and PSU as they are currently used in academic, clinical, and wider public contexts. I will then endeavour to give an overview of the most relevant theories pertaining to substance addiction and present a systematic literature review of existing screening tools to detect this phenomenon. I then critique these extant constructs and tools and argue that a clearly defined construct of PSU is missing, which has implications for clinical and prevention contexts. I close this chapter by presenting the research questions and aims and discussing the project's relevance to the field of Counselling Psychology (CoP).

## 1.2 Research Context

The use of both legal and illicit substances is highly prevalent in the UK (NHS Digital, 2018a, 2018b). Excessive substance use and associated psychosocial and health consequences come at high economic cost and present major risk factors for long-term disability and premature loss of life (Peacock et al., 2018). As will be explored in more detail in this chapter, theories of addiction generally postulate that substance addiction represents the later stages of a transition process from voluntary, controlled, or conscious use to substance behaviour that appears compulsive, out of control, and often persists despite serious negative consequences across life domains. However, not everybody who engages in legal or illicit substance use will develop an addiction and the high rates of substance use suggest diverse substance use patterns and contexts (Pavarin, 2006), including widely accepted and culturally sanctioned practices (e.g., having a drink at the pub after work) and subculture-specific consumption (e.g., the use of MDMA at a rave; Siokou, 2002). Considering the evident prevalence of substance use across sociocultural and socioeconomic groups and contexts and the devastating impact of substance addiction on individuals and communities, it is important to identify substance use patterns that pose a risk of escalating into addiction early on. In a previous qualitative study, I sought to investigate how self-identified recovered individuals experienced the transition between 'recreational' use and PSU. The findings, however, indicated that participants did not feel that they had ever engaged in recreational use, but rather that their use had been inherently problematic long before the emergence of any substance use-related problems (Bech, 2019). This highlighted the need for a clearer definition of what constitutes problematic use and inspired the present research endeavour.

### 1.3 Definitions

The current editions of the Diagnostic and Statistical Manual of Mental Disorders (DMS-V; APA, 2013) and the International Statistical Classification of Diseases and Related Health Problems (ICD-11; WHO, 2019) include clearly defined psychiatric constructs to describe pathological substance use. In addition to these, several terms such as 'addiction', 'PSU', and 'substance misuse', seem to be used relatively interchangeably across the literature, in clinical contexts and in the wider public, to refer to substance use that is unhelpful, unhealthy or results in undesirable negative outcomes.

#### 1.3.1 DSM-V: Substance Use Disorder Construct

The DSM-V defines *substance use disorders* (SUDs) as patterns of substance use resulting in clinically significant functional impairment and distress (APA, 2013). SUDs are specified by substance used (e.g., alcohol use disorder (AUD) and opioid use disorder (OUD)) and are classified along a continuum of severity depending on the number of diagnostic criteria met. These criteria include perceived loss of control over use, continued use despite negative psychological, social, and health consequences, preoccupation with the substance and related behaviours to the detriment of other domains of life, craving, tolerance to the substance developed over time, withdrawal, and general level of impairment and distress resulting from substance use and related behaviours. Psychological addiction and physiological dependence (i.e., a physiological adaptation to the substance resulting in withdrawal symptoms in the absence of it) are considered distinct components of SUDs, although the potential for physiological dependence varies across substances. Whilst the current SUD constructs conceptualise a spectrum of PSU, older iterations differentiated between *substance dependence* and *substance abuse* diagnoses. Confusingly, the term 'substance abuse' is thus often used to refer to an SUD construct in the context of research conducted prior to the publication of the DSM-V but continues to appear in newer publications seemingly interchangeable with the updated construct, especially where screening tools are used that were developed from older iterations of the SUD construct. Additionally, it is at times also used to describe substance use that differs from a prescription regimen or non-medical use (e.g., Henrie-Barrus et al., 2016).

#### 1.3.2 ICD-11: Disorders due to Substance Use and Hazardous Substance Use Constructs

The ICD-11 defines *disorders due to substance use* as mental and behavioural disorders developing due to the use of psychoactive substances and reinforcing behaviours (WHO, 2019). Due to the significant conceptual overlap between DSM-V and ICD-11 constructs, these will also be included under the 'SUD' umbrella term throughout this thesis. The ICD-11 classifies presenting pathology resulting from a single occasion (e.g., episode of harmful use

of alcohol) or repeated use (e.g., harmful pattern of alcohol use and alcohol dependence), as well as other substance-induced conditions (e.g., cocaine-induced mood disorder). Like the DSM-5, the ICD-11 SUD construct differentiates between substances and is characterised by the presence of harmful substance use consequences. A spectrum is implied, ranging from *harmful use*, referring to substance use patterns that are found to directly cause harm (WHO, 2018), to *dependence*, which is characterised by impaired control over and increasing prioritisation of the substance use. In addition to this SUD construct, the ICD-11 defines *hazardous substance use*, which is listed separately under the category of 'problems associated with health behaviours'. Hazardous use refers to substance use patterns that carry a risk of harmful physical or mental health consequences and thus warrant professional attention and advice. Contributing factors to this risk are substance use frequency, amount, risky behaviours, and contextual factors associated with the use. Harmful consequences comprise both short-term effects and cumulative impact on health and functioning. Crucially, its definition specifies that hazardous substance use has not yet resulted in actual harm but can persist despite awareness of increased risk of harm occurring.

### 1.3.3 Substance Addiction Constructs

The term *addiction* is used synonymously with SUDs within the diagnostic manuals, clinical and research literature, as well as mainstream language (U.S. Department of Health and Human Services, 2016). Although the meaning of the term has changed over the centuries, the term can be traced back to antiquity (Oxford University Press, 2022). The phenomenon it now refers to has been described across ages and cultures, for example in ancient Egyptian and Greek texts (West & Brown, 2013). West and Brown (2013) discuss the difficulties around defining this abstract construct in the absence of objective existence and boundaries, arguing that addiction is a largely socially constructed concept, reliant on underpinning assumptions regarding its aetiology and maintenance. Whilst older definitions primarily focused on physiological dependence on a substance, more modern conceptualisations highlight psychological dependence, most commonly thought to manifest in impaired control over and excessive prioritisation of compulsive substance use behaviours that result in harm to the individual or those around them. A variety of theories have been proposed to explain this phenomenon and a selection of the most relevant theories will be discussed later in this chapter. The existence of a multitude of approaches to understanding and explaining addiction means, however, that the exact definition of the addiction construct will vary depending on the underpinning theories and assumptions. Amongst the most influential conceptualisations is the disease model of addiction (American Society of Addiction Medicine, 2019), which defines addiction as a chronic medical disease involving interactions between brain circuits, genetics, environmental influences, and life experiences that result in compulsive substance use despite harmful consequences. In their endeavour to synthesise the most prominent aspects of the

phenomenon across theories, West and Brown propose the working definition: “a chronic condition in which there is a repeated powerful motivation to engage in a rewarding behaviour, acquired as a result of engaging in that behaviour, that has significant potential for unintended harm. Someone is addicted to something to the extent that they experience this repeated powerful motivation” (West & Brown, 2013, pp.15-18). The authors chose to exclude the qualifier ‘impaired control’ from their definition, arguing that this would imply that addiction could only be present in conjunction with failed attempts at controlling the behaviour. Regardless of the exact aetiological assumptions made across theories of addiction, many stakeholders have argued for viewing addiction as a spectrum, as physiological adaptation resulting in dependence itself is a consequence of excessive use, indicating that a psychological drive compelling the individual to engage in long-term use is a prerequisite of developing more severe forms of addiction.

### 1.3.4 Problematic Substance Use and Other Related Constructs

Although the term ‘problematic substance use’ is used both in the literature and public discourse, what exactly constitutes PSU is rarely defined and often leaves room for subjective interpretation. In many cases, substance use is deemed problematic when there is risk of harm to the individual or those around them. The European Monitoring Centre for Drugs and Drug addiction defines long-term or regular use as key feature of problematic use (EMCDDA, 2002). In addition to frequency, quantity consumed is often considered another defining factor. Given its status as a legal and easily accessible substance that is deeply embedded within the dominant culture in the UK, there exists a prevalent framing of alcohol consumption patterns based on the quantity of units consumed. These guidelines define consumption levels of up to 14 units per week as ‘low-risk drinking’, 14-35 units for women and 14-50 units for men as ‘hazardous drinking’, and consumption exceeding this threshold as ‘high-risk drinking’ (Department of Health, 2016; NICE, 2011), based on epidemiolocal data linking this level of consumption with physiological or psychological harm (Royal College of Psychiatrists, 1987). Relying on consumption levels to define problematic use can, however, become difficult in the context of illicit substance use, for which no such guidelines have been created. Belloir and colleagues (2022) defined PSU as ‘risky or harmful use that might indicate SUD’ as assessed by scoring above certain thresholds on SUD screening tools (see also Babor et al., 2001), which will be discussed later in this chapter. This demonstrates that the term PSU is largely treated as equivalent to the SUD construct, at least in research terms. Other terminology found in the literature includes *unhealthy substance use*, which has been used to describe a spectrum ranging from any substance use above recommended levels to diagnosable SUDs (Gryczynski et al., 2017), and *substance misuse*, generally referring to the use of non-prescribed prescription medications such as painkillers, sedatives and stimulants, or the use

of such medication not in accordance with the prescriber's instructions (e.g., Parker et al., 2023).

### 1.4 Theories of Addiction

To better illustrate the shortcomings of extant definitions and constructs and contextualise the present study and findings, we must consider the theoretical underpinnings of how addiction is thought to develop and be maintained. Psychological processes of addiction have been studied from a wide variety of perspectives, producing a range of models and theories (West & Brown, 2013) but their in-depth exploration lies outside the scope of this chapter. Instead, I will present a short overview over the main psychological, biological, and biopsychosocial theories of addiction. This cannot be an exhaustive list but should serve to illuminate the theories most relevant to the endeavour of defining PSU.

#### 1.4.1 Rational Choice Theories

At their core, choice theories of behaviour frame any action as the result of a conscious cost-benefit analysis that is rational but not immune to biases (West & Brown, 2013). In the context of addiction, this suggests that at every stage of addiction, engaging in substance use is an active choice that is based on the expectation that using will convey a benefit, whilst acknowledging and accepting negative consequences. This simple model forms the starting point at which one might begin explaining behaviour and there are certainly anecdotal accounts and qualitative research findings supporting the notion that individuals may engage in substance use with the explicit goal of getting 'high' because it feels good (McAuliffe & Gordon, 1974). Rational choice theories thus assume that although someone may wish for things to be different, engaging in substance use behaviour is viewed as the preferable option available at a given time (Vuchinich & Heather, 2003), and propose that the loss of control often associated with addiction is a mere misinterpretation, as the prospect of not using with all it entails in the moment is simply not desirable enough to elicit the motivation not to use (West & Brown, 2013). The choice is considered rational if it is the result of a cost-benefit analysis, regardless of whether another would perceive this as wise or adaptive, which can result in choosing desirable short-term effects at the expense of long-term negative outcomes. According to this view, addictions could develop because the individual is unable to accurately assess risk or long-term consequences when initiating the use.

Stable choice theories further propose that the individual's preferences for substance effects remain stable, which in conjunction with habituation processes (i.e., the development of tolerance to a substance requiring the user to use increasingly larger doses to obtain the same effect) can lead to an escalation of the substance use over time. Similarly, a person may choose to use more frequently or for longer periods of time to prevent the experience of withdrawal symptoms. Skog (2003) expands on the idea of choice by proposing that the

apparent lack of control in addiction may in fact arise from unstable preferences and conflicting motives, oscillating between choosing to stop and to continue using. He theorises that the stability of preferences may vary between individuals and that those susceptible to developing addiction tend to experience more unstable preferences because those experiencing higher levels of volatility in preferences are at higher risk of developing addiction, because excessive substance use may reduce consistency, or due to a mixture of both.

West and Brown (2013) note that "'rational' carries connotations of calculating and purposeful" and "'choice' carries connotations of free will and responsibility" (pp. 67), which may, in part, account for the existing stigma around addiction and substance use problems. In reality, there is vast literature around decision-making (Baron, 2000), suggesting that these choice processes are far less straightforward than one may be initially inclined to assume. Whilst the exploration of these lies outside of the scope of this thesis, research into the perception of risks and evaluation processes in particular bears important implications for choice theories of addiction. Notably, judgements pertaining to risk appear to be highly sensitive to context with research showing that we tend to use an intuitive system based on feelings rather than an analytic system involving calculating logic when making risk-related judgements (Slovic et al., 2002). Furthermore, research indicates that we tend to judge the benefits as high and the risk as low if there is positive affect associated with an action or outcome, which shows that judgement can be biased by acute emotional needs. This potential for emotional and psychological processes outside of an individual's awareness to introduce bias into this cost-benefit analysis uncovers a vital flaw in choice theories in addiction: It raises the question to what extent choices can be regarded as conscious and rational, if the individual cannot actually be able to reliably access accurate information relating to the costs and benefits of a given action or aware of how their biases influence their decision-making at a given time.

### 1.4.2 Learning Theories

Learning theories seek to explain how behaviour is acquired and over the last century, three distinct but interrelated learning pathways have been identified and extensively studied: classical conditioning (Pavlov, 1927), operant conditioning (Skinner, 1938), and social learning (Bandura, 1977). It has been proposed that the development of addiction involves a combination of learning processes (Everitt & Robbins, 2005), which account for an apparent trajectory from voluntary pleasure-seeking behaviour to habitual or compulsive substance use (White, 1996).

Classical or Pavlovian conditioning describes a learning process through which formerly neutral cues or stimuli become associated with a reinforcing behaviour. This was famously described by Pavlov (1927) in his observations that salivation in dogs was triggered

by sounding a bell, demonstrating that the sound had become associated with feeding. In the context of addictive processes, such cues may take the form of environmental stimuli or internal states that have become associated with substance use and can be regarded as secondary reinforcers, increasing the response rate (i.e., the engagement of the substance use or related behaviour) and thus further strengthening the behavioural patterns (Glautier & Drummond, 1994). Classical conditioning explains craving as arising in response to an associated internal or external cue in order to activate the learned behavioural substance use response (Drummond, 2001) and such cue-elicited craving could be the basis for urges and relapse after a period of abstinence (Childress et al., 1988).

Operant conditioning or instrumental learning describes a normal learning mechanism in which behaviour is acquired through positive or negative reinforcement (Skinner, 1938). Positive reinforcement involves learning to repeat behaviour that results in reward, which can easily be demonstrated outside of lab conditions in the training of animals. In substance addiction, the administration of the substance and its specific effects may act as positive reinforcers and the association between behaviour and reward is cemented over time with repetition (O'Brien et al., 1992). Substance use behaviours are highly rewarding due to direct substance effects, initial positive experiences and neuroadaptive processes, which will be discussed later in this section. Negative reinforcement describes the avoidance of unpleasant stimuli and can be observed in a child learning not to engage in behaviour that causes pain, such as touching a hot stove lest we get burnt. Studies with rats have shown that rats can learn to press a lever to avoid electric shocks (West & Brown, 2013), suggesting that negative reinforcement may not only result in learning to avoid pain through avoidance of action, but also in acquiring active behaviours to do so. In the context of developing addiction, this means that substance use behaviours may be acquired through negative reinforcement if the substance use helps alleviate negative states. Physiological adaptations resulting from long-term or excessive use may give rise to withdrawal symptoms that are in turn alleviated with further use. However, it has been proposed that negative reinforcement will occur even in the absence of withdrawal symptoms, as the mere threat of experiencing negative states can be sufficient (Lewis, 1990; Schulteis & Koob, 1996) and that later stages of addiction primarily involve negative reinforcement mechanisms (Baker et al., 2004) as negative consequences of prolonged use introduce a variety of internal and external stressors.

Social learning theory expands on initial understandings of learning in humans with the notion that rather than being limited to direct experience, learning can occur through observation and communication in social contexts (Bandura, 1977). The social nature of the contexts in which substance use is often first encountered, e.g., witnessing older family members using alcohol or experimenting with substances during adolescence with peers, and

substance-specific effects that may contribute to positive social experiences such as feeling more relaxed and sociable, may thus act as additional reinforcers.

Expectancies around the outcomes of substance use are thought to form an integral vehicle facilitating learning within these learning pathways. They go beyond conscious beliefs and may involve memory templates regarding the degree of reward associated with the substance (Goldman & Darkes, 2004). There is consistent evidence that expectancies related to positive reinforcement are linked to frequency of consumption while those associated with negative reinforcement are associated with higher risk of alcohol-related problems (Cho et al., 2019). Reflecting the proposed transition from the dominance of positive reinforcement processes in early stages to negative reinforcement in the later stages of developing addiction, positive substance expectancies may at first relate to positive reinforcement (e.g., drinking will help me feel more sociable) and later to negative reinforcement (e.g., drinking will help me feel less anxious) (Boness et al., 2021). Expectancies are thought to result in and be maintained by cognitive biases, underpinned by biases in attention and memory processes. Salience of and attentional bias for substance-related stimuli is well documented in studies using Stroop colour naming tasks (e.g., Bruce & Jones, 2004) and visual probe tasks (e.g., Bradley et al., 2004). Field and Cox (2008) suggest that substance use cues elicit the expectancy of availability and describe a mutually excitatory relationship between craving and attentional bias. Such biases may facilitate automatic processing of substance use-related stimuli, in turn producing powerful cognitive, physiological, and behavioural responses (Field et al., 2004), which can make it increasingly more difficult to resist engaging in the substance use behaviour and thus may account for the experience of loss of control. As a consequence of the combined learning processes and with sufficient repetition, behaviour may thus become habitual and largely automatic (Corbit & Janak, 2016), and less influenced by processes of voluntary control and decision-making (Hogarth, 2020). Habitual behaviour is thought to account for substance use patterns that are experienced as compulsive (Everitt & Robbins, 2016), wherein the individual is unable to abstain from using despite negative consequences (Prom-Wormley et al., 2017).

In summary, learning theories describe how substance use behaviours may first be acquired and reinforced through repetition, and illuminate the unconscious and automatic nature of avoiding discomfort and mental distress. Contrasting choice theories, there is an emphasis on the unconscious reward processes governing the motivation to engage in substance use and the impulse to use in somebody presenting with an addiction problem is understood as occurring outside of conscious decision-making processes.

### 1.4.3 Neurobiological Underpinnings

An ever-expanding body of research focusses on the neuropsychological and biological underpinnings of learning, reward and decision-making systems and their implications in the development and maintenance of addictive processes. Positive reinforcement is thought to be underpinned by the mesolimbic system, particularly the dopamine pathway (Nestler, 2004). It is believed that addictive substances increase levels of the neurotransmitter dopamine in the nucleus accumbens (NAcc), although the mechanisms by which this occurs may differ across substances. Some substances, such as alcohol and opioids, block the inhibitor gamma-aminobutric acid (GABA), while stimulants like amphetamines block the re-uptake and/or enhance the release of dopamine. The binding of dopamine to receptors in the NAcc is thought to play a central role in the rewarding effect (Tomkins & Sellers, 2001). Negative reinforcement mechanisms may utilise the same neural system (Koob & Nestler, 1997). It has been argued that the functioning of the dopamine reward system may be altered through neuroadaptation in response to excessive exposure to addictive substances, leading to functional neurotoxicity giving rise to withdrawal symptoms in the form of dysregulated mood (Weiss & Koob, 2001) and a decline in response to non-substance-use-related reward reinforcers (Ouzir & Errami, 2016), while the substance becomes the prioritised reward. A recent neurobiological model conceptualises addiction as goal-directed behaviour motivated by an excessive valuation of the substance (Loganathan & Ho, 2021). The authors propose that rather than transitioning into automatised behavioural patterns in response to substance use-related cues, individuals retain the ability to consciously choose their behavioural response, but experience impairment in their valuation system due to these neuroadaptations leading to bias the decision-making systems to focus on the pursuit of the substance as primary means to achieve a desired internal state (e.g., induce euphoria or alleviate negative states), thus ascribing an intrinsic motivational value to the substance use behaviour, which in turn influences processes such as attention, learning and memory (Loganathan, 2021). Value represents the motivational qualities of any object or outcome (Monterosso et al., 2012). Valuation describes the process of assigning value based on the individual's current perspective (Sutton & Barto, 2011), and is influenced by contextual factors. Eating, for example, is valued higher when hungry than when full (Hélie et al., 2017) and according to Loganathan and Ho's (2021) neurobiological framework for value-based decision-making, substance use-related cues and rewards become significantly higher valued than unrelated rewards. It has further been proposed that the compulsive preoccupation associated with addictive substance use patterns may result from changes in the satisfaction of drives and states of satiation (Kostowski, 2002). The inability to experience a sense of satisfaction of the drug-seeking drive may lead to this drive remaining active and compromising the activity of other drives, i.e., giving rise to an unsatisfiable appetite without competition (West & Brown, 2013). Reward sensitivity may

account for individual differences in sensitivity to rewarding stimuli (Gray, 1982), and could form an important aetiological and vulnerability factor in the development of PSU (Boness et al., 2021).

### 1.4.4 The Self-Medication Hypothesis

The Self-medication Hypothesis (SMH; Khantzian, 1997) proposes that people experiencing problems with substance addiction rely on the use of substances to regulate affect and self-sooth in times of distress. Addictive vulnerability is thought to involve the experience of distress paired with low distress tolerance and inefficient coping strategies (Khantzian, 2003). Khantzian (2003) proposes that those meeting diagnostic criteria for SUDs are vulnerable to regularly experiencing severe levels of distress due to difficulties around managing and processing negative feelings and subsequently becoming overwhelmed, and in turn experience substance-specific mind-altering effects as potent means to alleviate undesirable and difficult-to-tolerate states. Deeply grounded within attachment theory, the SHM further postulates that these distressing states can include a painful sense of alienation from the self and others (Khantzian, 2011).

Attachment theory, pioneered by Bowlby (1979), describes the importance of the development of secure, relational bonds through physical and emotional proximity of caregivers during infancy and early childhood as integral to the optimal development of self-regulatory capacities. Attachment in childhood, i.e., the quality of early relationships to caregivers, is thought to form the framework or blueprint for a person's way to relate to themselves, others, and the world around them throughout the lifespan (Bowlby, 1988). Insecure attachment and traumatic attachment experiences are thought to be causally linked to powerful and pervasive feelings of loneliness, sadness, and anxiety through biological and psychological processes (Bowlby, 1988; Hofer, 1995) and an impaired ability to self-regulate emotions, as well as lead to relational difficulties, such as recurrent interpersonal conflict, problems around forming and maintaining close relationships, and issues around sense of self (Wallin, 2007). Psychotherapy research has produced findings linking insecure attachment styles with substance use by suggesting that individuals may turn to substances to cope with distress arising directly from relational problems where relationships were perceived as unpredictable and intimidating (Fletcher et al., 2014). Adverse childhood experience, abuse, and developmental trauma in particular, are well established risk factors for problems around substance use (Stone et al., 2012) and it has been proposed that attachment difficulties could be a possible explanation for this link (Murase et al., 2021), contributing to addictive vulnerability through difficulties around self-regulation, particularly affect-regulation and problems with self-esteem and self-care (Khantzian, 2003). Several iterations of the SMH have been proposed over the years but they generally conceptualise substance use as intentional

to treat psychological symptoms of underlying difficulties (Gelkopf et al., 2002). It generally proposes that the choice of substance(s) sought out by an individual with an addiction problem relates to its effects directly acting to alleviate or modulate the problem they are experiencing (Buckley, 1998). This can range from simply meeting unmet psychological and emotional needs to alleviating anxiety or self-medicating debilitating symptoms such as psychotic experiences and the SMH has been useful in explaining the established link between posttraumatic stress and harmful substance use (Luciano et al., 2022). The SMH continues to be expanded upon (for example through the integration of specific pathways linking childhood trauma to the development of SUDs, see Schimmenti et al., 2022) but it has been argued that there is a lack of evidence for underlying psychological difficulties predating substance use (West & Brown, 2013). Arguably, given the cyclical nature of self-medicating through substance use, it can be difficult to draw conclusions from research into the link between 'symptoms' and consumption patterns. For example, a recent study has found that depressive symptoms were associated with higher consumption levels, prevalence of drinking to drunkenness and negative consequences in a large sample of alcohol users in the US (Phillips et al., 2023), but it may be difficult to differentiate between cause and effect.

In an influential study investigating predictors of alcohol abuse, Cooper et al. (1988) reported that coping motives were the most powerful predictor of higher levels of alcohol consumption. They produced findings indicating that coping styles characterised by avoidance were stronger predictors of excessive alcohol use than problem-focused coping and a significant body of research examining substance use motives has routinely produced findings linking coping motives to negative consequences since. Research on the effects of the Covid-19 pandemic and associated public safety measures such as lockdown regulations has produced evidence in support of this by showing a link between high levels of psychological distress and greater alcohol consumption (Mojica-Perez et al., 2022). Isolation and loneliness experienced during lockdown measures have further been linked to increased cannabis use and using cannabis to cope with negative affect (Bartel et al., 2020). Furthermore, difficulties regulating emotions was significantly related to coping motives in a study examining the relationships between affect regulations, coping motives and alcohol problems in hazardous drinkers, suggesting emotion regulation difficulties pose a risk factor for engaging in substance use to cope (Paulus et al., 2021). Similarly, Elam et al. (2022) investigated coping strategies as mediator between adolescent polysubstance use and adult SUDs and their findings suggest that maladaptive coping strategies were associated with higher levels of substance use and predicted SUD in adulthood. Maladaptive stress coping strategies, such as relying on substance use to regulate affect, have been linked to greater psychopathology and substance use through undermining the development of more helpful responses and coping strategies

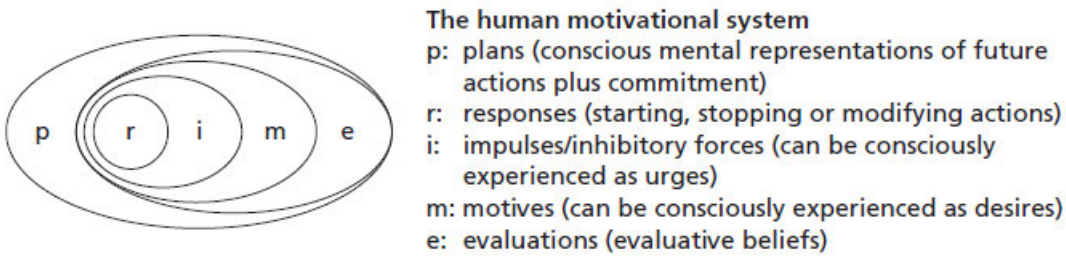
(Compas et al., 2017; Metzger et al., 2017) and increased stress experienced through negative consequences in other domains (e.g., social conflict and difficulties in school) (Bugbee et al., 2019).

### 1.4.5 The PRIME Theory of Addiction

West and Brown (2013) argue that each extant theory or model of addiction appears to focus on particular aspects of the phenomenon whilst neglecting others, which poses a challenge for incremental research (i.e., research endeavours building on one another rather than requiring the construction of new theoretical explanations for the relevant focus of a given enquiry). With the aim of providing a comprehensive theory that can be improved and added onto, they created a conceptual system by synthesising extant theories, models and observations relevant to addiction, which they termed PRIME theory, a mnemonic of its component processes. The PRIME theory conceptualises addiction fundamentally as a disorder of motivation and is based on a synthetic theory of motivation (see Figure 1.1), accounting for both automatic and conscious processes leading from sensory input to behavioural output.

**Figure 1.1**

*The PRIME System of Motivation (reproduced from West & Brown, 2013, pp.195)*




According to the PRIME model, the motivational system comprises five interacting subsystems thought to energise and direct action: 1) the *Response* subsystem into which all other subsystems feed, 2) the *Impulse-inhibition* subsystem, 3) the *Motive* subsystem generating wants and needs, 4) the *Evaluation* subsystem generating beliefs, and 5) the *Planning* subsystem. These subsystems increase in complexity and consciousness, moving from automatic responses to planning of actions in the future. Motives are thought to influence behaviour through acting on impulses and inhibitions, evaluations can only exert influences through motives, and plans operationalise motives and evaluations. The model proposes that any action is a response resulting from impulses and inhibitory forces operating at a given moment in time, which result from present stimuli and motives. This structure ascribes primacy to environmental cues, urges and desires over conscious evaluation and planning in terms of

the immediacy of influence on behaviour. Furthermore, motives and impulses are thought to originate in the interaction between external stimuli, biological drives, and emotional states as the motivational system creates mental events in response to external stimuli in the context of general level of arousal. The authors further propose that both classical conditioning (i.e., stimulus-stimulus associations) and operant conditioning (i.e., stimulus-response-outcome associations) learning pathways are only two examples of a variety of possible mechanisms within humans' innate capacity for associative learning. All learning is thought to lead to the development of associative links within the motivational system with the result of other elements being triggered more readily if an associated element occurs. The authors further propose that the human mind is inherently unstable, requiring a constant balancing of input, which has proved highly adaptable due to the responsiveness to the environment it allows, but also leaves us susceptible to developing maladaptive patterns if this balancing act is disturbed. Thus, addiction is thought to develop from a failure to balance inputs, leading to any of the subsystems functioning 'abnormally' and giving rise to a condition of particular forces dominating the behavioural system, i.e., giving an unhelpful and damagingly high priority to substance use behaviours. West and Brown (2013) identify three distinct but often interacting types of pathologies underlying addictions: a) abnormalities in the motivational system not directly caused by substance use (e.g., psychological difficulties such as anxiety or depression, low self-esteem, impulsivity, etc.,), b) abnormalities caused directly by the substance use (e.g., sensitisation to substance effects, tolerance, withdrawal symptoms, social effects of the behaviour impacting mood disturbances), and c) environmental factors acting on otherwise normal motivational systems unable to cope with them (e.g., distressing circumstances or difficult social relationships).

### 1.5 Systematic Literature Review of Existing Screening Tools

Screening tools are measures aimed at detecting the presence of a disorder early in order to reduce the subsequent development of symptoms or avoid progression of the problem altogether. These instruments form an important part of preventive medicine (Iragorri & Spackman, 2018). Given the progressive nature of substance addiction, effective screening is thought to be crucial to enable early intervention and a variety of screening tools have been developed to identify individuals presenting with PSU, particularly in the context of primary care setting. A systematic literature review was conducted to review and compare existing screening tools in relation to their utility for early detection.

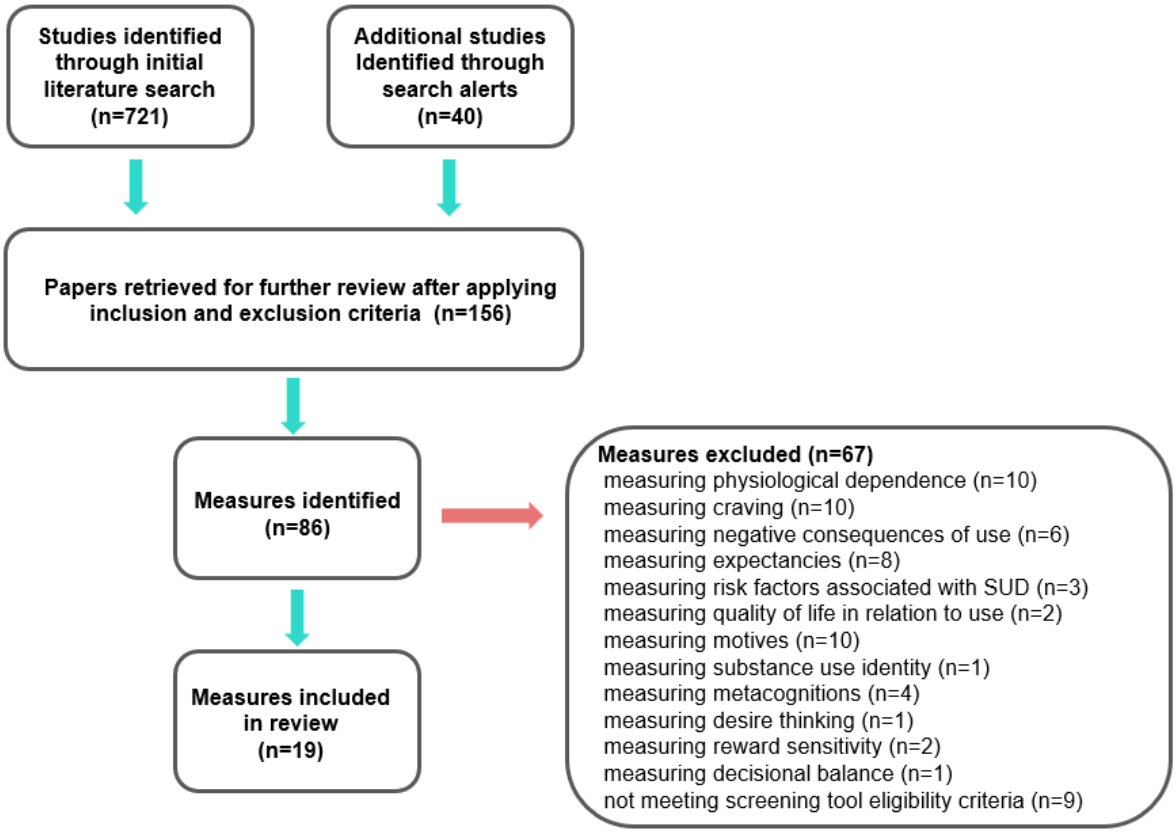
#### 1.5.1 Search Strategy and Study Selection

A literature search was conducted on electronic databases accessible through City Library services (PsychINFO, PsycArticles, Elsevier, Springer, PubMed, etc.) in May 2020 using the following keyword combination: "problematic substance use" or "problematic drug use" or

addict* or "substance misuse" or "substance abuse" or alcohol* or "risky substance use" or "risky drug use" AND screen* or test* or measure or scale. The filters applied were: 2015-2020, peer-reviewed, and English language. This yielded 30,524 results, which were further refined by applying the following limiters: subject: test construction, test reliability, test validity, questionnaires; categories: substance abuse & addiction, clinical psychological testing, recreation and leisure, which yielded 721 results. Search alerts were created to remain informed of new research in the field, which yielded 40 further papers over the course of the research up until November 2022. The abstracts were screened for relevant measures by comparing against the eligibility criteria, which were a) use of a measure to assess PSU or a related construct or b) discussion of such a measure, and exclusion criteria, which were c) studies focussing on nicotine use and d) studies focussing on specific clinical populations. 156 eligible papers were retrieved for more in-depth review of the measures used. When several iterations or versions of a measure were encountered, the most recent one was chosen, and other versions regarded as duplicates. Through this process, 86 measures were identified and tracked back to their original source. Measures were included in the review if they were explicitly identified as screening tools or designed with the explicit aim to measure PSU or a related construct (i.e., SUDs, addiction, etc.) and used to screen for this within the context of extant research or clinical practice. Screening protocols for detecting substance consumption or prescription medication misuse by only asking face-value questions (e.g., ‘do you use prescription drugs for non-medical purposes?’) were not considered as meeting these inclusion criteria. Measures designed to test related concepts or phenomena (such as substance use motives, expectancies, or craving) were excluded as were screening tools aiming to identify physiological dependence, as dependence is associated with later stages of addiction and was thus considered less relevant in the context of early detection of developing addiction. This selection process yielded a total of 19 measures for review below. A flowchart of the literature search and selection process is presented in Figure 1.2.

**Figure 1.2**

*Literature Search and Selection of Eligible Screening Tools*




The aim of the systematic review was to gain a sense of the constructs measured to identify PSU and grapple with their conceptual fit for this purpose. A summary of the screening tools included in the review is presented in Table 1.1. The guidelines for the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Page et al., 2021) were followed as applicable to increase the transparency and robustness of the literature search but given the specific aims and the limited scope of the present research, issues of statistical relevance and psychometric properties are not consistently reported for each screening tool. Grouping the screening tools for discussion presented a challenge due to conceptual vagueness and overlap. While reviewing the measures I noticed that the constructs measured were not always clearly defined and screening tools explicitly based on SUD constructs or the contexts within they were used were found to often use other terminology interchangeably. This may of course be inevitable given the long history and widespread application of substance addiction research, but nevertheless highlights a need for more conceptual clarity around related terms and constructs.

**Table 1.1**

*Summary of Screening Tools*

| Source | Measure | Measured Construct |
|---|---|---|
| WHO ASSIST Working Group (2002) | Alcohol Smoking and Substance Involvement Screening (ASSIST) | Risky use and SUD |
| Saunders et al. (1993) | Alcohol Use Disorders Identification Test (AUDIT) | SUD |
| Ewing (1984); Taylor et al. (2016) | CAGE (Cut down, Annoyed, Guilty, Eye-opener) | SUD |
| Brown and Rounds (1995) | CAGE-AID (CAGE - Adapted to Include Drugs) | SUD |
| Legleye et al. (2007) | Cannabis Abuse Screening Test (CAST) | SUD |
| Knight et al. (1999) | CRAFFT (Car, Relax, Alone, Forget, Friends, Trouble) questionnaire | Adolescent low- and high-risk SU |
| Adamson et al. (2010) | Cannabis Use Disorders Identification Test Revised (CUDIT-R) | SUD |
| Holtz et al. (2001) | Drug Abuse Problem Assessment for Primary Care (DAPA-PC) | Substance abuse and related problems |
| Skinner (1982) | Drug Abuse Screening Test (DAST) | SUD |
| Berman et al. (2005) | Drug Use Disorders Identification Test (DUDIT) | SUD |
| Rahdert (1991); Knight et al. (2001) | Problem Oriented Screening Instrument for Teenagers (POSIT) | Substance use and abuse |
| Levy et al. (2014) | Screening to Brief Intervention (S2BI) | Unhealthy SU and SUD |

| | | |
|---|---|---|
| Lazowski and Geary (2019) | Adult Substance Abuse Subtle Screening Inventory - 4 (SASSI-4) | SUD |
| Miller (1997) | Substance Abuse Subtle Screening Inventory - Adolescent 2 (SASSI-A2) | SUD |
| Allensworth-Davies et al. (2012) | Short Inventory of Problems - Drug Use (SIP-DU) | Negative consequences of SU |
| Tiet et al. (2015) | Screen of Drug Use (SoDU) | SUD and negative consequences of SU |
| Richards et al. (2021) | Self-Reported Symptoms of Cannabis Use Disorder (SRSCUD) | SUD |
| McNeely et al. (2016) | Tobacco, Alcohol, Prescription Medication and Other Substance Use (TAPS) | Unhealthy use and SUD |
| Brown et al. (1997) | Two-Item Conjoint Screen (TICS) | SUD |

### 1.5.2 Screening for SUD Constructs

Most commonly used screening tools are explicitly based on SUD constructs and were developed from DSM or ICD diagnostic criteria. Given the constant review and development of diagnostic categories, many established measures relate to older iterations of the SUD constructs and were constructed to screen for 'substance abuse' and dependence, rather than the DSM-V construct combining the two, which is reflected in the terminology used.

CAGE, CAGE-AID

The *CAGE* (Ewing, 1984) is a brief screening tool developed to assess lifetime problematic drinking patterns via four questions with a yes/no response format. Its name is a menmonic for its questions, asking whether the respondent has ever felt the need to *Cut* down their drinking, felt *Annyoed* by criticism of their drinking, experienced *Guilty* feelings about their drinking, and drank the next morning to combat hangover, withdrawal, or anxiety (*Eye-opener*). The questions were developed from a clinical study undertaken in 1968 during which a number of questions designed to detect alcoholism were presented to patients diagnosed with alcoholism and a control group. The responses were compared between groups and the minimum number of questions needed to divide the two groups was identified. The CAGE questions have been used since the 1970s to detect 'alcoholics' and individuals engaging in excessive alcohol use and the authors suggest that whilst most of the measure's utility lies in the detection of alcohol dependence when all four questions are answered affirmatively, even one affirmative answer should be regarded as indicative of PSU and the need for further examination of drinking patterns.

The *CAGE Adapted to Include Drugs* (CAGE-AID; Brown & Rounds, 1995) was adapted from the original CAGE questions by modifying them to conjointly screen for alcohol and other substance use (e.g., 'have you ever felt you ought to cut down on your drinking or drug use?').

The CAGE has been further modified to address shortcomings of its ability to accurately detect 'alcohol abuse' and dependence in college students and less severe forms of PSU in general by adding items relating to problem behaviours specific to PSU in college populations (Taylor et al., 2016). These additional items assess the impact of alcohol use on feelings towards the self and others ('has your use of alcohol affected your feelings toward yourself or other people?'), destructive behaviour caused by alcohol use ('have you ever as a result of your drinking engaged in destructive or dangerous behaviour?'), and loss of opportunities due to alcohol use ('have you lost resources (family, job, good health, opportunities, insurance, legal status, etc.) as a result of your alcohol use?'), and were selected for inclusion based on a literature review and informal interviews of expert clinicians.

While the original CAGE loaded onto a 1-factor model, the authors propose that these modifications allow the screening tool to measure the two factors of external (cut down, eye opener, destruction, loss) and internal (annoyance, guilt, feelings) indicators of PSU with cut-off scores of one and two positive response as indicative of 'alcohol abuse' and dependence, respectively.

AUDIT, DUDIT, CUDIT-R

The *Alcohol Use Disorders Identification Test* (AUDIT) was developed through an international collaborative project by the World Health Organisation as a screening tool for hazardous and harmful alcohol consumption based on the SUD constructs contained in an earlier version of the ICD (ICD-10; WHO, 1992) for the purpose of identifying individuals for early intervention. It was specifically developed to screen for problem drinking 'at an earlier or milder stage' than other screening tools that existed at the time, which were mostly developed to detect alcohol dependence, and to ensure validity across cultural contexts. The AUDIT consists of 10 questions covering the domains of alcohol consumption levels, drinking behaviours and alcohol-related problems. The items were selected from a pool of 150 questions included in an assessment schedule administered to 1888 primary care patients and selected on the basis of their representativeness of the above domains and clinical utility. Responses are given on 3-point and 5-point Likert scales based on frequency of occurrence of each item, ranging from 'never' to 'daily or almost daily' for most items. Items are scored (0-4) and accumulated for a maximum total score of 40 with a cut-off score of eight indicating potential PSU and 16 indicating harmful drinking. An extensive body of research has sought to establish the AUDIT's construct validity, reliability, and clinical utility, but despite its popularity, there are disagreements regarding its factor structure. While most commonly understood as a unidimensional measure indicating the level of PSU (Skogen et al., 2019), psychometric testing has produced findings supporting a two-factor structure comprising consumption patterns (items 1-3), and alcohol use-related problems (items 4-10) (Moehring et al., 2018), or a three-factor solution across the dimensions of drinking habits (items 1-3), alcohol dependence (items 4-6), and harmful alcohol use (items 7-10) (Blair et al., 2017).

The Drug Use Disorder Identification Test (DUDIT; Berman et al., 2005) is an 11-item self-report tool following the same format as the AUDIT and was intended to be used in conjunction with it. It was developed based on a literature review and items were chosen to assess substance consumption levels and ICD-10 and DSM-IV SUD diagnostic criteria. The authors discuss the DUDIT's ability to screen for drug-related problems at lower cut-off scores (6 and 2 out of a maximum total of 44 for men and women, respectively), arguing that screening for substance use-related problems could be a way of combining the concepts of harmful use, 'abuse', and dependence, that is more useful in clinical and research contexts

than screening for SUD, as this may require additional conceptual or psychometric assessment.

The *Cannabis Use Disorders Identification Test-Revised* (CUDIT-R; Adamson et al., 2010) presents a refined version of a pre-existing screening tool for problematic cannabis use, which was in turn a direct modification of the AUDIT (Adamson & Sellman, 2003).

SASSI-4, SASSI-A2

The *Substance Abuse Subtle Screen Inventory* (SASSI; Feldstein & Miller, 2007) was empirically developed to address general limitations of self-report measures, such as the over- or under-reporting of actual substance consumption levels, purposeful withholding of information, lack of awareness of or denial around PSU, or difficulties around expressing experiences and attitudes. To mitigate these issues, the SASSI includes both items directly linked to substance use, and such only indirectly linked to substance use by way of assessing established risk factors. The SASSI has evolved through several iterations, including measures specifically adapted for the use with adolescents such as the *SASSI-A2* (Miller, 1997). The most recent revision, the SASSI-4 (Lazowski & Geary, 2019), was validated with a clinical sample both with and without formal SUD diagnoses, and an independent sample completing the questionnaire under honest and 'fake good' instructions, wherein participants were asked to deliberately conceal potential SUD evidence. The measure consists of 108 items across 10 subscales: Face Valid Alcohol, Face Valid Other Drug, Symptoms, Obvious Attributes, Subtle Attributes, Defensiveness, Supplemental Addictions Measure, Random Answering Pattern, and two supplementary clinical subscales independent of SUD, enabling the SASSI to 'subtly' screen for the likelihood to meet SUD criteria while circumventing the potential impact of perceived social desirability of responses (Laux et al., 2012). The subscales are operationalised through a series of complex decision rules based on performance on individual subscales to arrive at screening classification. The SASSI-4 performed well in terms of accuracy for lifetime and current presence of SUD in accordance with the DSM criteria (Lazowski & Geary, 2019). It had a sensitivity of 79% even in the fake good condition and Defensiveness and Random Answering Pattern subscale scores served to alert to atypical responses warranting further evaluation. However, the measure was less sensitive to cases with mild severity (i.e., individuals just at the cusp of meeting SUD diagnostic criteria) and a small number of participants in the clinical condition screened negative despite reports of mild substance use problems by their service providers.

TICS

The *Two-Item Conjoint Screening Test* (TICS; Brown et al., 1997) was designed to combine screening for alcohol and other substance use, as most available screening protocols at the

time focussed predominantly on alcohol use, and to assess current SUD rather than lifetime problems as assessed by the CAGE and CAGE-AID. Nine candidate items for the TICS were compiled on the basis of a literature review and ideas constructed in focus groups (FGs) involving addiction clinicians and researchers, patients diagnosed with active SUD, and patients with 'SUDs in remission'. These were tested in a sample of primary care patients against the DSM-III-R SUD construct as criterion standard and the two items with the most predictive power were selected for inclusion in the measure. The two questions developed through this process are 1) 'in the last year, have you ever drunk or used drugs more than you meant to?' and 2) 'have you felt you wanted or needed to cut down on your drinking or drug use in the last year?'. The authors reported that respondents with no affirmative responses had a 7.4% chance of meeting SUD criteria, which increased to 45% for those with one positive response and 75% for those responding positively to both questions. The authors further note that the screen was more sensitive for individuals presenting with substance dependence than 'substance abuse' but not dependence.

CAST

The *Cannabis Abuse Screening Test* (CAST; Legleye et al., 2007) was developed in France to screen for aspects of lifetime harmful cannabis use and 'cannabis abuse' in accordance with SUD diagnostic criteria in adolescents and young adults. There was no English language publication explicating the method through which the instrument was developed but Legleye and colleagues' (2007) validation study states it was constructed from existing material. The CAST assesses the frequency of seemingly non-recreational use in the form of smoking alone or before midday, memory problems, experience of being encouraged to reduce or stop using cannabis, unsuccessful quitting attempts, and cannabis use-related problems. Responses are given on a 5-point Likert scale with varying thresholds for positive responses and the total scores can range from 0-6 with a cut-off of 4 for indicating PSU. The authors propose an alternative interpretation of scores to stratify risk categories, with total scores of 0-3 indicating low to moderate risk and 4 or more indicating high risk of PSU.

SoDU

The *Screen of Drug Use* (SoDU; Tiet et al., 2015) was developed to provide a brief screening instrument for SUDs and drug use-related negative consequences for practical routine use in primary care to address shortcomings of existing instruments. It was developed by consolidating items from existing screening tools (including TICS, CAGE-AID, DUDIT, DAST, and the ASSIST, which is summarised under section 1.5.4) and using signal detection methods to identify the strongest predictors of SUD and negative consequences of drug use. The SoDU involves a two-step screening approach, with the first item inquiring about

frequency of drug use within the previous 12 month-period. A response of seven or more days constitutes a positive screening result requiring no follow-up question. If the response is 1-6 days, the result is considered as warranting the follow-up question of 'how many days in the past 12 months have you used drugs more than you meant to?', with a response of 2 or more days constituting a positive screening result. The instrument was validated against diagnostic criteria for SUD and a measure assessing negative consequences of drug use and showed very good sensitivity and specificity for both SUD and negative consequences.

SRSCUD

The *Self-Reported Symptoms of Cannabis Use Disorder* scale (SRSCUD; Richards et al., 2021) is a 13-item measure of the DSM-V Cannabis Use Disorder (CUD) construct. Its items reflect the diagnostic criteria and are scored on a 4-point Likert scale to indicate degree of severity rather than only the presence of a symptom to improve sensitivity for research. It was shown to positively correlate with established risk factors for CUD (coping motives) and negatively correlate with a widely accepted protective factor (protective behavioural strategies), and predicted CUD with excellent sensitivity and specificity. The authors argue that despite conceptual overlap, established measures such as the CUDIT-R include items reflective of cannabis consumption, dependence, and problems, thus conflating constructs rather than comprehensively assessing CUD diagnostic criteria.

### 1.5.3 Screening for Substance Misuse

Most instruments screening for substance misuse identified through the literature review were extremely brief screens consisting only of one or two face-value questions and were thus excluded from this summary. As the measures summarised above demonstrate, the term 'substance abuse' is most commonly used in the screening tool literature to refer to the SUD construct included in previous iterations of the diagnostic manuals. However, there exist also measures to assess a substance abuse construct that is conceptually similar or identical to the substance misuse construct defined in section 1.3.4.

DAST

The *Drug Abuse Screening Test* (DAST; Skinner, 1982) was designed as a brief instrument for clinical screening and research to address a lack of standardised questionnaires to gather information on nonmedical drug use at the time. The authors identify the construct screened for by the scale as 'drug abuse', which they define as a) the use of medication in excess of prescriber directions or b) any non-medical drug use. It contains 28 self-report items with a yes/no response format, which were adapted to parallel the Michigan Alcoholism Screening Test (MAST; Selzer, 1971). The measure includes items around occurrence and frequency of substance use and items pertaining to the way the drug use is experienced (e.g., 'can you go

through the week without using?'), control and boundaries (e.g., 'are you always able to stop using when you want to?' and 'do you try to limit your drug use to certain situations?'), interpersonal impact (e.g., 'has drug abuse ever created problems between you and your spouse?'), aggressive behaviour (e.g., 'have you gotten into fights when under the influence of drugs?'), feelings about the use (e.g., 'do you ever feel bad about your drug abuse?'), and negative consequences in the domains of health, failure to meet role obligations, and legal issues, as well as withdrawal and lifetime help-seeking behaviour. The combined score is thought to give a quantitative index of the degree of 'drug abuse'-related problems (i.e., the higher the score, the higher the extent of drug use problems experienced).

### 1.5.4 Screening for Substance Use-Related Problems

Rather than screening explicitly for SUD or related constructs, another group of instruments approaches the assessment of PSU through focussed measuring of the experience of substance use-related problems and negative consequences associated with SUDs.

POSIT

The *Problem Oriented Screening Instrument for Teenagers* (POSIT; Rahdert, 1991) is a multi-problem screening instrument designed for adolescents aged 12-19 to estimate service needs and assist in treatment matching for troubled adolescents. It consists of 139 yes/no questions across 10 subscales, including mental and physical health status and family relations. The Substance Use and Abuse scale comprises 17 items (Knight et al., 2001). As it was unfortunately not possible to obtain the original manual detailing the development of the POSIT for this review, it is unclear how the authors defined the substance abuse construct, but validation studies have tested the measure against the DSM-III-R SUD criterion (McLaney et al., 1994). The POSIT screens for potential problems in various functional domains (e.g., 'do you get into trouble because you use alcohol or drugs at school?') and contains three types of questions: a) general purpose items, b) age-related items, and c) red-flag items. However, any positive score is interpreted as an indicator of a potential problem in the given domain warranting further assessment (Knight et al., 2001).

DAPA-PC

The *Drug Abuse Problem Assessment for Primary Care* (DAPA-PC; Holtz et al., 2001) is a computerised assessment and brief intervention system designed to meet the need for effective large-scale screening in primary care settings. It involves a two-level screening instrument, first assessing risk and trauma before moving individuals who screened positively on to screening for substance use-specific problems, an approach that was based on research indicating that inquiring about trauma can be predictive of PSU (Israel et al., 1996). This initial Health and Safety Screen component has been designed to include questions that are

sensitive to the needs of women and marginalised groups and includes eight items assessing physical injury (e.g., broken bones and head injury), physical or emotional harm, depression, involvement in physical altercations, substance use engagement, and significant others' 'problem with drugs', followed by four questions relating to types of substance used and number of drinks at any one occasion over the past 5-year period. Those responding positively to any two questions or reporting drug use or alcohol consumption exceeding six drinks in one sitting are moved on to the second screening level, the Drug and Alcohol Problem Screen, which focuses directly on substance consumption and associated problems and was developed by evaluating questions of extant screening tools including the CAGE-AID, AUDIT, SASSI, and DAST. The total score is then considered to indicate risk-level and best treatment route, ranging from advice to treatment referral.

SIP-DU

The *Short Inventory of Problems – Modified for Drug Use* (SIP-DU; Allensworth-Davies et al., 2012) offers a screening tool for primary care practitioners to screen for PSU by way of identifying substance use-related problems to aid the individual in becoming aware of adverse consequences of drug use and support the patient's motivation to engage in early intervention to prevent further adverse effects. The authors point out that negative consequences of drug use and dependence may include significant losses including loss of self-worth, important relationships, and employment. The SIP-DU was developed from an instrument originally measuring alcohol consequences, which was created by selecting representative items from the *Drinker Inventory of Consequences* (DrInC; Miller et al., 1995) to assess current and lifetime self-identified consequences across the five domains of physical (i.e., acute and chronic physical states resulting from heavy drinking), intrapersonal (i.e., personal states of feeling associated with drinking such as guilt or shame), social responsibility (i.e., observable consequences such as failure to meet role obligations and expectations due to drinking), interpersonal (i.e., damage to or loss of relationships), and impulse control (i.e., impulsive behaviours, risk-taking, and legal problems). The DrInC was adapted to include other substances by modifying the wording of items from 'drinking' to drinking or using drugs', resulting in the *Inventory of Drug Use Consequences* (InDUC), from which the *Short Inventory of Problems – Alcohol and Drugs* (SIP-AD; Blanchard et al., 2003) was developed. The SIP-DU contains the 15 InDUC items in a true / false response format but the wording has been modified to exclude drinking (e.g., 'my family has been hurt because of my drug use') in order to specifically screen for drug use consequences and increase clinical utility through specificity (Allensworth-Davies et al., 2012). While regarded as promising, neither confirmatory nor exploratory factor analyses provided an acceptable fit of the proposed five-factor structure, but a single factor model seemed to provide the best fit instead with most acceptable loadings

for all items (.598-.855). The authors further note that the sample used in their validation study was, while recruited within a primary care setting, from an underserved and socioeconomically disadvantaged urban area, and likely presented with more severe drug use and dependence issues than average, calling into question the generalisability of their findings.

### 1.5.5 Screening for Risky Use

The final group of screening instruments included in this review assesses PSU through stratifying risk categories, similar to the alternative interpretation offered for the CAST (Legleye et al., 2007). Illustrating the conceptual overlap between extant screening tools, these measures usually use SUD construct as validating criteria, meaning that the assessed risk refers to the risk of a person meeting SUD diagnostic criteria, as well as referring to the risk of a person experiencing substance use-related problems.

<u>CRAFFT</u>

The *CRAFFT* (Knight et al., 1999) was developed as a screening tool for adolescent 'substance abuse' by combining and modifying items from extant substance use assessment measures at the time, including the POSIT. It comprises six items that performed well in terms of sensitivity and specificity in previous validation studies or were deemed to be of clinical relevance. The authors developed the tool to address a lack of appropriate screening instruments for adolescents at the time, arguing that existing measures lacked sensitivity, included items that may be inappropriate for use with adolescents or were generally too time-consuming for use in paediatric primary care settings. The name of the measure is a mnemonic based on the questions it comprises: 1) 'have you ever ridden in a *Car* driven by someone (including yourself) who was high or had been using alcohol or drugs?', 2) 'do you ever use alcohol or drugs to *Relax*, feel better about yourself, or fit in?', 3) 'do you ever use alcohol or drugs while you are by yourself (*Alone)*, 4) 'do you ever *Forget* things you did while using alcohol or drugs?, 5) do your family or *Friends* ever tell you that you should cut down on your drinking or drug use?, and 6) 'have you ever gotten into *Trouble* while you were using alcohol or drugs?'. The questions follow a yes / no response format, with each yes considered clinically useful for detecting problems around substance use. A cut-off score of 2 or more positive responses is considered indicative of a need for treatment.

<u>ASSIST</u>

The *Alcohol, Smoking, and Substance Involvement Screening Test* (ASSIST; WHO ASSIST Working Group, 2002) was developed as a structured interview by the World Health Organisation (WHO) to detect substance use-related risk in primary care settings across cultural contexts. It was constructed based on a critical literature review of the extant 'substance abuse' screening literature (Babor, 2002) and symptoms associated with

‘substance abuse’ and dependence based on the SUD constructs and existing screening tools at the time (WHO ASSIST Working Group, 2002). The ASSIST covers various substance groups and consists of eight items assessing the domains of lifetime use, current use, dependence (assessed through items relating to strong urges to use and previous attempts at reducing or stopping substance use), substance use-related problems (assessed through items relating to health, social, legal or financial problems, failure to meet role obligations, and concern expressed by others), and risk (assessed through an item relating to intravenous drug use). Items are scored depending on whether they assess lifetime occurrence or occurrence and frequency over the previous three-month period and scores are accumulated, with cut-off scores reflecting ‘unhealthy’ use and potential presence of SUD at 11 for alcohol and 4 for all other substances (Humeniuk et al., 2010). The classification of ‘unhealthy use’ to reflect risk was deliberately named and based on consumption criteria to reflect the application of the measure in medical environments, where any substance use outside of prescribed medication regimens constitutes vital information for the purposes of risk assessment and management in terms of potential medication interactions (Kumar et al., 2016). The measure has been validated in several studies and subsequently developed into a self-administered computer-assisted screening instrument (Kumar et al., 2016), as well as specific short forms for rapid screening such as the ASSIST-Lite (Ali et al., 2013).

TAPS

The *Tobacco, Alcohol, Prescription medication, and other Substance use* tool (TAPS; (McNeely et al., 2016) involves a two-step screening process and was created to enable effective screening for substance use with indication of risk level in primary care settings. The first component assesses frequency of alcohol consumption in excess of recommended daily limits, as well as illicit drug and use of prescription medication for nonmedical reasons over the previous 12 months. Any response other than ‘never’ constitutes a positive screening result, which is followed by a question as to whether the substance was used within the previous three months and two to three substance class-specific follow-up questions forming the second component of the screening tool, which were adapted from the ASSIST-Lite (Ali et al., 2016). Scores are accumulated for each substance to generate a risk score of 0-4 for alcohol and 0-3 for all other substances. The authors propose a cut-off score of 1+ as indicator for PSU and 2+ for SUD. The authors identify shortcomings around low sensitivity for detecting PSU of prescription medications as well as the tool’s inadequacy to identify PSU that has occurred outside of the recent three-month period.

S2BI

Similar to the TAPS, the *Screening to Brief Intervention* tool (S2BI; Levy et al., 2014) was developed by combining a brief screen for frequency of alcohol and drug use within the last year (on a 6-point Likert scale ranging from 'none' to 'daily') with relevant CRAFFT and AUDIT questions to be administered following a positive screening result. It was developed as a screening tool for triaging adolescent substance use by risk level and categorises adolescents into four risk categories: 1) no past-year substance use, 2) past-year substance use without SUD, 3) mild or moderate SUD, and 4) severe SUD. The tool was validated against DSM-V SUD diagnostic criteria. Due to the high levels of correlation between consumption-related screening questions and subsequent positive CRAFFT and AUDIT scores, the authors concluded that a single screening question assessing past-year substance use frequency may be a valid means for discriminating between clinically relevant risk groups in adolescents to enable timely intervention.

### 1.6 Criticism of Extant Constructs Relating to PSU and Screening Tools Based on Them

While a wide variety of screening tools have been identified, there are conceptual problems around their fit for the purpose of identifying PSU in early detection contexts. Firstly, as demonstrated in this chapter, the constant development and reconceptualization of SUD constructs has led to ambiguity of the actual constructs measured. As many instruments have been constructed to measure the presence of SUD constructs included in previous versions of the diagnostic manuals, it can be argued that many extant screening tools are in fact outdated and no longer aligned with up-to-date conceptualisations of PSU. In fact, the lack of agreed upon definitions for constructs and concepts drawn upon in the development of screening tools has been pointed out as a challenge in the development of screening tools for PSU in the past (J. B. Saunders et al., 1993). One may contest this argument by considering the continued investment in validation and reliability studies as well as ongoing efforts to improve upon existing screening instruments to ensure their fit in changing theoretical and cultural contexts (e.g., Taylor et al., 2019; Lazowski & Geary, 2019). However, further, and perhaps more significant problems lie in conceptual flaws within the SUD constructs themselves. As demonstrated in section 1.3, substance use patterns are classed as SUDs if a person experiences impaired control over their use and substance use is pursued to the detriment of other areas of their life, resulting in functional impairment, distress, and a variety of negative psychological, social, and health consequences. The construct validity of SUD diagnoses and associated criteria has been criticised for lacking clear distinction between categories (Wakefield, 2015) and diagnostic thresholds indicative of severity (Martin et al., 2015), which may in part be attributed to the definitional changes over time. Upon examination, it becomes evident that many of the diagnostic criteria refer to negative consequences of PSU

such as impairment, which means that SUD diagnosis may reflect outcomes rather than their cause (Boness et al., 2021) or contributing mechanisms. The SUD constructs, by definition, thus rely on the presence of substance use-related problems and experiences that are in themselves a result of prolonged or excessive use (e.g., impaired control, withdrawal, and cravings) and therefore do not present a sojourn time (i.e., a pre-clinical detection period during which an individual is 'asymptomatic' but presents with a problem that could be detected with an appropriate screening tool). Recently Boness and colleagues carried out a systematic review of reviews to integrate theoretical and empirical alcohol addiction constructs and developed the *Etiologic, Theory-based, Ontogenetic Hierarchical Framework of AUD mechanisms* to address issues around inadequate construct validity of DSM-5 AUD symptoms, within-disorder heterogeneity, significant shortcomings in the consideration of etiologic mechanisms and comorbidity with other constructs of psychopathology. Whilst this model undoubtedly improves the utility of the construct by crucially incorporating premorbid factors contributing to the development of AUD (e.g., negative emotionality), in their rightful endeavour to create a comprehensive framework specific to AUD, markers of psychopathology deemed nonspecific (e.g., interpersonal problems) have been excluded. In the context of early detection and prevention, however, it may be valuable to not discount such signs of difficulty as they may be easier to notice than markers requiring specialist testing. The problem inherent in most of the screening tools reviewed in this chapter is that much of the criteria rely on the presence of substance use-related problems to identify PSU, whether they explicitly measure substance use-related problems, or SUD constructs, but fail to assess developmental processes of addictive behaviours identified in the literature. Similarly, screening tools aiming to identify at-risk individuals, rely on the SUD constructs to define risk, thus referring to a risk of meeting diagnostic criteria rather than defining what may constitute a risk of escalating substance use that is in line with extant theory around the development of substance addiction. In other words, while there exists a variety of screening tools that have been established as reliant and valid instruments to detect the presence of SUD constructs, they are intrinsically flawed in the context of preventive screening (i.e., the detection of PSU before a full addiction syndrome has developed), as they cannot reliably capture individuals engaging in substance use that could place them at risk of developing a substance addiction but who have not yet experienced negative consequences of prolonged or excessive use and thus do not meet SUD criteria. The ICD construct of hazardous use seems conceptually most aligned to the realm of early detection due to the emphasis on a potential of harm without negative consequences necessarily having occurred yet, but it lacks a clear definition of how it may present or be experienced, and the literature review has yielded no screening tools operationalising this construct.

When examining extant screening tools that were not explicitly developed from SUD diagnostic criteria in the context of the theories of addiction summarised in this chapter, it is evident that some measures do include items reflecting the SMH by assessing intra- and interpersonal effects and functions of substance use. Measures designed for adolescents, in particular appear to emphasise exploration of the context within which the substance use takes place to identify PSU. However, harkening back to West and Brown's (2013) remark in regard to the challenges around defining addiction, the vastness of item configurations highlights that while each measure may focus on important and theoretically grounded aspects of the PSU phenomenon, other aspects may be neglected. This may result in some presentations of PSU being missed due, perhaps, to a lack of definitional clarity of what constitutes PSU and methodological approaches to constructing screening instruments that explicitly align with this construct. It is important to note that addiction research it has been predominately investigated using quantitative research methodologies (West & Brown, 2013) but there has been a growing interest in the employment of qualitative methodologies in order to gain a better understanding of the realities of people experiencing these phenomena (Neale et al., 2005) and design services that resonate with at-risk individuals. The engagement with the extant literature pertaining to PSU has highlighted a lack of co-constructed conceptualisations of PSU, as the diagnostic constructs are largely the product of authoritative classification by 'experts' focussed on clinical 'symptoms' (Boness et al., 2021). Furthermore, where information on how extant screening instruments were developed was available, it became apparent that they were usually constructed from diagnostic criteria, literature reviews, and other expert input and lack the perspective of individuals with lived experience, except for the TICS, which included experts by experience in the process of developing questionnaire items (Brown et al., 1997). Screening tools directly developed from SUD criteria are further underpinned by the positivist ontology inherent in traditional psychiatric paradigms and influenced by a disease model and may thus fail to capture experiential aspects of lived experience of PSU. This approach contrasts recent developments in psychology centring lived experience of distress at the heart of the conceptualisation of mental health difficulties (Johnstone et al., 2018).

### 1.7 Rationale, Aims and Research Questions

I have argued that there is a gap in the literature in terms of a lack of a PSU construct that suitably captures individuals engaging in substance use patterns that pose a risk of developing into substance addiction. I further advocate for a general shift from a medical/psychiatric to a psychological paradigm with a focus on lived experience of the PSU phenomenon to design more appropriate screening tools for the purpose of early detection of PSU. With this project I

aimed to conduct an exploratory investigation of PSU from a CoP standpoint, to contribute to the academic and clinical fields a new construct of PSU informed by a psychological paradigm in order to expand on existing conceptualisations of PSU and aid in the early detection of at-risk individuals and efforts to prevent escalating addiction.

The first aim of my research was to produce a definition for this PSU construct. I had provisionally termed this *pre-symptomatic PSU* in the earlier stages of research planning to distinguish it from the extant SUD constructs and to ensure this new construct was addressing the issue around sojourn time discussed above by focussing on PSU that I have argued is likely to occur prior to an individual meeting diagnostic criteria or criteria colloquially used to describe fully realised addiction. Conversely, however, it is expected that a person presenting with problems around substance addiction or an SUD diagnosis would also engage in PSU.

The second aim was to use the knowledge generated through the research process to develop a pilot inventory as a starting point to develop screening tools in the future that are appropriate in the context of early intervention and address the limitations of existing tools that were identified.

Finally, I aimed to devise a research methodology that involved experts by experience throughout the research process, in order to ensure the findings and outputs are accessible and resonate with affected individuals and create research that challenges power imbalances inherent in traditional approaches to defining and categorising mental health difficulties.

The research questions guiding this endeavour were a) *how can we begin to define PSU?* and b) *how could we use this understanding to detect PSU?*

### 1.8 Relevance to Counselling Psychology

The present research offers contributions to the CoP discipline, which is currently underrepresented in the field of substance use and addiction research. A CoP perspective may be advantageous in conducting research to bridge the identified gaps and develop a new PSU construct, due to its inherent appreciation for co-construction and pluralistic approaches to theory and practice. As discussed in this chapter, there is a vast literature base around substance addiction and the theories and processes that have been brought forth across disciplines may at times appear contradictory and emphasise different aspects of the phenomenon. A pluralistic approach may aid in the consolidation of theoretical perspectives and concepts, while taking into account the lived experience of individuals struggling with PSU and the wider context in which these issues occur. The methodology devised to aid in this research endeavour, which will be detailed in the following chapter, is in line with and reinforces core values associated with the CoP discipline by aiming to promote ethical and

rigorous research practise, valuing co-construction and lived experience, and centring subjective experience.

The study and its outputs further have significant clinical and educational implications. Due to the variety of contexts CoPs practise in, practitioners are likely to encounter clients experiencing PSU and varying degrees of severity. My own experience in the clinical field has taught me that there is a wide-spread problem across public sector services in the approach to providing therapy to individuals presenting with a dual diagnosis (i.e., substance use issues as well as other mental health 'conditions'), where affected individuals often find themselves being referred between substance use and talking therapy services, as one diagnosis often excludes them from receiving treatment to address the other. I therefore believe it is paramount to develop our conceptualisation of PSU to aid in the early intervention and prevention of more severe substance addiction. The generated knowledge can inform clinical CoP practise and improve early detection of problematic substance use by way of expanding clinical conceptualisations and formulations of PSU presentations and introducing more appropriate screening tools, thus increasing the likelihood of positive treatment outcomes and decreasing the risk of developing more severe presentations of problematic substance use and addiction, as well as yielding new understandings which may in the future be disseminated across academic disciplines and incorporated into training contexts.

# 2 Methodology

## 2.1 Overview

This chapter discusses in detail the research design and methodology employed to answer the research questions and meet the objectives of the study. A new methodology, the *constructivist grounded Delphi method* (CGDM), combining a modified Delphi survey with constructivist grounded theory analytic approach, was developed for this purpose. The following will discuss the rationale, process, theoretical underpinnings, and application of the methodology in the context of the present research and present critical reflections on the role of the researcher and ethical issues related to the research endeavour.

## 2.2 Research Design

The study employed a qualitative design although a small amount of quantitative data was collected, and basic descriptive statistical analysis used to assess research participants' views on the developing analysis, which will be described in further detail below. Data was gathered in two phases: (1) focus groups (FGs) comprising individuals engaging in different substance use patterns and (2) a modified Delphi survey administered to a mixed panel of experts by profession and experts by experience. These data were combined and analysed following Charmaz' (2014) constructivist grounded theory (CGT) approach to explore how participants constructed PSU. The CGDM methodology resulting from combining these methods will be further described in the following sections. A definition of the PSU construct was developed based on the findings, which was in turn used to construct a pilot inventory to assess its presence.

Given the aims of the research, a qualitative design was chosen for its inductive approach to developing new knowledge (Creswell, 2013). I considered different qualitative methodologies, in particular phenomenological approaches such as Interpretative Phenomenological Analysis (IPA; Smith et al., 2009), as I was interested in how PSU is experienced, as this is likely to play a role in how the phenomenon is constructed and how one may go about identifying its presence. Inherent in the research questions is an assumption that there may be a shared *essence* of PSU, and that this may be understood by exploring the embodied experiences of those experiencing this phenomenon and their meaning-making around them (J. A. Smith, 2004; Starks & Brown Trinidad, 2007). However, the rationale for incorporating grounded theory (GT) analytic principles, and CGT in particular, was multi-fold: Firstly, GT specifically aims to generate new theory from data (Charmaz, 2014). Secondly, PSU and the endeavour to define it, are intrinsically linked to sociocultural factors and relationships, implying an active process of constructing meaning in relation to cultural norms and psychosocial processes. It seemed sensible to investigate this phenomenon in a way that would allow me to include a heterogenous sample to explore key experiential differences

between different substance use patterns (Ragin, 1994) and understand the processes involved in making sense of and constructing meaning around them (Starks & Brown Trinidad, 2007). In choosing a phenomenological approach, I may have embarked on the paradoxical endeavour of exploring the embodied experience of a construct not yet defined, which would have compromised the epistemological soundness of the research design. Furthermore, the analytic methods used in CGT are thought to be helpful in elevating analysis beyond a descriptive account of lived experience, which I hoped would illuminate the intra- and interpersonal processes involved in PSU and the reciprocal interplay between them (Charmaz, 1995; Willig, 2008).

Another important consideration was how to incorporate participatory qualities into the research design. Researchers in the social sciences and clinical fields have been calling for the recognition of the troubling past of Western research and the responsibilities and power that comes with conducting and disseminating clinical and psychological research. Mental health research in particular has played a significant role in establishing and maintaining oppressive systems and contemporary researchers must consider the operations of power in the research paradigms they use and how actions can be taken to address and correct power imbalances in order to work towards the *decolonisation of psychology* (Ndlovu-Gatsheni, 2019). Whilst the line of enquiry of the present research undeniably positions the study within a clinical paradigm in terms of the intended applications and utility of its findings, I aimed for a research design and methodology that would position individuals with lived experience as experts and co-constructors of the knowledge I aimed to generate, rather than positioning me as the sole expert extracting insight from participants' lived experience only to subsequently repackage and distribute this to other professionals. The Delphi method offered a good solution in line with these considerations and research aims, enabling me to involve experts by experience throughout the entire research process and thus approach the definition of the PSU construct in a way that is directly opposed to how diagnostic categories have been developed in the past (Ashworth, 2003). The Delphi method invites opinions and voices from different stakeholders and weighs responses equally, thus placing equal value on lived experience as on professional expertise (Reid, 1988).

### 2.2.1 Ontology and Epistemology

The parameters and value of knowledge generated in any research endeavour are determined by the researcher's ontological and epistemological positioning, i.e., their assumptions about the nature of reality and the nature of knowledge, respectively (Willig, 2013). The field of addiction research is vast but has been dominated by positivist research paradigms utilising quantitative designs (West & Brown, 2013b). Such methodologies, although seldomly explicitly specified, build on a realist ontology, i.e., the assumption that there is one objective

truth that shapes the world regardless of subjective existence (Robinson, 2010) and that this one truth can be discovered through empirical research into cause and effect. According to this view, researcher subjectivity is regarded as a confounding factor to be controlled for in the pursuit of objectivity (Willig, 2008). Within the context of clinical research embedded in a systemic reality dominated by the biomedical model, this view is often taken for granted. There has been a growing interest in the use of qualitative methodologies in addiction research in order to gain a better understanding of the lived experience of these phenomena (Neale et al., 2005) and design services that resonate with at-risk individuals. When conducting qualitative research, making explicit the underpinning ontological and epistemological assumptions becomes all the more imperative (Guba & Lincoln, 1994), as these fundamentally determine the questions the researcher is asking and how their findings can impact on the world (Henton, 2016).

Over the course of my CoP training, I have embraced a pluralistic approach to research, practice, and how I view the world in general. I do not subscribe to the assumption that there is ever one single perspective or that in fact one must necessarily choose one. Instead, I believe that, at any given time, there is a variety of means and approaches to understanding the world and answering a question, that can be more or less helpful depending on the question asked. The research questions and aims are underpinned by critical realist assumptions, carrying the notion that there is to some extent an external reality, which impacts on the individual in ways which may lie outside of their awareness (Willig, 2013). The present study does not, however, claim to produce an objective account and instead proposes that any external 'truth' can only ever be known through a subjective lens. This means that 'objective facts' are meaningless without subjective interpretation (i.e., while accepting substance intoxication as occurring due to biochemical effects on the brain, this experience may mean entirely different things to different people). According to this view, every individual's subjective experience of being in the world constitutes their own reality. In the attempt to define and measure a construct, however, there is an implicit assumption that there is some shared aspect of experience that exists, influences, and is in turn influenced by the individual's existence in the world, although the mechanisms through which such influence manifests may lie outside their awareness.

As evident in the methodology's name and its roots in CGT, CGDM is deeply rooted within a constructivist epistemology, in that it acknowledges that both data and findings are co-constructed in the interaction between participant and researcher and subsequently through the interpretative process. There is an inherent assumption that a person's subjective reality is reciprocally constructed in interaction between the individual and the outside world, i.e., the meaning we make of our experience is influenced by and negotiated within a variety of intra- and interpersonal factors such as values, cultural context, and language, and in turn

influences meaning making in subsequent experience (Charmaz, 2014). Research conducted from this perspective cannot claim to produce outputs that are objectively true, and it must be acknowledged that the knowledge created will in fact remain inextricably linked with the researcher's point of view and retain their subjectivity. However, it is thought that by embracing the researcher's influence throughout the entire research process and utilising rigorous methods that facilitate reflexive engagement with the data, constructivist research can define aspects of experience that, while not claiming to be objective fact or the only *correct* way of interpreting the data (Willig, 2012), may resonate with individuals experiencing similar phenomena within a shared cultural context and feed into the realities of the wider community in a way that offers new ways of meaning-making.

### 2.2.2 Rationale for Constructivist Grounded Delphi Method

The following section will illustrate the rationale for the chosen CGDM methodology by discussing the components from which it was developed in turn.

#### 2.2.2.1 Grounded Theory

Originating in the field of sociology, Glaser and Strauss (1967), developed the GT methodology in response to what they perceived as a tendency to neglect theorising in the social sciences. Classical GT is regarded as offering a pragmatic approach to constructing context-specific theory while employing analytical methods to ensure that the findings are firmly grounded in the data (Breckenridge et al., 2012). GT is based on the concept of *symbolic interactionism*, i.e., the idea that meaning is negotiated through social interactions and processes (Blumer, 1986). Through the application of inductive and systematic analytical steps examining behaviour and speech patterns, the GT researcher aims to explore such processes and 'discover' the structures, conduct, and implications underpinning how they manifest and shape meaning (Glaser & Strauss, 1967). Particular attention is paid to the 'six Cs' thought to underpin social processes: Causes, contexts, contingencies, consequences, covariances, and conditions (Strauss & Corbin, 1998). Since its original conception, several iterations or *strands* of GT have been developed (see Timonen et al., 2018, for an overview). The exact application of methods differs between approaches, but common features include an iterative analytic process, theoretical sampling, concurrent data generation, memo writing, the decontextualization of data through coding, and subsequent (re-)integration to form larger analytic categories (Birks & Mills, 2015), from which the theoretical insights are developed.

Glaser (2005) asserted that his traditional approach to GT does not in fact subscribe to any epistemology and traditionally dismissed the notion that the researcher plays an active role in shaping theory. Despite Glaser's claim, or perhaps precisely because of it, it can however be argued that their classical approach to analysis and theory construction is rooted in an objectivist stance, assuming that there is an external reality to be discovered and

explicated by the researcher (Willig, 2013). Strauss and Corbin (1997) subsequently developed a detailed, often viewed as rather prescriptive (Bryant, 2009), series of analytic steps. The resulting strand of GT is still underpinned by objectivism, but recent iterations of Corbin's work (J. Corbin & Strauss, 2015) have seen the author endorse the notion of the reflexive role of the researcher (Timonen et al., 2018).

#### 2.2.2.2 Constructivist Grounded Theory

In contrast to traditional GT, Charmaz' (2014) constructivist approach postulates that theory is not simply discovered in the data, but rather that both data and findings are actively co-constructed in the interaction between participant and researcher and between researcher and data throughout the entire research process. CGT embraces subjectivity from a postmodern viewpoint, viewing it as an asset if the researcher carefully engages with it, and emphasises the relational dynamic between researcher and participant (Guba & Lincoln, 1994). The role of the researcher is not seen as simply objectively explaining studied phenomena but gaining new understandings through engaging with the participants' accounts and carrying this forward into a shared external world (Todres, 2007). In a recent publication, Charmaz (2020) illustrated how CGT is especially suitable to critical inquiry in the public sphere and social justice research, through careful reflexive examination of the research paradigm's assumptions, positionings and actions. She argues that the approach fosters acknowledgment of the active role of the researcher within the research field, a flexible stance, close attention to language and meaning, and acceptance of responsibility for research decisions, and goes as far as claiming that social justice *permeates* the methodology itself if a constructivist approach and a reflexive stance are taken to answering the research questions.

Charmaz (2014) proposes a series of analytic steps, which is presented in Table 2.1. It should, however, be noted that CGT is an iterative process and Charmaz advocates for a flexible rather than prescriptive, sequential approach.

**Table 2.1**

*CGT Analytic Steps*

| Stage | Description |
|---|---|
| Initial Coding | Recording first impressions, aiming to focus on actions and processes |
| Line-by-Line Coding | Line-by-line coding as active way for researcher to immerse themselves in the data, record memos on codes that stand out |
| Focused/Axial Coding | Elevating salient codes to higher level and using them to code new data |
| Collating Codes into Concepts | Grouping data corresponding to codes of similar content, focussing on properties and processes |
| Defining Categories | Broader groups of similar concepts, explicit definitions rather than taking meaning of terminology for granted |
| Theory Generation | Proposing a context specific explanation for the phenomena under investigation, producing a diagrammatical representation/model of relationships between categories |

Early stages of analysis involve action-oriented coding, keeping codes simple and brief and focussing on processes in the data rather than descriptions. Salient codes, i.e., those that seem significant to answering the research question(s), are subsequently selected or constructed to further analyse the data. Later stages of analysis involve collating codes and data to construct overarching categories and finally synthesising an explanatory model or theory by attending to the relationships between categories. Charmaz (2014) further emphasises the importance of memo-writing throughout the research process. Memos are deemed crucial to facilitating researcher reflexivity, and enhancing the analytic process by documenting emerging interpretations, tracking the analytic direction (Esterberg, 2002), and generating new questions to be asked from the data already collected (Hollywell, 2015). A method of *constant comparison* is employed by continuously checking emerging interpretations against the data to ensure the evolving analysis is firmly grounded in the data (Charmaz, 2014).

The review of extant literature has a special place in both traditional GT and CGT and is typically conducted after the analytic process has been completed in order to minimise the influence of preconceived knowledge on the analytic process and findings (Timonen et al., 2018). Henwood and Pidgeon (2003) propose the researcher adopt a stance of *theoretical agnosticism*, i.e., treating all theories, concepts, and models encountered throughout the preparation phase, data collection, analysis, and subsequent literature review as provisional proposals rather than established truths (Thornberg, 2012). Charmaz (2014) proposes methods to safeguard against imposing theoretical concepts onto the data by interrogating whether and how extant concepts help understand what is indicated in the data and to what extent they add to the interpretation as well as what they may fail to address.

#### 2.2.2.3 The Delphi Method

The Delphi method has been employed across a variety of disciplines to identify the range of opinions on a given issue between different stakeholders and explore degrees of consensus and divergence (Iqbal & Pipon-Young, 2009a). It was originally developed by the RAND corporation as a means to predict potential future scenarios (Dalkey, 1969) and generally involves the selection of expert participants, referred to as *panellists*, and an iterative survey carried out over several *rounds* of data collection. While the exact application of the method varies, one of its strengths lies in this flexibility, as it can be easily adapted to suit the needs of a particular study design or line of enquiry. Delphi survey iterations generally move through the stages of 1) idea generation, 2) further data collection, and 3) evaluation (Iqbal & Pipon-Young, 2009a). The questions proposed to the panel often include open questions during the initial phase and introduce means to refine findings such as ranking or rating survey items, as well as consensus criteria in order to make statements about agreement or disagreement between experts in the field. A particular strength of the Delphi method lies in its ability to 'level the field' by inviting expert panellists from different stakeholder groups whose input is equally valued, thus empowering voices who are traditionally less likely to be heard due to existing hierarchical structures and power imbalances in professional fields (Chia-Chien & Sandford, 2007). Utilising an online survey platform to administer the Delphi survey instruments further guarantees anonymity between panellists, which is thought to reduce bias and remove the pressure to conform to the views held by others within the same stakeholder group (Keeney et al., 2001). However, the usefulness of the Delphi method may be limited where consensus is 'forced', e.g., by providing panellists insufficient opportunity to elaborate on their views (Walker & Selfe, 1996), which can skew the findings and result in missed opportunities to capture further input. In order to avoid this pitfall, researchers have modified the original method to include open questions and space for free text comments and emphasise the importance of exploring areas of conflict between responses (Snape et al., 2014).

#### 2.2.2.4 The Grounded Delphi Method

Whilst Delphi surveys collect qualitative data, the multitude of possible modifications to the approach and its widespread use across academic and applied fields have provided researchers with a great degree of freedom in how to approach data analysis, rather than prescribing a specific analytic approach. The integration of GT analytic steps and a Delphi survey process into a *Grounded Delphi Method* (GDM) forms a relatively new research methodology that was first proposed by Päivärinta and colleagues (2011). The iterative nature of the Delphi method compliments that of GT analysis and offers a means to increase the robustness of the developing analysis by feeding back analytic categories and evolving theoretical concepts constructed from the data to a panel of experts and inviting further input.

Thus, GDM combines the strengths of both GT and the Delphi method, which helps address limitations of the individual components, i.e., reducing analytic opacity by offering a rigorous and clearly defined framework to strengthen the qualitative analysis of Delphi responses, while improving the trustworthiness of findings and providing a chance to test the analytic direction taken with expert stakeholders through in-built continuous data collection.

As I was developing the methodology described in this chapter, I conducted a literature search to gain an overview of how GDM is currently applied across research fields. I used the search term "Grounded Delphi Method" on electronic databases accessible through City Library services, namely PsycINFO, Web of Science, and SCOPUS. The original search was carried out in December 2021 and search alerts were created to remain informed of new publications on the topic. The search yielded 8 results, a summary of which is presented in Table 2.2. One doctoral dissertation was omitted from the table, as the author later published a journal article based on the same research (Howard, 2018). At the time of writing, the present study represents the first explicitly constructivist approach to GDM and the second use of the methodology in CoP research or a related field.

**Table 2.2**

*Summary of GDM Studies Published to Date*

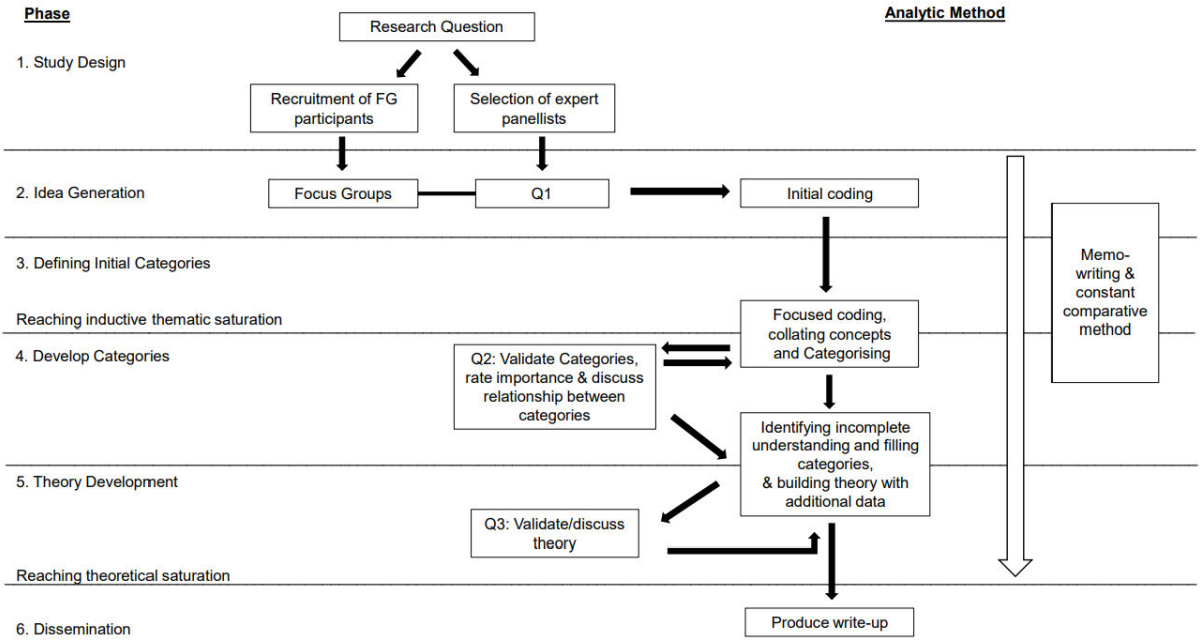
| | Year | GT analytic approach | Field | Country | Publication type |
|---|---|---|---|---|---|
| Higgins et al. | 2021 | unspecified | Psychology (autism) | Australia | Journal article |
| Howard | 2018 | Straussian | Library and information science | Australia | Journal article |
| Nugraha & Martin | 2017 | unspecified | Information science | UK & Indonesia | Conference paper |
| Hussey | 2012 | Straussian | Business | USA | Doctoral dissertation |
| Wendee | 2011 | Classic/Glaserian | Business | USA | Doctoral dissertation |
| Meng et al. | 2011 | Classic/Glaserian | Nursing | China | Journal article |
| Päivärinta et al. | 2011 | Straussian | Information science | Norway | Conference paper |

### 2.2.3 Constructivist Grounded Delphi Method Process

The CGDM approach used in the present research was developed by adapting Päivärinta and colleagues' (2011) proposed GDM procedure to combine procedural aspects and data gathering methods originating in the Delphi method with the analytic steps and epistemological underpinnings of Charmaz' (2014) CGT. A schematic representation of the CGDM process is presented in Figure 2.1.

**Figure 2.1**

*Schematic Representation of the Constructivist Grounded Delphi Method*




The research process using CGDM can be divided into six stages, moving from study design to theory generation through iterative stages of data collection and analysis. The *study design* phase involves the formulation of research question(s) and selection of an appropriate expert panel, as well as the consideration of further means of data collection. GT research commonly involves data gathered through semi-structured interviews but has also been found suitable to include data gathered through a wide range of sources (Charmaz, 2014). Given that Delphi surveys aim to first identify the range of opinions and issues pertaining to the topic under investigation in order to present them to the panel for evaluation, including data gathered outside of the expert panel, e.g., through focus groups (FGs) or semi-structured interviews, is not only compatible with the approach, but may further strengthen it by expanding the variety of points of view taken into account. The *idea generation* phase involves the administration of the first round of the Delphi survey (Q1) and any other methods of data collection. The data undergoes initial coding and, in accordance with Charmaz' recommendations, the researcher should engage in a process of constant comparison and keep analytic memos throughout the entire analytic process. Once initial coding of the data has been completed, the researcher moves on to focused coding and begins collating codes into concepts and categories. This is described as the *defining initial categories* phase and concludes once the preliminary categories have reached inductive thematic saturation, i.e., when neither new data nor the constant comparison method yield any new codes or themes

(B. Saunders et al., 2018). The objective of the next phase of *developing categories* is to validate the categories the researcher has constructed from the data by presenting them in the second Delphi survey instrument (Q2) and asking the panel to rate their agreement with the concepts and definitions. The results undergo further focused coding with the aim to refine the analytic categories by reviewing them with the additional data, identifying points of divergence and incomplete understanding, and to begin theory building by further consideration of the relationships between categories. This analytic phase is likely to move seamlessly into the *theory development* phase, as the next survey instrument (Q3) is constructed to feed back the panel's previous responses and discuss the refined categories and theory developed from them. As with the iterative nature of both GT and the Delphi method, this phase could theoretically include several rounds of further surveys and should continue until theoretical saturation is reached, i.e., all components of the generated construct are represented by the data and further data collection does not yield new information. Given the limited resources given the scope and context of the present study and the burden iterative Delphi surveys can place on panellists in terms of time commitment, which can lead to high drop-out rates (Chia-Chien & Sandford, 2007), the present study set out to cease data collection after three rounds, which has been found sufficient for consensus-seeking Delphi studies (Stone Fish & Busby, 2005). Finally, the *dissemination* stage of the process sees the researcher feeding back the findings to panellists and any other research participants as well as producing a write-up, such as this thesis, for wider dissemination.

### 2.2.4 Fit with the Research Question and Project Aims

The CGDM methodology offered a good fit with all research aims and the research questions described above. Firstly, a GT analytic approach provided a pragmatic means to constructing context-specific theory while ensuring grounding in the data (Breckenridge et al., 2012). Approaching this endeavour from a constructivist perspective (Charmaz, 2014) allowed me to explore both the process of how participants went about defining what constitutes PSU, as well as conceptualise a new construct in line with the epistemological positioning of the research questions as well as my own. Furthermore, GT analysis involves the organisation of data into categories which were well suited to the second research question as they provided a framework for the development of a pilot inventory. By integrating the Delphi method, I ensured the inclusion of experts by experience and a certain degree of co-construction throughout the analytic process. The Delphi method has been successfully used to consolidate different points of views and gain clarity on issues by (re-)evaluating or generating definitions for constructs (e.g., Eldridge et al., 2016), while democratising this process by placing equal value on different kinds of expertise (Reid, 1988).

### 2.3 PPI Research Advisor

In order to meet the aim of actively involving experts by experience in the present research process, I recruited a patient and public involvement (PPI) research advisor to aid in the review of procedures, communication tools, and data collection materials. The importance and utility of involving service users in research pertaining to issues of health and social care has become widely recognised (Staniszewska et al., 2018) and there is evidence that this can improve the quality and relevance of research (Brett et al., 2014). The PPI research advisor was identified through a previous research collaboration and further served as an expert by experience on the Delphi panel due to the limited number of eligible panellists.

### 2.4 Phase I: Focus Groups

In the following sections I will describe the sampling, recruitment, and data collection strategies and procedures of the FG phase of the study.

#### 2.4.1 Sampling Strategy

To avoid empirical 'shallowness', Gobo (2004) advises qualitative researchers to clearly define the sampling unit they are seeking to investigate in their enquiry. It was a given that the present study would seek to recruit individuals engaging in substance use and it was deemed useful to include a variety of substance use patterns, as through GT analysis, multiple dimensions of the processes at play can be studied through examining the components of developing theory in different contexts, which in turn is thought to enhance it and fosters a more in-depth understanding (Starks & Brown Trinidad, 2007). Whilst the aim of the present research was to define and identify PSU, the process of evaluating substance use experiences and constructing PSU was thought to be relevant to any person engaging in substance use, rather than only those who identify their use as problematic. The use of a FG design rather than individual semi-structured interviews seemed a good fit, as it is thought that group discussion can help participants clarify and reflect on their positions and the group interaction can enable the generation of new perspectives (Acocella, 2012). It was also deemed likely that such discussion could facilitate the inclusion of shadowed data and thus mitigate limitations to sample size (Morse, 2000).

Purposive quota sampling was thus used to recruit individuals with a specific range of perspectives on PSU, namely individuals self-identifying as recreational drinkers, recreational drug users, recovered problematic users, or currently engaging in PSU to participate in 4 separate FGs. While it is difficult to predict exact sample sizes for research utilising GT, studies typically report a range from 10-60 participants (Starks & Brown Trinidad, 2007). Following Litosseliti's (2003) recommendations, I originally aimed to recruit 6-8 participants per group in order allow for both brainstorming and in-depth discussion but was ultimately forced to change

to a Very Small FG format (Toner, 2009) due to a lack of eligible participants and the general limitations placed on resources.

### 2.4.2 Focus Group Inclusion and Exclusion Criteria

Inclusion and exclusion criteria were defined to identify suitable FG participants. Participants across FGs should be over 25 years of age and reside in the UK, as it is thought that that problematic substance use may manifest differently in young people and across cultural contexts. Exclusion criteria across FGs were age below 25 years and psychological distress. This was measured using the DASS-21, a short-form version of Lovibond and Lovibond's (1995) Depression Anxiety Stress Scales. The DASS-21 is 21-item self-report scale measuring state distress along the axes of depression, anxiety, and stress, and has been shown to possess good construct validity (Henry & Crawford, 2005). Questionnaire items are rated for level of applicability or frequency of occurrence, with scores ranging from 0-3. Scores are accumulated for each individual axis and cut-off points for moderate levels of depression, anxiety, and stress are at 7, 6, and 10, respectively. Given the established link between problematic substance use and psychological and emotional difficulties, it is likely that participants, especially those who self-identify as current problematic users or in recovery, could report higher levels of depression, anxiety and stress than the general population. It was also thought likely that DASS-21 scores were impacted by the Covid-19 pandemic at the time the research was undertaken, which was thought to lead to generally higher scores than under 'normal' circumstances. In order to balance the need to ensure participants' safety and wellbeing with the importance to not unfairly exclude participants with valued lived experience, participants' perceived level of support was used to justify inclusion for individuals scoring above DASS-21 cut-offs.

Group-specific inclusion and exclusion criteria were selected to increase homogeneity of the individual samples and were as follows: Inclusion criteria for FG1(Recreational Alcohol) were alcohol use frequency of at least 12 times within the last 12 months and exclusion criteria were the use of any other substances excluding nicotine, SUD diagnosis or lifetime referral to or use of substance use services. To qualify for participation FG2(Recreational Drug) participance should have used substance other than alcohol or nicotine at least 3 times within the last 12 months. Exclusion criteria for FG2 were SUD diagnosis or lifetime referral to or use of substance use services. To be included in FG3(Recovered) participants should self-identify as having recovered from problematic substance use or addiction to a substance other than nicotine and exclusion criteria for FG3 were current substance use other than nicotine. Inclusion criteria for FG4(Current Problematic) were current engagement in substance use behaviour perceived or experienced as problematic for any reason. There were no group-

specific exclusion criteria for FG4. The full inclusion and exclusion criteria are presented in Table 2.3.

**Table 2.3**

*FG Inclusion and Exclusion Criteria*

| Focus Group | n= | Inclusion Criteria | Exclusion criteria |
|---|---|---|---|
| FG1 (Recreational Alcohol) | 3-5 | a) age ≥25 | a) age <25 |
| | | b) having used alcohol ≥12 times within last year | b) using other substances, excl. nicotine |
| | | c) UK resident | c) SUD diagnosis or lifetime referral/use of substance use services |
| | | | d) if support = NO: DASS-21 score ≥7, 6, 10 (above mild); if support = YES: DASS-21 score ≥11, 8, 13 (above moderate) |
| FG1 (Recreational Drug) | 3-5 | a) age ≥25 | a) age <25 |
| | | b) having used substances other than alcohol or nicotine ≥3 times within last year | b) SUD diagnosis or lifetime referral/use of substance use services |
| | | c) UK resident | c) if support = NO: DASS-21 score ≥7, 6, 10 (above mild); if support = YES: DASS-21 score ≥11, 8, 13 (above moderate) |
| FG3 (Recovered) | 3-5 | a) age ≥25 | a) age <25 |
| | | b) identifying as having recovered from problematic substance use or addiction | b) currently engaging in any substance use, excl. nicotine |
| | | c) UK resident | c) if support = NO: DASS-21 score ≥7, 6, 10 (above mild); if support = YES: DASS-21 score ≥11, 8, 13 (above moderate) |
| FG4 (Current Problematic) | 3-5 | a) age ≥25 | a) age <25 |
| | | b) currently engaging in substance use behaviour considered problematic for any reason | b) if support = NO: DASS-21 score ≥7, 6, 10 (above mild); if support = YES: DASS-21 score ≥11, 8, 13 (above moderate) |
| | | c) UK resident | |

### 2.4.3 Recruitment

I created a professional account on the social media platforms Twitter, Reddit and Facebook to publish an advert (see Appendix A) in substance-use, addiction, and recovery-related subforums or groups, respectively. Interested individuals were sent the participant information

sheet (see Appendix B) and invited to a preliminary discussion and pre-screening via video conferencing using Zoom. During these calls, which lasted up to 30 minutes, participants were given a verbal introduction to the study and the opportunity to ask any questions before they were asked to electronically sign the consent form (see Appendix C). Pre-screening involved a set of screening questions pertaining to inclusion and exclusion criteria, the collection of demographic data, concerning the dimensions of age, gender, and ethnicity (see Appendix D), and the administration of the DASS-21 (see Appendix E). Individuals who did not meet inclusion criteria received the Pre-Screening Debrief (see Appendix F). Once a sufficient number of eligible participants for any FG were identified, they were sent a link to a poll to arrange a convenient time for the FG discussion.

### 2.4.4 Focus Group Participants

A total of nine participants attended across four FGs. The characteristics of the sample are presented in Table 2.4. One participant was included despite not meeting the inclusion criteria for age as he would have met the threshold within the next few months.

**Table 2.4**

*FG Characteristics*

| FG | Participant | Substances used within last year | Age | Gender | Ethnicity |
|---|---|---|---|---|---|
| FG2 (Recreational Drug) | P1 | Alcohol, marijuana, LSD | 25 | Male | White British |
| | P2 | Alcohol, cocaine, MDMA, 2C-B | 30 | Male | Indian |
| | P3 | Alcohol, cannabis | 46 | Male | White British |
| FG3 (Recovered) | P4 | None | 41 | Male | White British |
| | P5 | None | 40 | Female | White British |
| FG4.1 (Current Problematic) | P6 | Alcohol, cannabis | 51 | Male | White British |
| | P7 | Alcohol, MDMA, DMT, cocaine, benzodiazepine | 44 | Male | White British |
| FG4.2 (Current Problematic) | P8 | Alcohol, phenibut, kratom, weed, ketamine, MDMA, LSD, Xanax | 34 | Male | White Caucasian |
| | P9 | Marijuana, Acid, 2C-B, psilocybin, ketamine, tramadol | 24 | Male | White British |

It is noteworthy that amongst 67 individuals expressing their interest in participating, I was unable to identify a single eligible participant for the recreational alcohol user group, which will be further reflected on in the discussion chapter. There was, however, enough interest to run a second current problematic use group, which I particularly welcomed as the first FG under this condition was the first FG I had ever moderated (excluding the pilot group), which is likely to have affected the quality of data collection.

### 2.4.5 Topic Guide Development and Piloting

The topic guide was designed following Litosseliti's (2003) guidance. In exploring how participants constructed problematic use, I had to be mindful of existing narratives and aimed for open questions and thought-provoking prompts to avoid leading questions and 'cliches'. I consulted with the research supervisor and PPI research advisor to obtain feedback on clarity, accessibility, and appropriateness of questions. A pilot FG was conducted to further refine the topic guide and identify areas for improvement of facilitation skills. Individuals involved at piloting stage were identified through the researcher's personal networks and received the Pilot FG Participant Information Sheet (see Appendix G). Written consent was obtained (see Appendix H). and be asked to electronically sign the Piloting Consent Form (see Appendix C). The finalised discussion guide is presented in Appendix I.

### 2.4.6 Focus Group Procedure

I opted for the use of FGs for data collection rather than individual semi-structured interviews or similar methods as it is thought that group discussion can enable the generation of new perspectives (Acocella, 2012), which was deemed an enriching feature in the context of the present research endeavour. FGs were conducted via the video conferencing software Zoom in line with university regulations and lasted 90-120 minutes. Each group began with a brief overview over the procedure, the establishing of ground rules regarding confidentiality, respectful communication, and management of potential technical issues, followed by introductions and discussion guided by the topic guide. Following discussions, the FG participant debrief (see Appendix J) was shared on the screen and also emailed to participants. FG discussions were recorded using the inbuilt Zoom feature. The resulting video files were immediately deleted, and the corresponding audio files were stored on the university's secure drive in a password-protected folder accessible only to the researcher. Participants' personal information, i.e., contact details and signed consent forms, were stored in a separate secure folder.

### 2.4.7 Post-group Follow-up

In order to give FG participants the opportunity to add further reflections post-group (Litosseliti's, 2003) as well as give feedback on their general experience of participating, an anonymous follow-up survey was created using the online survey platform Qualtrics (see

Appendix K). This was circulated to FG participants three weeks after their respective group had taken place.

### 2.5 Phase II: Delphi Surveys

The followings sections will present the sampling, recruitment, and data collection strategies and procedures used in the Delphi survey phase of the study.

#### 2.5.1 Sampling Strategy and Recruitment

Theoretical sampling, referring to the modification of data collection informed by the emerging analysis, forms as a key aspect of CGT (Charmaz, 2014). The data collection process is iterative as data is analysed as it is collected, which in turn influences further data collection. In the CGDM approach, theoretical sampling is inbuilt through the iterative nature of the Delphi survey process, as data collection continues throughout the analytic process and each survey instrument is built on the analysis of responses collected in the previous round (Iqbal & Pipon-Young, 2009). Turoff (2002) recommends a panel size of 10-50 panellists but a larger panel was not feasible given the scope of the study and limitations placed on resources. Panellists were identified through purposive sampling of *informed individuals* (McKenna, 1994; Snape et al., 2014). For the purpose of this study this was defined as individuals with direct experience of PSU or related constructs, either in a professional or personal capacity, i.e., experts by profession and experts by experience, respectively. Experts by profession were practitioner psychologists and researchers specialising in substance use and addiction (Sinha et al., 2011) and were identified through their public profiles and professional networks. Expert by experience were peer mentors who were using their lived experience to support others and aid service development. These were recruited through presenting the research project at peer mentor meetings facilitated by a London-based charity. I aimed to recruit 10-16 panellists, aiming for a balance between professional and lived expertise (Hardy et al., 2004; Linstone & Turoff, 2002), although it was expected that individuals may fall into both categories.

#### 2.5.2 Delphi Panel

Six experts by experience and six experts by professional volunteered to participate in the Delphi survey process. Eight panellists completed the first round of the survey. The response rate in the second round was 75% (i.e., six out of the eight panellists completed the second survey. The third-round response rate was 100%. The characteristics of the Delphi panel are presented in Table 2.5.

**Table 2.5**

*Delphi Panel Characteristics*

| Panellist | Gender | Ethnicity | Country | Lived experience | Research experience | Clinical experience |
|---|---|---|---|---|---|---|
| DP1 | Male | White British | UK | ✓ | ✓ | ✓ |
| DP2 | Male | White and Black African | UK | ✓ | | |
| DP3 | Male | White (unspecified) | UK | ✓ | | |
| DP4 | Male | White Other | Italy | | ✓ | |
| DP5 | Female | White British | UK | | ✓ | |
| DP6 | Female | White British | UK | ✓ | ✓ | |
| DP7 | Male | White British | UK | ✓ | ✓ | |
| DP8 | Female | Non-Hispanic/Latino | USA | ✓ | ✓ | ✓ |

### 2.5.3 Delphi Survey Procedure

The Delphi survey phase followed the guidelines laid out by Iqbal and Pipon-Young (2009) and data was collected over three rounds. The survey instrument for each round was published on the online survey platform Qualtrics in line with university regulations. Each panellist was sent a personalised link via email to enable individualised feedback of previous responses. Panellists were informed of the aims of each round (Yousuf, 2007) and implied consent was obtained through survey completion. Responses were securely stored with the research data generated in the FG phase and panellists identifiable information was stored in a separate password-protected folder. The Delphi survey phase involved three rounds of data collection with distinct aims and survey instruments developed specifically for this purpose. An overview of the Delphi survey plan is presented in Table 2.6.

**Table 2.6**

*Delphi Survey Plan*

| Round | Stage | Description |
|---|---|---|
| 1 | Idea Generation | Survey items involve open-ended questions, inviting participants to contribute their expert opinion |
| 2 | Data Collection | Round 2 Survey items are constructed from Round 1 responses and preliminary findings from ongoing analysis of focus group data, aiming to test emerging definitions and categories |
| 3 | Evaluation | Round 3 survey items are constructed from Round 2 responses and involve individualised feedback on previously given responses and information on the level of consensus between panellists |

### 2.5.4 Delphi Survey Instruments

Each survey instrument and associated communications were piloted with the PPI research advisor before being circulated to the other panellists to ensure clarity of the instructions, appropriate length, and accessible language (Eldridge et al., 2016).

The survey instrument used during the idea generation stage in Round 1 (Q1) consisted of a series of open-ended questions inviting panellists to brainstorm to explore the range of salient views. It included the panellist information and collection of demographic data pertaining to gender, ethnicity, current location, and nature of expertise. Furthermore, panellists were presented with the DSM-5 and ICD-11 SUD constructs and asked to comment on their appropriateness for early detection of PSU. The full survey instrument is presented in Appendix L.

The survey instrument for Round 2 (Q2) focussed on further data collection (comparable to theoretical sampling) and was informed by the emerging analysis of FG and Q1 data, comprising descriptions of the tentative categories and the provisional description of the PSU construct based on them (see Appendix M). In line with other studies utilising the Delphi method (e.g., van Haeken et al., 2020), panellists were asked to score the tentative categories for importance to concept as well as rate their agreement with the provisional PSU definition on a 9-point Likert scale (1 indicating not at all important / completely disagree, 9 indicating critically important / completely agree). Open text boxes were provided for panellists to add further comments and elaborate on their views. Other studies using the Delphi method for the purpose of agreeing a definition for concepts have asked panellists to rate survey items on whether they should be included or excluded in the definition (e.g., Humphrey-Murto et al., 2017). However, this approach did not fit with the CGDM methodology, as it would have meant

potentially eradicating categories constructed from the data rather than refining them, which would not have aligned with the analytic approach.

The aim of Round 3 was to evaluate the refined categories and PSU definition under consideration of the panels feedback and levels of consensus. The Q3 survey instrument presented the same structure as Q2 but included modified descriptions and definitions, and personalised feedback reflecting panellists' previous their previous ratings as well as the ratings given by the other panellists (see Table 2.7). Panellists were asked to re-evaluate their previous response and re-rate the refined survey items under consideration of the panel's collective feedback. The full Q3 instrument is presented in Appendix N.

**Table 2.7**

*Sample Feedback in Q3 (adapted from* Iqbal and Pipon-Young, 2009*)*

| | Not at all important 1 | 2 | 3 | 4 | Neither important nor unimportant 5 | 6 | 7 | 8 | Critically important 9 | Total | Your choice was |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % | 0 | 16.67 | 16.67 | 0 | 16.67 | 16.67 | 16.67 | 0 | 16.67 | 100% N=6 | 6 |

In addition to the feedback included in the Q3 instrument, panellists were provided with a supplementary document summarising the panels' Q2 responses and asked to consider this information and reflect on their responses (Thompson et al., 2021). This supplementary material included a description of the analytic decision-making process, the mean scores and level of consensus attained for each questionnaire item (Yousuf, 2007), as well as an anonymised summary of the free text comments in order to provide transparency and help panellists understand how their responses were used and informed the proposed changes (Howard, 2018). The Round 2 feedback summary circulated in conjunction with the Q3 survey is presented in Appendix O. Panellists further received a final summary following the conclusion of the analysis of Q3 responses (see Appendix P).

### 2.6 Analytic Process

The following sections will describe the analytic approach used to answer the research questions and meet the project's aims. Given the iterative nature of the CGDM methodology, organising the analysis into sequential steps was somewhat challenging and it is hoped that the diagram presented in Figure 2.1 will help illuminate the process to the reader. It is noteworthy that the engagement with FG and Delphi survey data resulted in a slight shift in perspective and conceptualising of the PSU construct I sought to define. During the research planning phase and early stages of data collection and analysis, I had believed that the

questions I was asking were in pursuit of a construct defining *pre-symptomatic PSU* in order to solve the issue of extant constructs lacking a sojourn time as discussed in the introduction chapter, i.e., substance use that was inherently problematic *before* meeting diagnostic criteria for SUDs. However, in diving into the exploration of how participants and I co-constructed PSU, it became apparent that whilst PSU was clearly a concept that participants could think about and discuss and resonate with, this seemed to be characterised by qualities that did not cease to apply once SUD criteria were met. It seemed that the construct we were trying to define could exist to some extent both in the context of sporadic use and addiction and I was thus compelled to abandon the temporal qualifier. A reflexive note illustrating my thinking process around this is presented in Box 2.1.

**Box 2.1**

*Excerpt from Reflexive Methodological Journal 1*

Shift in research focus: not strictly about pre-symptomatic but kind of problematic in general so may or may not be pre-symptomatic: More like asking: "is this instance of SU problematic/risky" (the implicit risk is that of using in a way that may contribute to a person becoming reliant on SU, which itself is part of definition probably)

Shift away from pre-symptomatic/time focus: specifying the point in time was important for arriving at the rationale for the project. I had intended on focussing on the broader essence of problematic use but thought this would be too vague or broad to propose. Through the process of data collection and analysis however, it is becoming apparent that the construct doesn't fit into the box - it demands being examined with a wider view

### 2.6.1 Transcription of Focus Group Data and Familiarisation with the Data

Initial transcripts of the FG discussions were created through Zoom. I then listened to each audio recording repeatedly while reading and correcting the transcription in order to obtain accurate verbatim transcripts of all discussions. This process further allowed me to familiarise and immerse myself in the data (Charmaz, 2014), enabling me to note first impressions and observations.

### 2.6.2 Initial Coding

The FG transcripts as well as the Q1 responses were imported into NVivo 12, a qualitative data analysis software programme. I used line-by-line coding and used gerunds to help me move beyond descriptions and code for implicit processes and meanings by keeping in mind *sensitising concepts*, such as action, agency, situation, identity, and self, as starting points for

my interrogating of the data (Charmaz, 2014). An example of initial coding and the associated transcript are presented in Table 2.8.

**Table 2.8**

*Initial Coding Sample (excerpt from P6 in FG4.1)*

| Transcript | Initial Coding |
|---|---|
| What's going on in my head, what's going on in my psyche, in my life is something I've become | identifying internal factors as signs of problematic use |
| aware of plays an important part in whether or not my use of any particular substance is | reflecting on - evaluating one's SU |
| problematic to me or not. I mean, in the past, I mean literally this Christmas, I pretty much cut | reflecting on - evaluating one's SU |
| my drinking out but that's on the back of 10 years of drinking too much, drinking every day, and I | drinking too much |
| was drinking that much because I wasn't happy. And I didn't realize it at the time - sometimes I | drinking because he was not happy, not always realising how he was feeling |
| did, sometimes I didn't. And I think...I think if I become aware that I'm using something to block | not always realising how he was feeling, drinking to block something out |
| something out...I don't mean physically, I mean mentally, I mean yeah...You know I mean using | drinking to block something out |
| painkillers - medicine is, that's not substance use as far as I'm concerned, you know, that's…that's | differentiating between corrective medication and SU |
| correcting bodily necessities, whatever, but-but for me mentally, emotionally, if I'm dependent on | need vs choice |
| something, if I need it or I'm taking it through reasons of running away from things or hiding from | using to escape something |
| things, that's problematic and I often don't realize that's what I'm doing until it's all in my in my past. | lacking awareness until reflecting back |

As I moved through this process, I compared data with other data, similar incidents with each other (e.g., how participants spoke about what felt problematic about their substance use) as well as dissimilar incidents (e.g., accounts of problematic substance use with valued substance use experiences). This initial coding phase yielded 998 codes.

### 2.6.3 Memos

Memo-ing is a cornerstone of constructivist GT to both facilitate reflexive engagement with the research process and track the analytic direction taken (Esterberg, 2002). I used memos throughout the analytic process to document thoughts and questions arising from the data and codes as well as detect and reflect on my own hidden assumptions (Charmaz, 2014). Following Charmaz' guidance, I created a "memo bank" to chronologically track my research memos and structured them by clearly identifying the codes and data excerpts they related to.

Whilst earlier memos were more descriptive, they became progressively more analytic as I used them delineate the properties of the emerging focussed codes and categories, examine their relationship to each other, and highlight gaps in the data and analysis. The memo-ing process helped me explore how I was engaging with the data and reflect on my own assumptions. It was further an important tool to facilitate a process of constant comparison, i.e., going back and forth between data and analysis, to ensure that my interpretation of the findings remained grounded in the data. A sample memo written during the initial coding phase is presented in Box 2.2 and further examples will be embedded in the findings chapter for further illustration.

**Box 2.2**

*Initial Coding Sample Memo*

**USING SUBSTANCES WITHOUT OTHERS KNOWING &**

**SUBSTANCE USE AS EVERYDAY SOCIAL AND CULTURAL PRACTICE**

*"If I was with that particular group of friends, we could be sat in a […] family pub on a Sunday afternoon, so, you know, where people would be having roast dinners with a carvery and we'd be tripping off our nuts and nobody was none the wiser and that was just part of how we did, you know what I mean?"*

- Engaging in the substance with a group of friends positioned them in a parallel society of some sort, with their own cultural practices that others had no idea of. Being in the know and part of a secret group united by the knowledge what the others are up to. The other side of the coin implies a separation from the normal world and regular people. This could turn into the negative once it's progressed to problematic use/addiction - feeling separated from the world, increasingly becoming separated from others.
- Substance use spilling out from expected, 'appropriate' context to increasingly non- substance use-related contexts. It needs to be kept in mind that this group of participants identified as current problematic users at the time of pre-screening. Both P6 and P7 identified past areas of use they worried about but also identified areas of use they valued and viewed as positive. Both have a history of using substance use services. I will keep an eye on this line of enquiry across the other participant groups. There seems to be something in here around context, when substance use is constructed as acceptable/appropriate/desirable in certain contexts. Does problematic use involve a blurring of these lines?

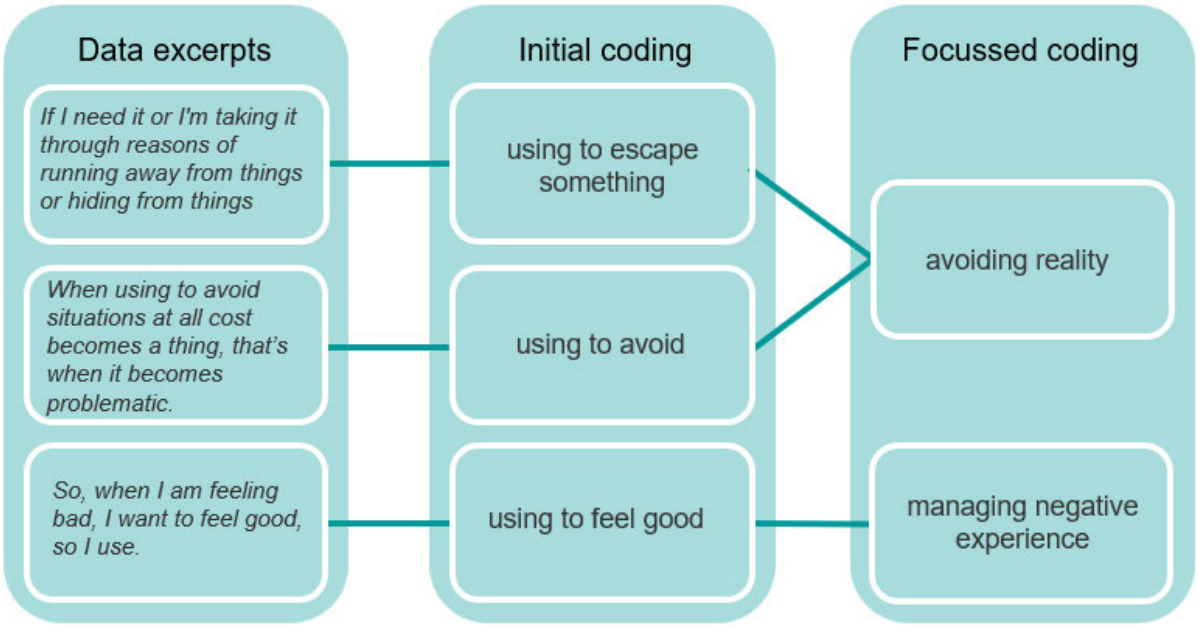
### 2.6.4 Focussed Coding

The next level of analysis involved focussed coding, i.e., taking the codes that seemed most prevalent within the data or salient to answering the research question to examine larger batches of data (Charmaz, 2014). Through engaging with and comparing the initial codes, I elevated salient codes to focussed codes or created new codes to subsume initial codes. Focussed coding helped move the analysis from descriptive to conceptual (Glaser, 1978) as

this stage represented a move from immersion in the data into more in-depth analysis by "trimming away the excess" (Charmaz, 2014, p.141) and testing the codes that seemed to best account for the data against the whole dataset. One approach to GT analysis involves the creation of focussed codes for every individual participant before integrating them, but I felt that in the context of the CGDM methodology and the vastly different viewpoints my data was derived from, analysing the FG transcripts and Q1 data together could aid my answering the research questions by allowing me to examine the phenomenon from different angles from an early stage in the analytic process. An example of focussed coding derived from initial codes is presented in Figure 2.2.

**Figure 2.2**

*Focussed Coding Example*

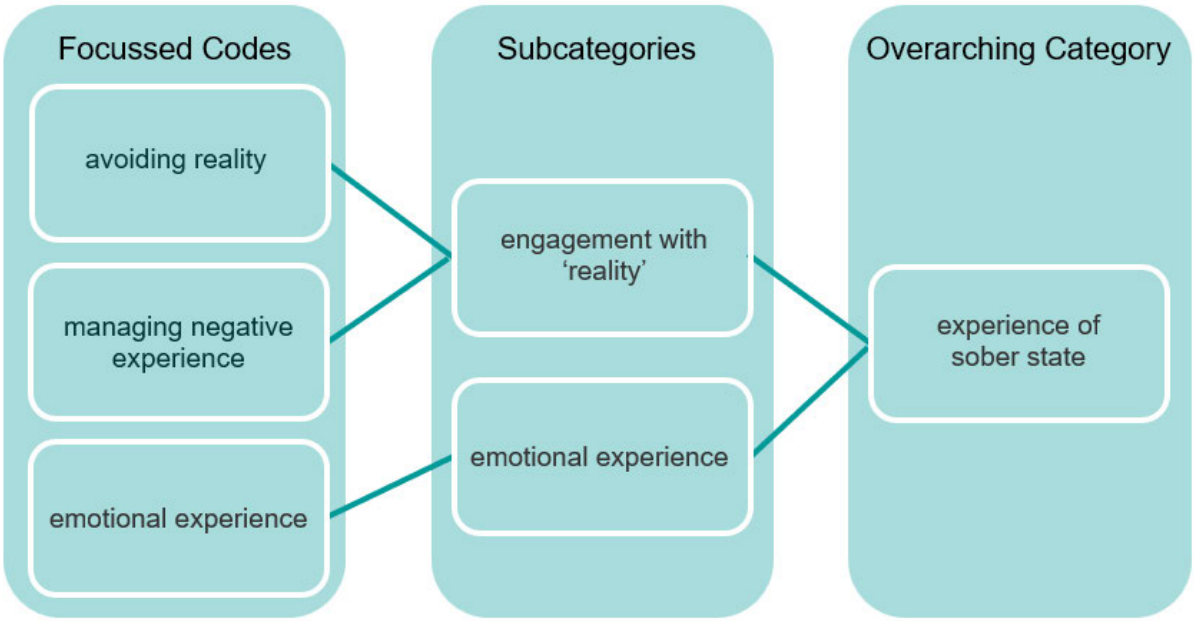



### 2.6.5 Construction of Tentative Categories

The next analytic stage involved constructing tentative categories by collating focussed codes. Due to the iterative nature of the analytic procedures, this involved both refining focussed codes to be elevated to category level and creating categories to subsume previous focussed codes (see Figure 2.3).

**Figure 2.3**

*Developing Categories from Focussed Codes*




Through the analytic process it became apparent that a categorical view of problematic versus recreational or non-problematic substance use seemed unhelpful and insufficient to capture the nuances of how PSU was constructed or experienced and that the new construct would need to conceptualise PSU as occurring on a spectrum of processes and experiences. I therefore constructed categories that reflected this rather than implying a dichotomy. Throughout this process, a model was created to map the relationships between the tentative categories. This was further refined through the later stages of analysis and will be presented in the Findings chapter.

### 2.6.6 Constructing 'Problematic Substance Use'

A definition for the PSU construct was developed from the analytic categories by considering how participants and panellists constructed PSU. This will be presented in the Findings chapter.

### 2.6.7 The Iterative Delphi Process

Due to the nature of the research design and data collection methods used, focussed coding and categorising formed an iterative process as new data was collected in the subsequent rounds of the Delphi survey. The following sections will explicate how consensus was operationalised and how the data were processed to inform the analysis.

#### 2.6.7.1 Definition of Consensus

To ensure the integrity of the analysis, it was important to define consensus a priori. Although consensus was not the primary goal of the study nor a necessary outcome of the Delphi process, it was important to define as the panel's ratings of the tentative categories and developing definition provided an indicator as to whether they needed further refinement. Many studies using a Delphi design define consensus at 75% (e.g., Howard, 2015) or 80% of

panellists giving a rating of 'agree or higher' (Higgins et al., 2021). I defined agreement with a given item as a rating of 8 or 9 on the 9-point Likert scale and categorised consensus between panellists as low (up to 49% of panellists agreeing with an item), medium (50-79%% of panellists agreeing with an item), and high (80-100% of panellists agreeing with an item) levels. It is important to note that consensus-seeking Delphi surveys may drop items which do not meet consensus thresholds but given the CGT analytic approach, this was not possible as this could have meant eradicating parts of the findings grounded in the data. Furthermore, there is a risk of inadvertently 'forcing' consensus. Within the CGDM consensus was instead operationalised to guide the analysis by functioning as an indicator for which parts of the analysis required further refinement in order to achieve resonance with stakeholders.

#### 2.6.7.2 Qualitative Analysis of Responses

The qualitative data collected with the Q2 and Q3 instruments directly fed into the analysis as they were incorporated in the dataset and subjected to further focussed coding.

#### 2.6.7.3 Quantitative Analysis of Responses

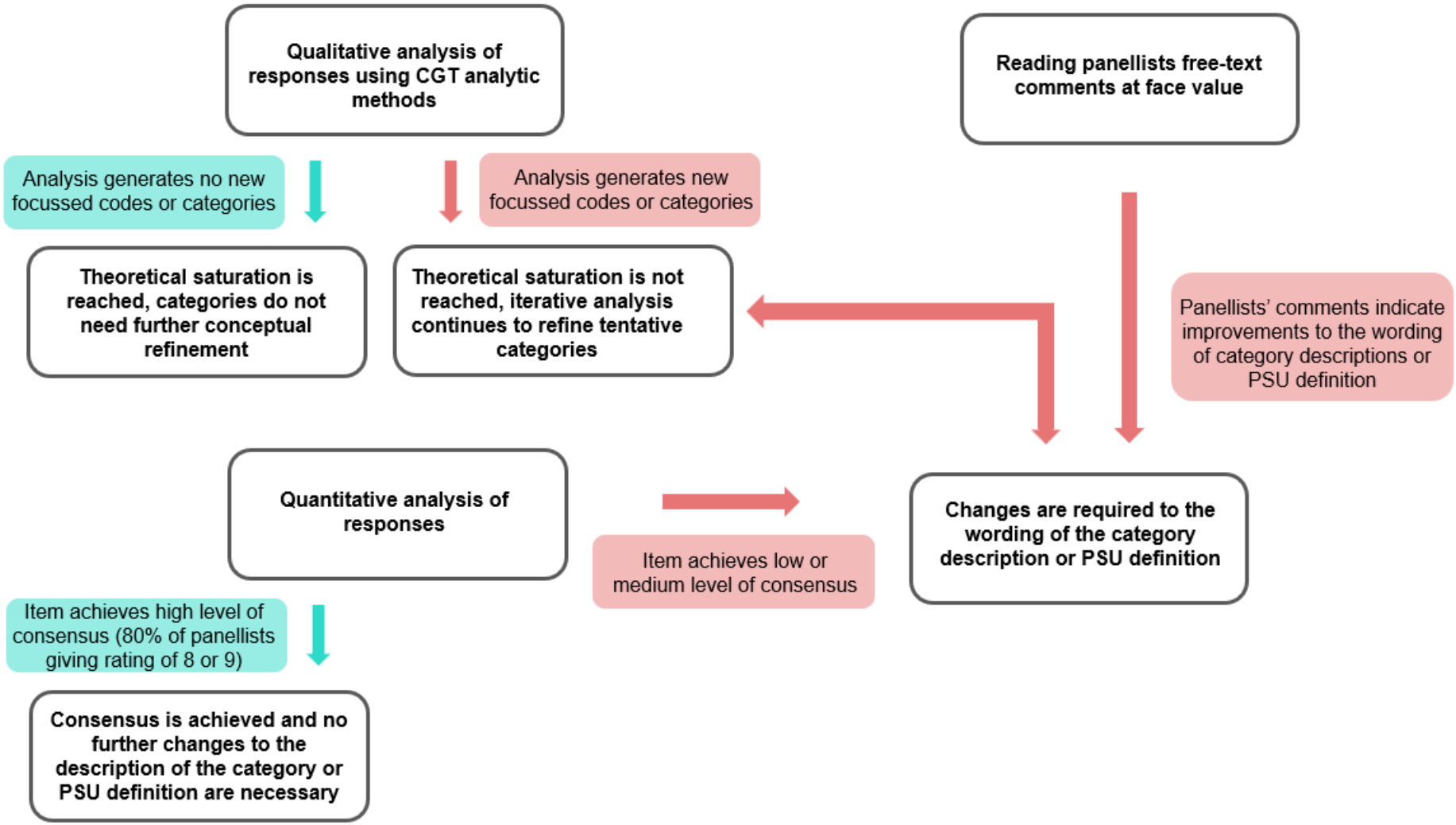
The scores for each Delphi survey item underwent statistical analysis to determine the mean and median rating for each item as well as associated consensus percentages. Changes between the ratings obtained in Q2 and Q3 were recorded to and will be reported in the Findings chapter.

#### 2.6.7.4 Changes Made in Response to Delphi Survey Data

Both quantitative and qualitative analysis of Q2 and Q3 responses were used to inform analytic decision-making around how the tentative categories and definition of the PSU construct needed to be refined. Changes were made where a) the qualitative analysis of the content of the panel's responses indicated that the concepts themselves were incomplete or did not fit with the phenomenon under investigation, or b) where poor consensus levels and/or panellists free-text comments indicated that there was a need to describe the concept in question more clearly or makes specific changes to the proposed wording (see Figure 2.4).

**Figure 2.4**

*Delphi Survey Analytic Flow Chart*



Any changes in wording of category descriptions and the PSU definition resulting from the panel's feedback were documented in research memos to ensure transparency (see Box 2.3).

**Box 2.3**

*Sample Memo Recording Changes Made Between Delphi Survey Rounds*

**(TC) EXPERIENCE OF SOBER STATE -**

**PROPOSED CHANGE IN RESPONSE TO PANELLIST FEEDBACK**

*"I have rated this relatively low because I find the use of 'sober' problematic - it seems to allude to any substance use being problematic and the problematic cynicism towards non-abstinent recovery. Operationally it is obviously easier to define sobriety than non or less problematic use, but broadening understanding and acceptance of non 'sober' routes to recovery (or harm reduction) is very important."*

- changed wording of **'value being sober'** to **'value not being under the influence of a substance'**

A full overview of the changes made between Delphi rounds is presented in Appendices Q and R.

### 2.6.8 Data Saturation

According to CGT principles, data collection through theoretical sampling is supposed to continue until *theoretical saturation* has been reached, i.e., all components of the generated construct are represented by the data and further data collection does not yield new information (Charmaz, 2014). However, Saunders and colleagues (2018) argue that saturation as an ongoing judgement one makes based on a matter of degree rather than conclusively reaching a point of completion. To justify moving on to the next stage of the CGDM process I defined criteria for data saturation at different points of the study (Fusch and Ness, 2015). I defined the arrival at *inductive thematic saturation* as sufficient for concluding the analysis of FG and Q1 responses, i.e., I continued the *defining initial categories* phase (see Figure 2.1) until the constant comparative method yielded no new focussed codes and I could no longer conceptually refine the tentative categories through engagement with the data set (B. Saunders et al., 2018), after which the study progressed to the *developing categories* and *theory development* phases by testing the provisional findings using the Q2 and Q3 instruments, respectively. Analysis then continued until a satisfactory degree of theoretical saturation under consideration of the limitations placed on further data collection was achieved.

### 2.6.9 Pilot Inventory Development

The finalised analytic categories and PSU definition were used to develop a provisional pilot inventory to assess the presence of the PSU construct (e.g., van Krugten et al., 2020), which will be presented in the Findings chapter. The items were constructed directly from participant quotes where possible or purposefully created to capture the essence of the PSU component. I chose a 'more agree than disagree' / 'more disagree than agree' response format to reflect the inventory's intention as reflective screening tool as at this stage, no claim can be made regarding its psychometric properties or potential to measure degree of PSU.

## 2.7 Ethical Considerations

This project strictly followed the BPS' Code of Human Research Ethics (BPS, 2014) and Ethics Guidelines for Internet-mediated Research (BPS, 2021), and was conducted in compliance with GDPR and the university's data protection policies. The main ethical issues that were considered in designing and conducting this study centred around ethical research practice, the protection of participant health and wellbeing, confidentiality, and inclusivity.

### 2.7.1 Ethical Approval

The study was approved by the City, University of London Ethics Committee. Confirmation of approval is included in Appendix S.

### 2.7.2 Informed Consent

Prior to participation, FG participants and Delphi panellists received detailed information pertaining to the research team, aims of the study, procedures involved in participation and estimated time commitment required. Information was further given on potential risks and benefits arising from participation, data processing, storage and confidentiality protocols, and withdrawal procedures. Consent was obtained from all research participants prior to data collection through the procedures delineated in sections 2.5.3, 2.5.5, and 2.6.3.

### 2.7.3 Confidentiality

Due to the online context of data collection, there were added risks around confidentiality. To mitigate the risk of third parties not officially involved in the research process overhearing information shared during FGs, I discussed with each participant how they could access the video call from a sufficiently private space, e.g., by using an unoccupied room and headphones. I further offered participants the choice to remain anonymous, by providing them with the option of entering a pseudonym into the relevant field in the user interface when joining the call and/or turn off their webcam. Participants were assigned a participant number and any identifiable information in the data excerpts was redacted or altered prior to inclusion in this report. Delphi panellists were assigned an identification number and sent personalised emails throughout the research process to ensure anonymity. The identities of FG participants

and panellists were only known to the researcher and all identifiable information was securely stored in accordance with GDPR as detailed in sections 2.5.3 and 2.6.3. Data analysis was conducted using the researchers private, password-protected computer.

### 2.7.4 Physical Health in the Context of the Covid-19 Pandemic

In light of the global health crisis posed by the Covid-19 pandemic at the time the present research was conducted, video conferencing was identified as appropriate means for FG data collection (Nehls et al., 2014) to ensure feasibility of the project and to protect the health and safety of all participants and the research team (BPS, 2020; 2021).

### 2.7.5 Emotional Distress

Due to the sensitive nature of the topic under investigation, the established link between substance use and emotional distress, and the specific challenges posed by online data collection, care has been taken to devise strategies to mitigate risks to participant emotional wellbeing throughout the stages of recruitment, data collection, and debriefing. The sensitive nature of the research subject may be experienced as upsetting or triggering, potentially exacerbating substance use and increasing the risk of negative consequences, especially for those participants who identify as currently engaging in PSU. There was also a risk that individuals who considered themselves recreational users could develop concerns regarding their current substance use patterns during FG discussions or through personal reflection following their participation. It was also important to consider the additional stress placed on participants by the Covid-19 pandemic and it was possible that this affected participants' substance use patterns (S. Taylor et al., 2020). The pre-screening procedure and the exclusion criteria described in sections 2.5.2 and 2.5.3 were selected in order to minimise the risks of subjecting individuals already experiencing a significant degree of emotional distress to further stressors. I utilised therapeutic skills to facilitate a safe and containing research environment (e.g., by emphasising participants' right not to respond to questions or withdraw participation) and included signposting to relevant support services in the debrief. Due to the nature of online data collection, there was a risk of distress caused by disruptions of sensitive discussions due to connectivity issues or hardware failures. This was mitigated by establishing how technical failures or acute distress should be responded to (e.g., changing devices or scheduling an individual debrief).

### 2.7.6 Valuing Lived Experience

In analysing qualitative data, there is an inherent ethical responsibility to honour the subjective account of the individual and whilst the researcher is actively co-creating the studied phenomenon, they must take care to stay close to the individual's meaning-making and not unduly sensationalise the studied experience nor rewrite it into a language or perspective that better fits the academic context rather than the world of the participants (Charmaz, 2014). For

this reason and to meet the study aim of involving experts by experience throughout the research process, I involved a PPI researcher with lived experience in the piloting of all study materials, as well as expert by experience Delphi panellists to directly participate in the co-constructions of the research findings. Funding was secured from the university to compensate these individuals for their participation, as I deemed it important to express appreciation for their expertise beyond my verbal gratitude, especially as lived experience has historically been valued less than professional expertise in dominant research paradigms.

### 2.7.7 Online Spaces

With the dawn of the age of social media, there has been debate which parts of the internet are to be considered public or private domain, which has ethical implications. Recruitment took place on substance use-specific subforums (Subreddits) on the platform Reddit and relevant groups on Facebook and as these spaces usually have moderators or administrators in place, there is an implication that they are intended to offer some level of privacy. I therefore contacted the relevant individuals to seek permission prior to advertising in order to respect the local forum culture and not intrude upon potentially vulnerable online communities.

### 2.7.8 Inclusivity and Accessibility

I used a reading level analyser software to assess accessibility of the materials used and included pictorial information where possible. I further consulted with the PPI research advisor to improve readability and accessibility of communications and data gathering instruments and made modifications as appropriate (e.g., including a document containing the full survey instrument to give panellists an opportunity to understand the questions and consider their responses in their own time before accessing the survey). Inclusion and exclusion criteria for FG participants were chosen to empower participants autonomy and not unfairly exclude participants who may experience their participation as enriching, while mitigating risks to their wellbeing.

## 2.8 Reflexivity

Whilst Glaser (2004) argues that data can be ‘made objective’ through the appropriate use of the GT approach, Charmaz (2014) insists that it would be naïve to assume that all pre-conceptions and assumptions could be left behind and advocates for a constant and reflexive grappling with how the researchers’ attitudes and experiences shape their engagement with their data and how these are themselves shaped by their positioning in their wider social context. In line with my own ontological and epistemological position, I must acknowledge how my own subjectivity constitutes my frame of reference for any meaning-making activity and therefore influences and limits what I will be able to find, interpret, and construct (Henton, 2016). It is thus impossible to claim that the present findings are the outcome of an entirely objective analysis and consequently, I must place reflexivity at the heart of my approach to

research. Reflexivity refers to a carefully maintained state of self-awareness and reflection throughout the research process and it is argued that by doing so, otherwise compromising subjective biases can serve as analytical tools themselves (Finlay, 2002). To aid this reflexive process and protect the integrity of the research, I tried to bracket my views as much as possible, focussing instead on the interpretative frame of participants and utilised the memo-ing inbuilt in CGT to grapple with my own position (Charmaz, 2014). I used supervision to audit my coding and kept a methodological journal to document research direction and decision-making. To illuminate my reflexive process, I thought it useful to consider the different aspects of me that were most likely to impact on and be impacted by the research process.

As a practitioner psychologist, I subscribe to a transdiagnostic conceptualisation of mental health difficulties, viewing psychological and emotional problems as initially adaptive responses to adverse experiences and negative operations of power (Johnstone et al., 2018) and I hold strong political convictions orientated towards social change. I have a background of working with clients at various stages of recovery from substance use issues and socially excluded individuals living in continued-use hostels in the homeless sector. Considering the embedment of substance use in our culture, I have advocate d for the need to approach problematic substance use realistically rather than responding with demonization by acknowledging that most people will use substances at some point in their lives, providing education, policies, and services aiming to support and empower people to find a way to navigate this environment, and identify risky use early on in order to create an environment where external factors conducive to substance misuse are minimised, and reducing harm for those who do develop substance use problems. My drive to destigmatise substance use, my tendency to locate problems in the wider societal context rather than the individual, and my critical stance towards the traditional psychiatric diagnostic system all helped me build rapport and facilitate an openness to others' subjective account of their experience, but they can also jeopardise data collection and analysis by making me more likely to pick up on similar attitudes while neglecting other perspectives. My clinical training and placement experiences have centred around cognitive behavioural but also psychodynamic and systemic approaches, and I have adopted a resulting integrative approach to therapy that is now heavily influenced by relational models. All of these influences have evidently shaped the questions I asked and the meanings I made and I grappled with the distinct differences between my roles as a researcher and therapist (see Box 2.4). Furthermore, while my therapeutic skills were an asset in facilitating safe and containing spaces for participants to share their experience, they likely influenced how I moderated the groups and I had to take care not to let my wish to help blur the lines between my roles and keep my research 'hat' firmly in place.

**Box 2.4**

*Excerpt from Reflexive Methodological Journal 2*

> How much of my assumptions [about what's going on for the participant] (e.g., effects of trauma) do I bring in beyond what the participant is doing with it? How much do I interpret what participants bring/what's going on for them? Qualitative interpretation is about interpreting how participant makes sense of things NOT a holistic view of what is going on as we would in a clinical context

As a researcher, I have gained most of my previous experience in the field of substance addiction during my master's programme. It was in fact the findings of my MSc dissertation that inspired me to pursue the phenomenon of PSU further, as my endeavour to investigate how individuals who had recovered from addiction conceptualised the transition between recreational and problematic substance use produced findings indicating that participants did not feel that they had ever engaged in recreational use, but rather that their use had been inherently problematic even before the emergence of substance use-related problems. This sparked further questions and I cannot deny the wish to find answers both for a personal sense of achievement and professional recognition. I had to manage this ambition carefully, so it would not lead me to construct what I wanted to see in the data, rather than what was actually there. I was aware of the necessity of treating my developing analysis as tentative in order to not become too invested in an idea and reluctant to let it go when this subsequently turned out not to be supported by the data.

As a person living within a cultural context where alcohol use is deeply rooted within tradition and social practices and other drug use exists to various degrees, I was not simply a researcher trying to observe and examine a phenomenon outside of my own experiential frame. I am not teetotal, and I have experienced and witnessed the use of other substances to varying degrees of concern within both private and professional contexts. Thus, the evaluation of substance use patterns and conceptualisation of what constitutes problematic use is of personal interest to me and I would have met inclusion criteria for the Recreational Alcohol group myself. Thus, the co-constructed process of defining PSU applies as much to me as my participants. I reflected on my own use and relationship to substances and while inevitably pursuing codes that accounted for my own experience as well as that of study participants, I grappled with my influence over the analysis in my reflexive methodological journal (see Box 2.5).

**Box 2.5**

*Excerpt from Reflexive Methodological Journal 3*

> My interest in the subject reflects my wish to make sense of and categorise my own substance use and the use I see around me. My own experience colours the ideas that come to mind and in going through the process I cannot avoid reflecting on my own use, which will in turn impact my interpretation of the participants' accounts. There is a risk that I might become anxious and tempted to disengage should my understanding of the meaning of my own use could feel threatened. [...] Am I constructing criteria that make me feel comfortable with the way I and those around me use and 'justify' my view of certain others' use as problematic? [...] Need to make sure I think about how each category would apply and keeping this in mind, check against the data again.

### 2.9 Rigour and Quality Criteria

While quantitative research may utilise statistical means to attest the quality of a given study by making claims about validity and reliability, research using qualitative methods, which have historically been criticised for their innate level of researcher influence (Labuschagne, 2003), must make explicit the criteria used to ensure that robust standards are met. I used the quality indicators synthesised in Johnson and colleagues' (2020)review to ensure rigour (Morse, 2015) and guide the research process and presentation of findings as demonstrated in Table 2.9.

**Table 2.9**

*Quality Criteria*

| Step | Methodological Response |
|---|---|
| Clear and focussed research questions | • the initial research question was developed in consultation with the research supervisor and further refined as the study progressed<br>• the research questions were discussed with the PPI research advisor to ensure they are feasible, interesting to stakeholders, novel (as they concern a new construct), ethical, and relevant to the field and the wider public |
| Strong conceptual framework | • a literature review pertaining to the methods used was conducted to ensure a robust study design and methodology<br>• the introduction builds a case for a problem statement that provides a clear rationale for the research questions<br>• the research aims are clearly stated<br>• an iterative review of the literature was conducted in line with CGT principles to contextualise the findings |

| | |
|---|---|
| | • key concepts, theories, best practices, and assumptions are identified throughout the Introduction and Methodology chapters<br>• a systematic literature of extant screening tools is presented in section 1.5<br>• I engaged with my positionings, biases, and influence on the research through research memos, methodological journaling, and reflections in supervision and report on issues around reflexivity in section 2.9<br>• Ethical considerations are discussed in section 2.8 |
| Selection of appropriate methods | • The Methodology chapter discusses the rationale for the methods selected in consideration of the identified research questions and aims<br>• sampling strategies are made explicit in sections 2.5.1 and 2.6.1<br>• operationalisation of consensus and determination of data saturation and are made explicit in sections 2.7.7.1 and 2.7.8<br>• trustworthiness is enhanced by 1) providing sample memos and data excerpts to illustrate the analytic process throughout the Methodology and Findings chapters (credibility), 2) appropriate contextual information is given to enable the reader to determine applicability of the findings in other contexts (transferability), 3) the research process is described in sufficient detail to be repeated (dependability), 4) analytic methods and reflexive strategies were selected to ensure the findings are reflective of the data provided by participants and to minimise undue researcher bias, and the researcher's positioning was made transparent (confirmability) |
| Data analysis | • the analysis was conducted and associated memos and the methodological journal were created using computer software to create an audit trail<br>• analytic progress was periodically reviewed in research supervision<br>• the Delphi method allowed panellists to review developing findings |
| Drawing valid conclusions | • the study enhanced the conceptual framework by contributing a process model, a new construct of PSU, and a pilot inventory, which will be presented in the Findings chapter and discussed in the context of extant knowledge and in relation to the research questions and aims in the Discussion chapter<br>• practice and research implications are discussed in section 4.3<br>• limitations are discussed in section 4.4<br>• directions for future research are discussed in section 4.5<br>• a conclusion summarising the study's contributions to the field is presented in section 4.6 |

# 3 Findings

## 3.1 Overview

The following chapter will present the findings generated in the CGDM analytic process, guided by the research questions a) *how can we begin to define PSU?* and b) *how could we use this understanding to detect PSU?*. I will first give an overview over the analytic categories and the process model illustrating their relationships to each other in order to give a general introduction to the processes encountered. I will then describe each category in turn, beginning with the core category describing the central process underpinning and linking the entire data set before discussing the main categories and associated subcategories. I will do so by presenting a narrative of the findings illustrated with a selection of data excerpts to explicate how participants drew on the categories to construct PSU and its indicators. Data excerpts will be presented as direct quotes in italics and referenced with the associated FG participant or panellist number and the transcript line number or Delphi survey round from which they originated. For example:

> *"Direct quote." (FG1 P1, 1-2)*

to present a comments made by FG participants or

> *"Direct quote." (DP1, Q1)*

to refer to a Delphi survey response. All identifying details have been altered to protect participant confidentiality. The findings will further be illustrated with sample research memos to improve transparency around the analytic process. I then present the PSU definition I constructed on the basis of the analytic categories. Following this, I present the results of the second and third Delphi survey rounds to orient the reader to the level of expert consensus achieved by the findings. The chapter concludes with the pilot inventory developed to screen for the presence of PSU.

## 3.2 Analytic Categories

Through the analysis of the FG and Delphi survey data, I constructed three main categories connected by a core category. There are ten subcategories with three to four subcategories per main category, which are presented in Table 3.1. Participants engaged in an active process of *Evaluating Substance Use*, which formed the core category as it permeated the co-constructed data and was omnipresent throughout the analysis, directly relating to the endeavour of defining PSU on both the participants' and my parts. This evaluation process connected all other component processes and involved participants drawing on the distinct areas of their *Quality of Relating*, *Level of Safety* and *Experience of Sober State,* which formed the main categories. *Quality of Relating* comprised different dimensions of being in relationship, namely *Connectedness with Others*, *Relating to Self, Feeling Engaged in Life,*

and *Being in Relationship with the Substance. Level of Safety* included a sense of *Control and Choice* and *Boundaries* in relation to, as well as *Risks and Consequences* of substance use. *Experience of Sober State* comprised a person's *Emotional Experience* without the substance, the *Value* ascribed to a *Sober State*, and a person's *Engagement with 'Reality'.*

**Table 3.1**

*Analytic Categories and Subcategories*

| **Core category** | |
|---|---|
| Evaluating Substance Use | |
| **Main category** | **Subcategory** |
| Quality of Relating | Connectedness to Others |
| | Relating to Self |
| | Feeling Engaged in Life |
| | Being in Relationship with Substance |
| Level of Safety | Risks and Consequences |
| | Control and Choice |
| | Boundaries |
| Experience of Sober State | Emotional Experience |
| | Value of Sober State |
| | Engagement with 'Reality' |

Complex relationships emerged between the analytic categories as well as between them and the core category, which presented a challenge in meaningfully organising the findings to present a coherent summary of the interacting processes within the scope this chapter. As the following sections illustrate each category and subcategory in turn, I will aim to illustrate their interconnectedness, but they cannot present an exhaustive exploration of all possible relationships between them.

### 3.3 Core Category: Evaluating Substance Use

In order to test the analytic categories with the Delphi panel, I generated succinct descriptions I could include in the survey instruments. The core category of *Evaluating Substance Use* was described as shown in Box 3.1:

**Box 3.1**

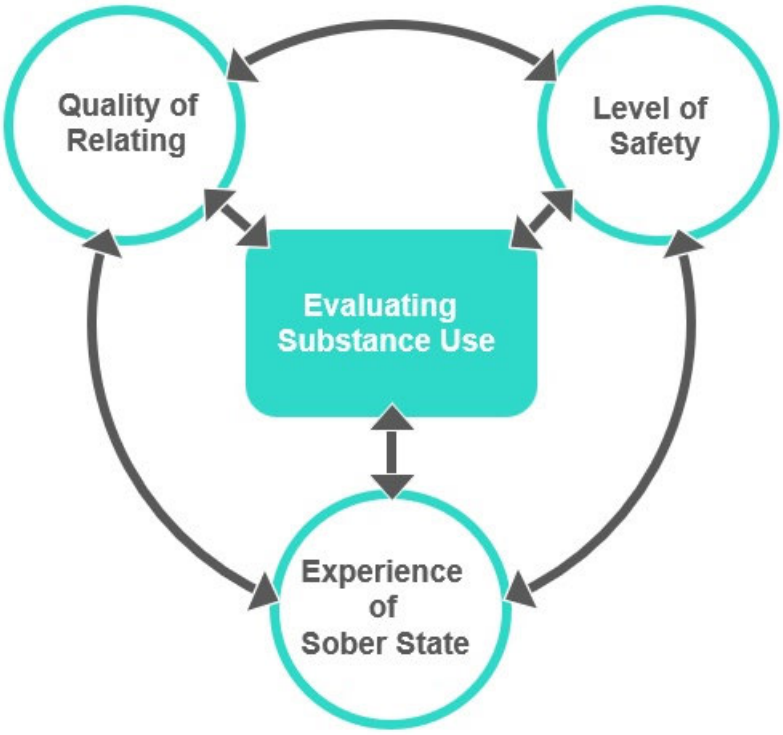
*Evaluating Substance Use Category Description*

*A process of evaluating a pattern or particular instance of substance use by reflecting on the context within which the substance use takes place and its potential consequences. This reflective process draws on the areas of 1) a person's relationships to themselves, others, and the world around them, 2) their physical and emotional safety, and 3) their experience when not using or not having access to the substance. It is an active, subjective process that involves thinking about how a person feels and behaves, reflecting on whether any problems are experienced in one or more of these areas, and defining personal boundaries as to what is acceptable. It can involve reflecting on both the present circumstances of a particular instance of substance use and/or changes experienced over time.*

In the endeavour to define PSU, participants, panellists, and myself engaged in an active process of evaluating substance use experiences. This evaluation process focussed on patterns of substance use behaviours or specific instances of substance use. It became apparent that a dichotomous view of *problematic* vs *non-problematic* substance use did not fit this process of evaluating and defining, but rather, participants across FGs and stakeholder groups involved in the Delphi process advocated for viewing PSU as existing on a continuum. Furthermore, the evaluation process was subjective, drawing on personal experiences, views, and attitudes. It involved a process of identifying whether any problems or undesirable changes were experienced across the domains described by the other categories (i.e., relating, safety, and experience without the substance), and crucially involved thinking about what experiences are considered acceptable or problematic across these domains. Figure 3.1 presents a process model to illustrate the relationships between the core category and main categories.

**Figure 3.1**

*Process Model of How Participants Defined PSU*




The model illustrates the bi-directional nature of the relationships between the core category and the main categories, as well as interactive processes between the main categories. Participants drew on their experiences and perceptions of their relationships and relatedness, safety, and how they felt without the substance to evaluate whether substance use was problematic, but problems or difficulties in any of these domains also impacted this evaluation process. To determine whether substance use was problematic, participants reflected on the degree to which they experienced a sense of connectedness to others and a positive relationship to themselves, as well as to what extent they experienced a sense of satisfaction with and meaningful engagement in life and the world around them. Furthermore, they acknowledged that the way they felt about the substance and what it had to offer at a given time played an important role in determining whether substance use was constructed as problematic. All participants agreed that the relationship to the substance taking primacy over other relationships in a person's life constituted a defining feature of PSU but those who made sense of their own substance use experiences as problematic, acknowledged that whilst this appeared obvious in retrospect, at the time of active engagement in PSU this significant way of relating to the substance could skew or impair the ability to evaluate substance use as such. A lack of a sense of safety and harmful consequences were viewed as clear indicators of PSU across the sample but porous boundaries around substance use formed both a vehicle

to escalating use over time as well as a direct obstacle to reflect on and evaluate use. Finally, participants reflected on their experience of how they felt, thought, and behaved when not being under the influence or not having access to using the substance to evaluate whether use was problematic. Specifically negative emotional experiences and a lack of value associated with refraining from using were viewed as clear indicators of PSU but could also directly impair a person's ability to actively reflect on and evaluate their use as these could lead to difficulties engaging with experiences in the form of denial and avoidance through further substance use.

The model further illustrates the interconnectedness between main categories, as an experience in one domain could directly influence the others. Negative consequences of substance use experiences such as interpersonal conflict, for example, could lead to negative relational experiences, a sense of disconnection from others as well as the deteriorating of the relationship to the self in the form of shame, giving rise to powerful negative states once the effects of a substance have passed. These difficult to tolerate feelings could initiate the desire or need to engage in further use to cope, impair a person's sense of conscious control over using and result in the transgression of previously held boundaries, thus escalating into further substance use followed by more undesirable outcomes and interpersonal as well as internal conflict.

### 3.4 Category I: Quality of Relating

The category *Quality of Relating* was constructed to encompass the focussed codes of *Connectedness to Others*, *Relating to Self*, *Feeling Engaged in Life*, and *Being in Relationship with Substance* (Figure 3.2).

**Figure 3.2**

*Category I with Subcategories*

The description finalised through the CGDM process is presented in Box 3.2.

**Box 3.2**

*Quality of Relating Category Description*

*This refers to how a person experiences the different ways they are in relationships. It involves how a person feels about themselves, their relationships with others, how engaged they feel in their own lives and the world around them, and how they view and relate to the substance they are using.*

All participants spoke to the ways substance use impacted different domains of relating and how these could be drawn on to evaluate and identify problematic properties of their substance use. Additionally, it appeared that relational difficulties or change to those relationships experienced over time in the context of substance use was constructed as a salient feature of and risk factor for escalating use. Substance use experiences that fostered a feeling of connection with others, particularly those gathered in the context of using with peers, were constructed as valued substance use experiences, but substance use could also result in interpersonal conflict and a sense of disconnection over time. Similarly, substance use that occurred in the context of a positive sense of self was seen as less of a concern, but participants also constructed substance use as a means to make an otherwise difficult to tolerate view of the self more liveable, which could lead to increasingly negative self-to-self

relating and was constructed as problematic. Furthermore, participants identified a sense of meaning and engagement in life and the world around them as an important criterium for determining the nature of substance use experiences, framing substance use in the absence of other valued experiences or activities as problematic. Finally, participants spoke to the way they related to the substance and described a process of becoming attached to substance use in a way that subsumes or replaces other important relationships as a core feature of PSU and the development of addiction.

### 3.4.1 Connectedness to Others

FG participants and Delphi panellists emphasised relationships to others as a crucial aspect of human functioning and experience and as important factor for wellbeing. Conversely, difficulties in relationships were understood as both potential negative consequences of PSU and as indicative of PSU taking place. Whilst the quality of interpersonal relationships and the ways they are experienced may take various forms and may play out in an entirely idiosyncratic way depending on the individual's particular internal and external context, the extent to which an individual experiences a sense of connection to others was constructed as significant in evaluating substance use experiences. Whilst participants acknowledged that within the prevalent sociocultural context and given particular substance effects (such as decreased inhibition), substance use could occur in the context of valued bonding experiences, substance use contributing to a sense of disconnection, feeling misunderstood, or isolated from others was constructed as problematic. Participants spoke about a diminished ability to meaningfully engage with others both as a contributing factor and consequence of PSU and described the gradual disconnection as a process of withdrawing and pushing others away in an attempt to shield themselves from negative judgement and manage negative experiences.

> *"You'll just get used to being miserable and then you'll start to be fine with being miserable with the people around you. And then those people will slowly not want to be around you. And then slowly you'll be lonely […] whatever it is, if you get used to not having much sleep and you're getting miserable and you're pushing people away from you that's just a clear sign of any problem isn't it." (FG4.2 P9, 955-960)*

Participants who presented with lived experiences of PSU, particularly those who self-identified as recovered from addiction, described an increasing fear of being judged negatively, using words like *hiding* and *secrets* when discussing how PSU impacted their relationships to others and described a process of not expressing one's emotions and thoughts out of shame and the fear of being rejected, leading to an increasing sense of isolation and disconnected from others, anxiety, and deep loneliness.

*"You know, and then, if you go through life hiding, hiding that truth, because it's embarrassing shame or you're worried about people, how people are going to think about you…How people are going to perceive you, gonna laugh at you, be angry at you, you have this anxiety so you keep everything to yourself" (FG3 P4, 965-967)*

There was further an acknowledgement of how the deterioration of interpersonal relationships provided the context for the gradual prioritisation of substance use, which formed a cyclical process as this was thought to deprive the user of opportunities for connection and exacerbate interpersonal problems, to the point where an appreciation of the feelings of others, or the ability to mentalise and engage with the experience of others could be lost and the substance use usurps the importance of other relationships.

"*I don't want to take the kids to school tomorrow, because I want to get drunk, so I'm going to do that anyway and hope that my husband is not going to be angry with me because I'm not getting up at seven o'clock in the morning because I'm hanging. But it doesn't matter because I'll give him a bit of a kiss and a cuddle and he'll be alright." (FG3 P5, 754-757)*

*"Emotional intelligence suffered and numbed. Only being able to successfully spot danger, deceit or disdain immediately. Suffering, feelings in others were only truly apparent when I was told. I was far too wrapped up in my own suffering to truly see anyone else's." (DP1, Q1)*

"*You don't care. You maybe think that you care a little bit until somebody tells you that you're not getting your alcohol, you're not getting your drugs and then you realize how little you care about these people, because all you care about is getting your drugs, your alcohol. You know, that's that that's addiction for you. We're very much lonely as addicts." (FG3 P4, 888-891)*

In summary, PSU was constructed as substance use in the context of interpersonal problems, particularly difficulties around experiencing a sense of connection to others, to which PSU contributes by eliciting or exacerbating powerful negative experiences in relation to others, such as shame and fear, as well as impacting a person's ability to engage with others in a way that fosters connection. Across participants' account this was thought to occur through defensive mechanisms employed by the user to mask their use, socially withdraw, or otherwise avoid negative judgement, but also through a diminished ability to care about their relationships and care for others in a mutual way due to the increasing prioritisation of substance use as well as the preoccupation and overwhelm with one's own experience.

### 3.4.2 Relating to Self

The quality of a person's ways of relating to themselves was constructed as another significant aspect of relational experience study participants drew on to evaluate substance use. Similar to the quality of relating to others, the way a person relates to themselves was understood to have widespread implications for their emotional experience and whether substance use was considered to be problematic. Furthermore, as touched on in the previous section, there was a reciprocal relationship between self-other and self-self-relating, which was evident in the partial overlap in the data as participants generally drew a connection between how they felt about themselves and other people. When discussing what should be counted as substance use in general, all participants defined the power of a substance to alter a person's state of mind as the defining factor (as opposed to, for example, including foods or most medications in this definition).

> *"It's definitely things that alter your mind and also your perspective as well, and alter you as a person, I mean. Some of the things that you do when you're under the influence you would never dream of doing when you're sober or not intoxicated so it's definitely things that alter you as a person." (FG3 P5, 20-22)*

Participants constructed several pathways by which substance use could change a person, acknowledging both immediate, substance-specific effects on subjective experience and outward presentation and behaviour, and long-term processes, and it was the extent of and motives for these changes and their impact on the person's self-self-relating that was constructed as a salient feature of PSU. Generally, substance use experiences occurring in the context of or contributing to negative feelings about the self, especially when substance use represented a means to modify or escape such feelings, was constructed as problematic. Conversely, a positive or balanced state within the self was viewed as prerequisite for positive substance use choices, particularly by participants who self-identified as recreational users of psychedelics. There was a common notion of being 'in the right place', implying the existence of a 'wrong place', which was constructed as a feature of PSU. Furthermore, most participants identified self-reflection and an improved sense of wellbeing connected to an improved relationship to themselves as explicit goals and features of valued substance use experiences, whilst conceptualising a damaged relationship to the self as a problematic outcome of excessive use.

> *"I think internally, I want to feel like I'm kind of relatively at peace with myself […] just to make sure that I'm in the right place to actually kind of start doing things, you know?" (FG2 P1, 395-397)*.

*"You do unlock little different friendships with yourself in your head […] like self-critique and you're thinking about who you are as a person, […] what do you even mean as a person and like how can you improve. […] Is there something not quite right with some of the ways you deal with situations and things like that. […] Even though most times you do drugs and you will have a good time it will enhance the time, sometimes it will also like fucking shake your head, and I think it's actually good sometimes that's character building. If you do that every week, every month - like if you did acid every week or month like you probably are on a fast-track ticket to not going insane but definitely not having a good relationship with yourself. Not being friends with yourself." (FG4.2 P9, 515-530)*

Another pathway impacting self-self-relating that was constructed as a feature of PSU was presented in the aftermath of managing the consequences of substance if a person's actions resulting from an altered state were experienced as ego-dystonic, i.e., not in line with a person's values or desired self-image. Participants who self-identified as having overcome substance addiction described a process of becoming fragmented and alienated from themselves, using language implying a relationship to the self characterised by painful feelings of shame, dislike, and loss.

"*For people like me who […] can't drink normally it's like a switch goes in my head […]and you're just mortified by what you've done and what you've said, and it, you know, it destroys you. […] You get that phone call in the morning, like you know what you said last night, you know what you did, and it just happened more and more often, and it was a case of drunk me isn't [name]. [Name] wasn't there. […] You become a person that you don't recognize anymore and you don't like…" (FG3 P5, 91-596)*

*"The Latin word addictus, which means "to devote, sacrifice, sell out, betray or abandon." This is a scarily simple, but apt description. […] attached with shame and a diminished self-esteem. How much have I stopped caring and abandoned myself to continue what is essentially self-harm where it was meant to comfort and nurture, and not increase pain and wounding" (DP1, Q1)*

This can in turn lead to relying on the substance as a means to cope my modifying the experience of the self, providing "*a quick fix for becoming someone you can tolerate" (DP4, Q1)*.

In summary, participants across groups constructed their way of relating to themselves as both an important marker for reflecting on and evaluating an instance of substance use as well as simultaneously driver and outcome of PSU. The quality of relating to self can be thought to underpin the other ways a person relates to the world around them, illustrating the

interconnectedness of the subcategories. It is possible that a person may relate to themselves negatively prior to engaging in substance use, perhaps seeking out substances to deliberately change parts of themselves, e.g., to feel more confident or become less fearful, but overtime substance use does not provide a sustainable solution as it may reinforce painful self-self-relating, exacerbated by increased disconnection from others, escalating use, loss of control, and negative consequences in other areas of their life. An analytic memo grappling with the focussed code *experiencing change in relationship to the self* is presented in Box 3.3.

**Box 3.3**

*Sample Memo: Focussed Code: Experiencing Change in Relationship to the Self*

**(FC) EXPERIENCING CHANGE IN RELATIONSHIP TO THE SELF**
becoming split/fragmented - the part that seeks out the substance vs the part that recognises negative impact and anxiety (around losing control, disintegration of self, loss of connection to others and all the stuff that is triggered) - is this what skews the cost-benefit analysis [...] and increases secondary negative consequences like shame for which then defences like denial and not-attending to what is going on are deployed? becoming a different person - our experiences always influence who we are, different aspects about personality, always in flux but personality change as a result of problematic SU may be no longer congruent with personal value system, inducing powerful negative feelings such as guilt and shame PLUS diminishing protective resources (becoming disconnected and isolated from others as well as true self) and positive experiences (relationship to substance becomes all-consuming and interest in life diminishes), therefore creating a negative self-esteem downward spiral, creating the need for further use to cope, which can ultimately lead to self-hatred and suicidality. a fear of disintegration and annihilation and overwhelm at the prospect of facing reality? the self is lost and what remains is a hated, foreign self

### 3.4.3 Feeling Engaged in Life

Along with the quality of relating to the self and others, participants further spoke to the importance of the general sense of being alive, of finding value and meaning in the world around oneself and the extent to which a person feels part of this. Similar to the other ways of relating, substance use that was constructed as valuable was such that was viewed as conducive to living a fulfilling and authentic life, whilst substance use that occurred in the context of general life dissatisfaction and lack of purpose, ambition, or interests outside of substance use was constructed as problematic. Whilst participants acknowledged the pleasurable and mood-enhancing effects of various substances and their facilitation of enjoyment of the substance use experience, participants who identified their use as problematic in some ways spoke to a process of grappling to what extent their appreciation for and awe of their substance-enabled experiences are acceptable to them. This gave rise to similar discussions across FGs in which excitement for using was constructed as acceptable and 'normal', as long as there are other activities or experiences that also provided value to a person's life.

*"Hobbies are good for you, you learn about yourself, you discipline yourself you're progressing somewhere with a hobby and if drinking is your hobby or if drugs if it's if you're on drugs then Sometimes it can get in the way of things if you're not careful" (FG4.2 P9, 83-85)*

"*Of course you're entitled to look forward to it, but in everyday living, I think you should have something else, like you've obviously got your music…I just think it's important to have that thing to work on or to look forward to. I think hobbies are just essential." (FG4.2 P8, 982-984)*

Participants across groups acknowledged the potential of substance use to 'get in the way' of other previously valued activities and aspirations, speaking to a growing prioritisation of substance use and consequently, a marginalisation of other domains of life and constructed difficulties around pursuing interests outside of using and fulfil role obligations as both indicator and consequence of PSU. Participants identified two interrelated mechanisms for how this could manifest. Substance effects or excessive time spent on using may simply diminish the resources and time available to engage in other activities or endeavours at any given time. Over time, a chronic neglect of other life domains in favour of substance use was described as resulting in a loss of previously valued life domains altogether, to the point of experiencing an inability to care and derive a sense of fulfilment, and a loss of meaning and purpose outside of using.

*"If you start to dismiss the things that maybe not even pre-drug taking but pre maybe heavier use […] if your dreams and the things that you held important start to slip away." (FG4.2 P9, 937-940)*

*"It just takes your whole life […] I've got to cancel those plans, something I was really looking forward to, but actually, I'd rather get drunk. […] You just can't be bothered. […] I gave up caring about anything that I'd ever achieved in my life because it doesn't really matter because it just gets in the way of what I want to do. And all I want to do at the moment is get pissed. That's my sole purpose." (FG3 P5, 750-826)*

Interestingly, the phrase 'get in the way' was used to refer both to PSU interfering with other domains of life and to describe the experience of substance use having assumed priority over everything else, implying a turning point at which what is considered valued and what is considered an obstacle flips, deeming these questions salient sources of information for evaluating substance use patterns.

In summary, participants drew on their sense of engagement with and value derived from their lives and the world around them to evaluate substance use and constructed a cyclical process involving the growing prioritisation of substance use and marginalisation of

previously valued domains as an important feature of PSU. This process was further thought to contribute to other relational difficulties through negatively impacting relationships, diminishing sources of positive self-evaluation, and enabling a growing attachment to the substance.

### 3.4.4 Being in Relationship with Substance

The final aspect of relating participants drew on to evaluate substance use was how they felt about the substance they were using, constructing a distinct quality of attachment as a feature of PSU. As explored in the previous sections, interpersonal relationships, self-self-relating and the way in which a person relates to the world around them were all considered to be impacted by PSU to the point of being subsumed by the relationship to the substance, undermining the user's capacity for relating to themselves and others and engaging in life more helpful ways. Participants who viewed their experience as problematic, especially those who identified as having experienced addiction in the past, described their relationship to their substance use as akin to an interpersonal relationship and often used language usually referring to powerful emotional experiences and attachment in the context of close relationships, describing a friendship with the substance they were using or likening their interest in and preoccupation with using to feeling infatuated with a loved one, particularly in the early stages of PSU.

> *"I often think of the early stages of discovering your substance is like a honeymoon period when everything is working for good. Yay!" (DP1, Q1)*

> *"My best friend was heroin. I've got loads of friends, I have a load of drug user friends, I had loads of non-drug user friends. I had a big massive family. I would lie to each and every single one of them. Until I got my friend, which was heroin." (FG3 P4, 884-886)*

With escalating use, participants described how this relationship came to be experienced as conflicted and problematic over time, as they experienced an internal conflict between the desire and to use and their feeling dependent and trapped in their use, which could elicit powerful negative feelings towards the substance. Across participants accounts' there was a notion of a shifting power dynamic or the developing awareness of a sense of powerlessness experienced within this relationship.

> *"You might take a drug, for a while and it's fine and then you probably take it a bit too many times and then you begin to have a bit more of a distinct relationship with that drug that you wouldn't have had if you'd maybe calmed down on it a little bit. You might become a bit like ritualistic with it, […] you might start to feel like the drug's maybe more taking advantage of you rather than you taking advantage of the drug." (FG4.2 P9, 782-786)*

*"While I hate it...I need it. It is codependent in relationship. We keep each other in momentum." (DP1, Q2)*

Whilst participants acknowledged that the substance is not another person that can act with agency, a problematic relationship to the substance was constructed as one wherein it feels as if the substance itself can exert power over the individual using it, resulting in a sense of being controlled, which illustrates how a diminishing sense of control over use (which will be further explored in section 3.5.1) can influence how a person experiences their substance use.

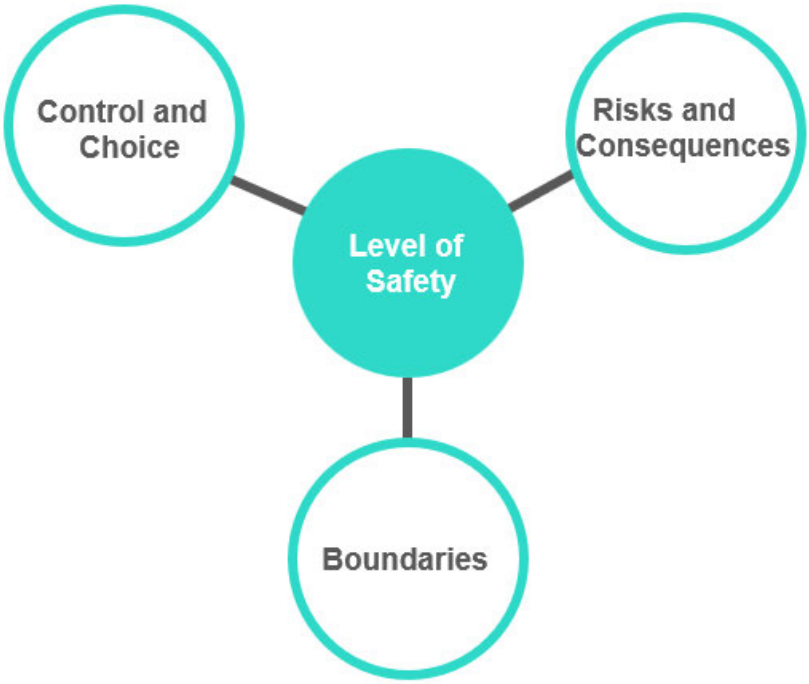
In summary, participants constructed a distinct relationship to the substance, wherein a person experiences emotional attachment as a salient feature of PSU. Particularly towards the more severe end of the spectrum and when addiction had taken hold, this was characterised by conflicted feelings towards the substance and a sense of powerlessness. Through processes of escalating use and the diminishing of other important attachments and relationships in a person's life, the substance was experienced as becoming a substitute for other relationships, reliably providing comfort, soothing, or other desirable experiences in the beginning but becoming increasingly dysfunctional and destructive in escalating addiction.

### 3.5 Category II: Level of Safety

The category *Level of Safety* was constructed to encompass the focussed codes of *Control and Choice*, *Risks and Consequences*, and *Boundaries* (see Figure 3.3).

**Figure 3.3**

*Category II with Subcategories*



The description finalised through the CGDM process is presented in Box 3.4.

**Box 3.4**

*Level of Safety Category Description*

*The extent to which a person experiences a sense of physical and emotional safety and is able to keep themselves safe from harm. This involves the extent to which they are able to keep to their personal boundaries, think about and manage risks and consequences associated with their substance use, and the extent to which they generally experience a sense of choice and control over their use.*

Harm to the self or others arising from substance use was constructed as a globally important feature of PSU across FGs and panellists and through the analytic process, it became apparent that the notion of what constitutes harm and safety from harm was nuanced and multi-faceted, comprising both physical and emotional aspects. A sense of control and choice in relation to substance use was constructed as a feature of feeling safe as participants described the absence of a sense of control within one's life as eliciting powerful negative experiences and a feeling of being controlled by something else. This could result in substance use choices that do no longer feel entirely voluntary and deliberate, which were constructed as unsafe and problematic. In evaluating substance use, participants further drew not only on actual negative consequences of use but also a person's ability to engage with and manage potential risks, which formed an important link between categories that will be further explored in section 3.6.2. Personal boundaries around all aspects of substance use behaviours and their effects on the individual and those around them were understood as mechanisms to keep a person safe while porous or shifting boundaries were constructed as a vehicle for escalating use and developing addiction. Furthermore, defining personal boundaries formed an active process that was constructed as aiding the process of evaluating substance use, whereas a lack of clear boundaries was thought to hinder it, contributing to the difficulty around recognising PSU participants with lived experience of addiction reported. Overall, difficulty managing risks, engaging in substance use despite harm and negative consequences, and porous boundaries posing a risk of use escalating over time were constructed both as features indicative of PSU. Participants further described how negative experiences across these domains of physical and emotional safety could give rise to powerful negative experiences and impact a person's quality of relating, thus linking the main categories.

### 3.5.1 Control and Choice

The extent to which substance use represents a conscious and deliberate choice was a salient factor in the process of evaluating substance use. Participants constructed a sense of agency

and control over their choices as crucial for valued substance use experiences, while loss of control in relation to substance use was framed as one of the most distinctive features of PSU, often expressed through distinguishing 'wanting' and 'needing' to use. Participants acknowledged that although this seemed obvious on a conceptual level, the lines between want and need could be blurred on an experiential level and not always easily recognised by the user, especially in the context of difficulties engaging with painful experiences wherein substance use may form a means to avoid confronting potentially intolerable realities, which will be further discussed in section 3.6.2. Participants presented with a variety of substance use experiences and characterised valued experiences as deliberately choosing and dosing substances to achieve a desired effect, which served a specific function within a suitable context, such as using substances to enhance social experiences or aid self-exploration, while retaining the ability to exercise an appropriate level of caution. Substance use that was decoupled from deliberate choice was constructed as problematic. Interestingly, several participants described their substance use during adolescence and early adulthood as less reflected and more reckless, constructing distinctive patterns that they would now consider to be less safe and that they have matured out of through establishing boundaries (e.g., no longer using unknown substances).

> *"What I was like when I first started out and would jam anything into my body and now I'm much more cautious. It's that knowledge of what things do and what they're good for." (FG4 P6, 390-392)*

Whilst participants understood the mind-altering effects of substances as defining feature of any substance, substance use was constructed as problematic when the individual experiences a need to modify their experience through substances, i.e., when substance use provides a means to do, feel, or endure something and being without the substance or its influence would be difficult to tolerate. Participants described a cyclical process whereby the degree to which an individual is in control over their substance use choices and able to make deliberate choices and exercise caution becomes impaired when being not under the influence or without access to the substance is characterised by negative or distressing experiences, linking the category to the other two main categories. Through increasing use of substances to modify aversive thoughts and emotional states, which are in turn exacerbated by substance use consequences and relational difficulties, a feeling of reliance or dependence is established. This, conversely, diminishes the sense of control over the substance use and the felt sense of safety conveyed by feeling in control over one's choices, actions, and emotions.

> *"I'm having a nice glass of red wine on a Saturday night I'm having a couple of spliffs of an evening because it's just nice to watch the sunset stoned […] but for me mentally*

*emotionally if I'm dependent on something if I need it [that would be problematic]" (FG4 P6, 533-577)*

*"If you need it to get out of bed in the morning, to get yourself to work every day or to go and meet your friends […] if you need something, whatever it may be, alcohol, benzos, weed whatever […] to do something, then it's problematic." (FG4 P7, 639-643)*

The final aspect of control was thought to manifest in the ability or inability to stop using if the individual desired to do so. Participants explicated this process as involving the forming of substance use habits wherein substance use becomes associated with certain activities or environments, followed by a transgression of previously held boundaries, resulting in feeling compelled to use in contexts that would have previously been considered as inappropriate, e.g., experiencing the desire or need to use at work. This aspect of the subcategory overlaps significantly with the *Boundaries* subcategory, which will be discussed in section 3.6.3.

*"It's kind of like you being in control of when you take the substance rather than the substance kinda controlling you and you feel almost like you have to take it in a situation where it wouldn't be a reasonable time to take it." (FG2 P2, 541-544)*

In summary, participants constructed the degree to which they felt in control over their substance use and able to make deliberate choices under consideration of substance use functions and boundaries as a crucial criterion for evaluating substance use and issues around safety. A distinction was made between wanting and needing to use and participants described complex subjective experiences of how they negotiated and differentiated between the two, deeming the interrogation of one's desire to engage in any instance of substance use as helpful in determining whether substance use is problematic.

### 3.5.2 Risks and Consequences

Harm to the self and others represented another salient factor for defining PSU across participant groups and both actual harm suffered as a consequence of substance use and a person's ability to manage the risks of harmful consequences occurring were deemed important. Substance use that was embedded in a sense of awareness of potential risks and consequences and the successful mitigation of such risks was constructed as safe, whilst PSU was conceptualised as involving an inability to consider and mitigate risks and substance use that negatively impacts or impairs the user in any way, i.e., results in negative consequences for a person's physical health, mental and emotional wellbeing, relationships, ability to fulfil role obligations, etc.. Although risks and consequences were categorised under the Level of Safety main category due to directly impacting an individual's safety, it can be thought as influencing all other categories as PSU was understood to pose a risk of harm and negative consequences across all domains, through causing or contributing to conflict, distress, or

impairment. Participants identified two types of negative consequences of substance use, those occurring immediately, for example injury, arguments or missed appointments resulting from a specific instance of substance use, and compounded negative consequences resulting from prolonged PSU, such as ongoing relationship conflict, suffering job performance or even loss of employment, increasing feelings of shame, depression and anxiety or the deterioration of a person's physical health. Participants further constructed a process describing how escalating use exacerbated negative consequences through the erosion of protective factors in other domains of life, such as positive relationships or engagement in other activities. This in turn was thought to create the need to engage in further substance use to cope with these negative outcomes, creating a maintaining and gradually escalating cycle in PSU.

> "*Problematic substance use is when drug use has adverse effects on the user or significant others in their lives." (DP6, Q1)*
>
> *"A pattern of substance use that causes an individual distress or impairment in some area(s) of their functioning (e.g., social, occupational)" (DP8, Q1)*

Closely linked to the notion of control and choice, participants, especially those who described both valued and problematic substance use experiences, identified a quality of diligence and responsibility in relation to safe use that included the active consideration of risks and potential negative consequences. Substance use that was constructed as safe and diligent involved the active pursuit of information and awareness around substance effects and safe use practices (e.g., dosage, correct administration, and ideal setting) and the subsequent use in such a way as to minimise risks and avoid harm. Contrary to this, PSU was constructed as use that was in some way unsafe or reckless without awareness or appreciation of risk or consequence. In most cases participants acknowledged, however, that their appreciation for the true risks substance use can pose was often acquired following a negative experience that they either lived through or directly observed.

> "*I had quite a bad experience with MDMA once where I just did way too much at once, I didn't even have a clue what I was doing. Snorted it and I thought I'd ODed and […] that experience was so scary so after that that's when I started doing all the research and then I started getting test kits." (FG4.2 P8, 241-249)*
>
> *"Smart man, smart. You're using them, you know, the diligent way man." (FG4.2 P9, 307)*
>
> *"[In] my circle of mates, he's just one of those guys who will just do anything and he's still like – to this day – he'll just do like lines of mandy without even testing it, without even thinking about it, and the. me and like a few other mates we're testing it and we're doing doses that […] reading up on the internet that we know are good*

*doses, without any sort of. come down the next day. It's like night and day who's having a better time and who's, you know, who's going about it the right way." (FG4.2 P8, 275-279)*

In summary, participants drew on the degree of safety associated with substance use when evaluating and identifying PSU. Valued substance use experiences were constructed as safe(r) and involved a sense of respect for risks and negative consequences, using in a way that maximises desired positive effects while minimising risks of negative outcomes. There is an implicit notion of a cost-benefit analysis performed by someone who cares about the potential consequences and aftermath of substance use. Substance use was constructed as problematic when there was no appreciation of risk analysis or when an individual continues engaging in use despite awareness of high risks or the experience of tangible harmful consequences. Such consequences in turn were understood to influence all other domains of experience, relating, and safety and can maintain PSU through compounding distress and impairment and a gradual loss of protective resources. This process of escalation involves the shifting, breakdown, or general lack of personal boundaries around use, as will be discussed in the following section.

### 3.5.3 Boundaries

In evaluating substance use and constructing PSU, participants drew on personal boundaries around substance use and other life domains. Boundaries concerned both practicalities of substance use behaviours and more abstract boundaries around the degree to which substance use patterns or individual instances of use is experienced as acceptable to a person based on their emotional experience, attitudes, or circumstances. Boundaries were negotiated by considering what are viewed as desirable, acceptable, or unacceptable consequences of substance use, which was constructed as a subjective process as precise criteria were thought to differ between individuals. Similar to risks and consequences, the notion of boundaries directly pertains to a person's level of safety, but participants defined boundaries around multiple domains of their experience as criteria for evaluating substance use, which again highlights the interconnectedness between the analytic categories. Appropriate boundaries around substance use practices were constructed as a defining feature of substance use that was viewed as safe(r), both in terms of their power to facilitate a safe use environment and administration and due to providing a protective quality through the act of engaging in conscious and deliberate reflection on a person's engagement with the substance. The most salient boundaries participants identified across the entire data set were around amount and frequency of substance use, context and functions of use, risks and potential harm, quality of relating across domains, and how being without the influence of a substance or access to it is experienced.

*"There are times and places for this and there's times and places that are not." (FG2 P3, 415)*

*"My issues again have been with legal drugs but not used in the correct manner, […] not used as the doctor intended" (FG4 P7, 13)*

Participants described the notion of a 'right' or proper way of using, defining appropriate behaviours and contexts and conversely constructing the existence of a 'wrong/ way of using or inappropriate substance use behaviours or contexts. It is important to note that while PSU was constructed as existing on a spectrum rather than a simple problematic/non-problematic binary, participants frequently evaluated substance use by drawing on dichotomies such as the right / wrong, safe / unsafe use dichotomies that permeate the main category of level of safety. Boundaries around what constitutes proper use could be determined by external factors such as prescriber's instructions (in the context of prescription medication use), or a setting within which substance use was deemed inappropriate (for example at work or while home alone), as well as internal factors. Participants described a process of reflexive use, comparing their use against their boundaries to evaluate it, which again illustrates the link between boundaries and control and choice in relation to substance use.

*"If my anxiety is 10 out of 10 then I'll have a Valium. But if I have to have a Valium for three days in a row, then it's like 'Okay, you gotta stop, completely stop'." (FG4 P7, 350-351)*

*"I have to be very, very controlled with myself. I don't let myself smoke for more than two weeks, I don't. I always have more than a month break in between, and I smoke evenings and weekends only you know." (FG4 P6, 430-432)*

*"For me, before I kind of started doing anything I really thought through 'Okay, what is doing too much?', you know, 'Do I want to do this, a maximum of once a week to once every two weeks, once a month' kind of thing. I just kind of really thought about 'Okay, what happens if it makes me feel like I want to do more?'. I kind of just wrote down a lot of things to myself about 'Okay, […] I only want to do this if this is something which I can do once, put down and then pick up three months later and not really feel like I've been missing anything in between'." (FG2 P1, 548-553)*

Participants who identified as having recovered from addiction described a process of gradual escalation of their use that involved the increase of amount and frequency, as well as their

substance use spilling into new contexts and adopting new functions, often at the cost of relational difficulties and other negative consequences. There was a reciprocal relationship between a person's substance use boundaries and sense of control and choice, as the degree to which choices were experienced as voluntary and deliberate seemed to diminish with escalating use, although this process could be gradual and outside of the individual's awareness. Despite this, these participants described their experience using language conveying a sense of defensiveness at being challenged, the desire to hide one's use from others to avoid judgement or having to make excuses to justify their use to themselves and others, implying that while denial or lack of awareness may play an important role in escalating use, participants had some experiential insight that their use had transgressed what was deemed acceptable.

> "*I would just make excuses. My husband would be like 'Didn't you have a drink yesterday?' – 'Ohhhh the kids have been winding me up' […] and it had gone from 'We'll have a drink when the kids have gone to bed' to 'It's four o'clock or five o'clock' – 'Oh, it's over the yard down somewhere', and you know it became a bit of a joke that actually. 'Oh it's hit midday now so I'm going to have a glass of wine' or 'I don't have to drive anywhere'."* (FG3 P5, 444-450)

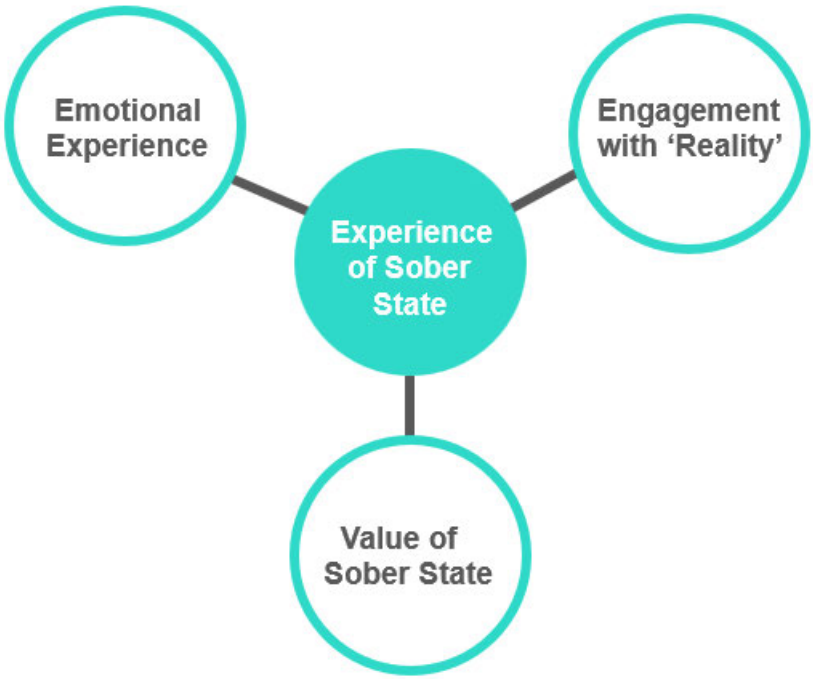
In summary, substance use that was constructed as safe(r) involved taking into consideration potential risks and consequences and defining boundaries to guide deliberate substance use choices designed to protect against negative consequences and escalating use. Escalating use was constructed as a process facilitated by a lack of clear boundaries or the progressive transgression of previously held boundaries. This was considered a salient feature of PSU, placing the potential of escalating use at the heart of the PSU construct. Vague boundaries could be a product of difficulties around engaging with one's experience, and the transgression of previously held boundaries was thought to be influenced by negative experiences without the substance, gradual preoccupation with use, the marginalisation of other relationships and activities, and loss of control. This subcategory provides a clear bidirectional link to the core category. While boundaries are drawn on in the process of evaluating use, porous boundaries or difficulties around actively engaging with where one's boundaries lie could negatively affect an individual's capacity to evaluate substance use and recognise PSU.

### 3.6 Category III: Experience of Sober State

The main category *Experience of Sober State* was constructed to encompass the focussed codes of *Emotional Experience*, *Engagement with 'Reality'*, and *Value of Sober State* (see Figure 3.4).

**Figure 3.4**

*Category III with Subcategories*




The description finalised through the CGDM process is presented in Box 3.5.

**Box 3.5**

*Experience of Sober State Category Description*

*How a person feels without the substance, how they value a state of not being under the influence, and the extent to which they feel able to tolerate and engage with this experience.*

The final domain participants drew on when evaluating substance use experiences and defining PSU was how they experienced not being under the influence or not having access to the substance. Earlier iterations of the tentative category included the term *sobriety,* but this was changes in response to the Delphi feedback in order to avoid connotations surrounding a sober lifestyle and instead focus in on the in-the-moment experience of being without the substance. An important component was an individual's emotional experience, which formed an important link between all main categories, as relational experiences, a person's felt sense of safety, and negative consequences across domains were thought to influence a person's emotional experience at any given moment. A predominantly negative experience without the substance was constructed as a distinguishing factor between 'wanting' and 'needing' a substance and thus formed a salient indicator of PSU. Another important factor was how a person is able to tolerate and engage with this emotional experience and their subjective

reality overall. Such engagement comprised important processes involving the awareness, reflection on, and processing of experience, and could directly impact a person's ability to evaluate substance use experiences, define or acknowledge PSU for themselves. PSU was constructed as substance use taking place in the context or as a direct result of difficulties around engaging with a person's experience, wherein substance use became the primary coping strategy through providing a means to modify intolerable feelings and disengage from painful realities. This disengagement process was constructed as directly impacting the reflective processes necessary to evaluate substance use and define acceptable boundaries around substance use. The quality of experience of a sober state and a person's engagement with their experiences, as well as relational experiences and safety influenced how a sober state was valued, which formed the final subcategory. Participants identified a process through which a state of being under the influence became valued more positively than not being under the influence regardless of the circumstances as a salient aspect of PSU and driving factor in escalating use. Increasingly negative and difficult to tolerate experiences resulting from problems experienced across all domains, and a reducing value derived from activities and interests outside of using combined with an increasing attachment to the substance could result in a diminishing value of a sober state in a given situation, thus facilitating further use and eroding alternative sources of valued experience.

### 3.6.1 Emotional Experience

In conceptualising what constitutes substance use in the first place, participants identified a substance's potential to alter experience and specifically an individual's emotional state as defining factor and acknowledged positive or desirable emotional experiences induced by substance-specific effects as part of most substance use experiences, although this could be fleeting in the context of PSU and the relational difficulties or other negative consequences associated with it. Participants thus paid particular attention to the emotional experience when not under the influence of a substance or when unable to engage in substance use. Substance use that was constructed as problematic was use that occurred in the context of negative experiences and emotional distress, which could both predate the substance use and be exacerbated by it. The quality of a person's intra- and interpersonal relating, engagement in life, and attachment to the substance, as well as their level of safety were all considered to influence emotional experience in the moment. This highlights the interconnectedness between the categories as problems experienced in one domain directly influence emotional experience in the moment, uncovering a process through which escalating use can lead to increasingly negative emotionality. Participants across groups differentiated between substance use as a tool for enhancement and substance use as a means for tolerating or modifying difficult states. Valued substance use experiences were associated with a general

sense of emotional wellbeing without the substance, wherein the substance use was seen as tool to enhance valued experiences. Conversely, substance use was constructed as problematic if it appeared necessary to enable emotional wellbeing or alleviate distress, further illuminating the difference between 'wanting' and 'needing' a substance.

> *"When I'm feeling good, I'm feeling happy, I'm feeling rooted and safe and loved and confident, then I'll have a drink, because I like the taste of red wine." (FG4 P6, 627-629)*

> *"When I'm using drugs, I try to do it when I'm already in a good place and use it as a tool for enhancement rather than using it as a crutch." (FG4.2 P8, 297-298)*

> *"As a general rule through the whole of my addiction I drank to feel normal and in control." (DP1, Q1)*

Participants who presented with lived experience of PSU and in particular those who self-identified as having recovered from addiction, retrospectively explained their excessive use as resulting from a general sense of unhappiness and emotional and psychological distress, acknowledging that adverse or traumatic experiences often predated their substance use difficulties and gave rise to relational and emotional experiences characterised by shame, fear, guilt, sadness, loneliness, and hopelessness. Participants described sober states characterised by anxiety that while in many cases predating their addiction, was exacerbated through escalating use, which was attributed to being faced with the immediate aftermath and long-term consequences of PSU as well as withdrawal effects. Furthermore, participants acknowledged the negative impact of excessive or prolonged substance use on physical wellbeing and self-care behaviours (e.g., impacting sleep and eating), which was further thought to exacerbate negative emotional states and described moodiness and irritability when unable to access the substance or when their use was challenged. Whilst substance use provides a means to modify these painful states in the short-term, they become compounded by relational difficulties and continuous negative consequences of PSU and the resulting lack of opportunities to address underlying difficulties or resolve relational conflict, which will be further explored in section 3.6.2.

> *"I was drinking that much because I wasn't happy." (FG4 P6, 526)*

> *"My understanding is: Substance misuse is a symptom of past trauma which develops to anxiety, feelings of constant negative self-worth." (DP3 , Q1)*

> *"Once I had the drugs, my anxiety went away for a little while. That allowed me to go and have a laugh with my pals, tell a few jokes, do some crazy things at work" (FG3 P4, 791-793)*

*"I found that when I was offered something to have a little bit of a smoke off, it took away those hideous feelings that I had. The physical feeling of anxiety is one of the worst things I've ever had to live with." (FG3 P5, 289-291)*

In summary, participants drew on the way sober states are experienced to evaluate substance use and identify PSU. Whilst it was acknowledged that it lies in the very nature of substance use to alter a person's state and emotional experience, which can take the form of alleviating unpleasant states and / or inducing pleasant states, use was constructed as problematic if a) a person's experience without the substance was characterised by negative states, which could range from boredom and slight discomfort to anxiety and severe distress, and b) if substance use represented a person's only or primary way of modifying experience. This was conceptualised as a form of emotional reliance on the substance and represented a salient mechanism in escalating use, as the impact of PSU on intra- and interpersonal relating, physical health, and other domains of life compounded negative emotionality through creating new adverse experiences and maintaining existing ones through the marginalisation of more helpful ways of managing emotions or addressing underlying difficulties.

### 3.6.2 Engagement with 'Reality'

As outlined in the previous sections, participants drew on different components of experience of sober states when evaluating substance use and defining PSU, focussing on both the quality of experience, which is captured in the Emotional Experience subcategory, and a person's engagement with their experience, which is encompassed in the subcategory Engagement with 'Reality'. Participants across groups ascribed importance to a person's ability to actively engage with their experience for their capacity to reflect on their substance use and make substance use choices aligned with their values and wellbeing. The name of the category was constructed with quotation marks around the word 'reality' to reflect participants' acknowledgement of both the subjective nature of a person's experience and the real-life impact PSU and substance use-related consequences can exert on the user and those around then. Illustrating the interconnectedness between the subcategories, the combination of negative emotionality and experiences without the substance in combination with attempts to avoid pain and distress, were constructed as salient component of PSU. The extent to which a person is able to engage with their experience was conversely conceptualised as a prerequisite for reflected use and substance use experiences that were constructed as valued. Participants further constructed valued substance use experiences as aiding self-reflection and / or fostered positive experiences of relating beyond the acute state of intoxication. A lack of reflexive engagement with experience was thought to place an individual at risk of becoming reliant on substances to manage negative experiences as outlined above and was thus constructed as both risk and maintaining factor for escalating use. Participants further constructed active engagement with painful states and feelings such as shame, regret, and loneliness as important for human functioning as this was thought to

enable a person to make sense of their experience, learn and find helpful ways of solving problems or manage relational conflicts. Disengagement from experience, due to lack of capacity to tolerate negative states or due to lack of more helpful coping strategies, or a mix of both, were associated with unhelpful coping and denial, which were constructed as directly impacting the person's reflective capacities.

> "*I think if I become aware that I'm using something to block something out I don't mean physically, I mean mentally […] or I'm taking it through reasons of running away from things or hiding from things that's problematic" (FG4 P6, 527-532)*

> *"[It] lets me think about things you know, am I happy with how I'm doing and where I am in life is there something I want to pursue that I perhaps don't. I think it just really lets me kind of explore different options that I have in front of me in a way that I can't necessarily without that. So it, you know, again it's not something that would be kind of life shattering if you took it away or you know I wasn't going to do it ever again. But I would feel insulted that I don't have the option to kind of explore more of my life. And that is something I kind of value very highly." (FG2 P1, 471-477)*

Participants and Delphi panellists, particularly those who identified as having overcome addiction, described their use towards the severe end of the PSU spectrum as attempts to escape and avoid the world around them, using language such as 'blocking out', 'hiding' or 'running from' to describe the function of their use. Participants thus constructed escalating addiction as a process wherein negative consequences of PSU create new aversive experiences through relational difficulties and intolerable emotional states, with their engagement with this experience as a core mechanism maintaining PSU due to a growing reliance on substances to modify difficult to tolerate experiences, providing short-term relief or alleviation of negative states without addressing the underlying difficulties and causes of negative experiences, while at the same time eroding more helpful ways of coping and protective resources.. Whilst participants acknowledged avoidance and distraction as a normal coping strategies to a certain, PSU was constructed as patterns of use where avoidance and disengagement from experience impaired the person's ability to appropriately engage and 'deal' with their experience while resulting in negative or harmful consequences that thus elicit further use. Existing emotional difficulties and trauma were constructed as contributing to a person's vulnerability for developing PSU.

> *"I personally don't see the problem with wanting to check out every now than and coming back to the problems in life in order to fix them. But when using in order to avoid situations at all cost becomes a thing that's when it becomes problematic."*
> *(DP2, Q1)*

*"Just because you've tried a bit of weed that's not a gateway drug into other things, the gateway is trauma, the gateway is unhappiness, loneliness whatever it is. That needs to be sorted out you can't medicate these things away because when you sober up, when you are not stoned or whatever, it's still there." (FG3 P5,731-734)*

"*These problems are still there and the way that I combatted them was to take more drugs. So, I just continued to take more drugs, my addiction got worse. And that was all through trying to forget about bad things that happened to me when I was a kid or in early adulthood." (FG3 P4, 358-360)*

Participants across groups and particularly those with lived experience of PSU and addiction retrospectively identified a sense of denial around their use that from this perspective could be seen as disengagement from their experience with the artificially substance-induced experience overriding their subjective reality. This consequently impairs a person's ability to actively reflect on their use, which forms a direct link to the core category.

*"Recognising myself in the points listed may trigger conscious - unconscious fear. "But I use the substance to avoid fear", so the substance will ensure itself by being needed in this moment, making me hide my head in the sand and not want to engage with the dangerous thoughts & avoiding the questioning." (DP1, Q1)*

"*You just don't deal with things." (FG3 P5, 352)*

Several participants retrospectively differentiated between their state of living under the influence and in the throes of addiction and actually being alive, implying that they had become unable to engage with their experience and the reality intersecting with those around them, which became coloured by the consequences and impact their use was having in the 'real world'. Participants conceptualised feeling and thinking as integral to 'being alive' and described their being under the influence of substances, which blocked out feelings and thoughts, as a means to modifying their experience and avoiding having to confront painful realities at the cost of effectively cutting themselves off from their lives. This construction of intoxication as not being fully alive as opposed to being present with, confronting and embracing relational experiences forms a salient link connecting experiences of sober states and relational experiences.

*"[I was] changing things so I could get drunk instead of actually living." (FG3 P5, 213)*

*"I should have been single now. should have been divorced, but we're still waiting for it to be rescheduled. And so I had that and my friend died and…Oh, I came so close to going and buying shit loads of benzos that's what was what I was wanting you know just to sleep just to sleep or just to be a zombie not to think" (FG4 P7, 542-345)*

In summary, participants constructed PSU as an escalating cycle of disengagement from and avoidance of reality to the point where the individual may become unable to reengage with their experience without the substance due to exacerbated distress through accumulating adverse consequences and lack of adaptive processing of negative experiences, paired with diminishing protective factors and coping strategies outside of using. This could manifest in apparent denial as engagement with this painful reality and the very implications of acknowledging PSU in themselves may become intolerable. This in turn underlines the importance of conscious reflective processes and evaluation of one's substance use as potentially protective strategies that could theoretically intervene in PSU before escalating to a point of where engaging with one's use may be experienced as too threatening.

### 3.6.3 Value of Sober State

The final aspect of the experience of sober states participants drew on was how being without the substance was valued. This value was an expression of the person's quality of relating across domains, their emotional experiences, and the extent to which they wish or are able to engage with these experiences. Across groups participants, in particular those who described valued experiences of substance use whether or not they also identified as having lived experience of PSU, constructed valued substance use experiences as those enhancing their lives beyond the state of intoxication, describing therapeutic or spiritual processes or using language explicitly describing the function of their use as such, implying that the substance use experience improved their experience of life and quality of relating. Valued substance use experiences in general were thus associated with adding value to a person's life overall, while PSU was constructed as substance use patterns within which the substance use in itself subsumed the importance of or engagement with other areas of life, therefore deeming intoxicated states preferable and sober states undesirable or even intolerable towards the severe end of addiction. Participants constructed sober states as necessary to engage in other valued activities and be present in their lives and relationships. Therefore, with diminishing importance of these domains, combined with sober states that are characterised by escalating pain and distress and the practical prioritisation of substance use, participants constructed an inverse relationship between the value of substance use and the value ascribed to sober states as salient feature of PSU.

> "*It's a wonderful thing to actually embrace life, rather than actually wanting to medicate it away." (FG3 P5, 875-876)*

*"Finding that sweet spot of like 'I'm doing my drugs because I'm having a good time and life is good'' and not I'm doing my drugs, because I need my life to be good and I need things to be good'. It's about having a life" (FG4.2 P9, 1011-1013)*

*"I tend to do things with my state, you know I quite enjoy. Building little model planes for my boy, and I stick them on the ceiling and it's I mean, who says that isn't also therapeutic." (FG2 P3, 309-311)*

Participants across groups drew on how they valued sober states in terms of enabling them to engage in other valued activities or fulfil responsibilities, acknowledging that sober states do not always have to be experienced as positive or euphoric, but acknowledging the importance of accepting 'boring' sober states as inevitable part of life. Thus, participants valued and cherished substance use experiences and intoxication as long as they were able to appropriately process these and integrate their experiences of life when not under the influence.

*"I've got a few plans I want to make in terms of like gigging and trying to get better at snooker and things like that, so like hobbies and things and I know that if I keep on smoking at the minute then maybe I wouldn't fully embrace that moment of lockdown easing and taking heed of the time that I'll be given. I think it could go by a bit quick." (FG4.2 P9, 497-500)*

*"You just need to appreciate life for how it is when you're sober and not just say, all that would look great on acid or oh this with this night would be enhanced if we just had a bit of mandy [i.e., MDMA] you know." (FG4.2 P8, 864-865)*

A salient marker of value of sober states was the individual's experience of planning activities associated with their substance use. Interestingly, while valued substance use experiences were associated with active negotiation of boundaries and deliberate planning for substance use experiences, as described earlier in this chapter, participants with lived experience of PSU and addiction described an experience of this planning activity becoming centred around their use in an unhelpful way, expressing feeling like other activities and relationship became subordinate to their use. This flipping of priorities and 'what gets in the way' – substance use in the way of living or life in the way of substance use - which is explored in section 3.4.3, was understood as a change to how intoxicated states and sober states were valued.

*"You're just planning on everything […] on how you're going to get it, what you're going to do, where you're going to go, what lies you're going to tell to people […] you're just planning on all these things and that's when you're in danger. […] Your life's consumed by planning in a nutshell." (FG3 P4, 745-748)*

> *"[I was} exhausted from planning my life around when I can get drunk." (FG3 P5, 212-213)*

Whilst participants acknowledged that experiencing substance-induced euphoric effects may objectively be preferable to feeling bored, stressed or uncomfortable to everyday levels, participants constructed decreasing value of sober states combined with a deterioration of a person's ability to accept or tolerate unpleasant states as salient process underpinning escalating PSU. It is likely that this process could unfold in parallel with exacerbating negative experiences when not under the influences as described in section 3.6.1 combined with the impulse to disengage from such states to cope as explored in section 3.6.2. As a result, in escalating PSU towards the severe end of the spectrum sober states may lose value and purpose regardless of contextual factors.

> *"I liked to be boozy. It relaxed me where I felt I could not relax. So, I preferred to have alcohol in my system." (DP1, Q2)*

In summary, participants drew on the value ascribed to sober states when evaluating substance use and defining PSU. While positive substance-specific effects and experiences associated with substance use were constructed as desirable, participants identified an appreciation and preference for sober states in certain contexts as these were thought to be crucial to facilitate engagement in and be present within non-substance use-related domains of life. PSU was characterised by difficulties around finding value in sober states and an increasing intolerance for such states in escalating use. This may be due to increasingly negative emotional states and relational difficulties across domains leading to a decrease in reasons to not be under the influence, particularly if this is associated with the experience of marked distress. Transgressing boundaries around use could lead to situations within which sober states may have previously been valued in order to enable a person to process experience and behave in ego-syntonic ways, eventually eliciting a preference for being under the influence.

### 3.7 Constructing 'Problematic Substance Use'

The PSU construct was developed based on the analytic categories and process model presented in this chapter. The definition finalised through the CGDM process is presented in Box 3.6.

**Box 3.6**

*Definition for 'Problematic Substance Use' Construct*

'Problematic substance use' can be thought of as existing on a spectrum and may be defined as an instance or pattern of substance use that contributes to one or more of the following:

1) Relational difficulties, such as a) difficulties in relationships with other people, b) negative feelings or thoughts about oneself, c) a lack of interest in other areas of life or d) emotional attachment to the substance

2) Issues around a person's safety, such as a) a sense of loss of control over the substance use, b) difficulty around keeping oneself safe from harm or other negative consequences of substance use or c) escalating use over time (e.g., using more of the substance, using more often, or using in different situations than before)

3) Negative experiences when not using or not having access to the substance, such as a) negative emotions and/or psychological problems without the substance, b) difficulties coping without the substance or c) struggling to find value in being in a state of not being under the influence

The definition was constructed to reflect the core category, as well as the main categories and subcategories under consideration of the properties participants constructed as defining features of PSU. In line with the evaluation process described by the core category, the PSU construct is conceptualised as a spectrum and can refer to either an instance or a pattern of substance use behaviours. To acknowledge the different domains participants drew on to evaluate and define PSU, the construct does not rely on all criteria being met but its presentation may vary depending on the individual context within which it occurs and may be present if an individual only experiences difficulty in one domain, which in turn takes into account the inherent potential of escalation (i.e., a person may experience one aspect of PSU before their use impacts other areas of their experience). Point 1) *Relational difficulties* represents the main category I: Quality of Relating, with a) difficulties in relationships with other people, b) negative feelings or thoughts about oneself, c) lack of interest in other areas of life, and d) emotional attachment to the substance representing the subcategories of Connectedness to Others, Relating to Self, Feeling Engaged in Life, and Being in Relationship with Substance, respectively. Point 2) *Issues around safety* represents the main category II: Level of Safety, with a) sense of loss of control over substance use, b) difficulty keeping oneself safe from harm or other negative consequences, and c) escalating use over time,

representing the subcategories of Control and Choice, Risks and Consequences, and Boundaries, respectively. Finally, point 3) *Negative experiences when not using or not having access to the substance*, was chosen to represent main category III: Experience of Sober state, with a) *negative emotions and/or psychological problems without the substance*, b) *difficulties coping without the substance*, and c) *struggling to find value in a state of not being under the influence*, representing the subcategories Emotional Experience, Engagement with 'Reality', and Value of Sober State, respectively.

### 3.8 Delphi Panel Consensus

As detailed in the Methodology chapter, consensus levels were obtained and operationalised during the CGDM process. The quantitative results and consensus levels achieved in the second and third rounds of the Delphi survey are summarised in Tables 3.2 and 3.3, respectively.

**Table 3.2**

*Q2 Results*

| Tentative category | mean | median | % ≥ 8 | consensus? |
|---|---|---|---|---|
| Evaluating Substance Use | 5.33 | 5.5 | 16.67% | low |
| Quality of Relating | 6.67 | 7 | 50.00% | medium |
| Level of Safety | 8 | 8.5 | 66.67% | medium |
| Experience of Sober State | 6.83 | 7.5 | 50.00% | medium |
| 'PSU' Definition | 7.5 | 7.5 | 50.00% | medium |

In the second Delphi round, the tentative core category achieved low consensus with a mean score of 5.33 and only one panellist giving a score of eight or above. The tentative main categories I: Quality of Relating and III: Experience of Sober State, as well as the provisional PSU definition achieved medium level consensus with half of the panellists giving a rating of eight or above. Main category II: Level of Safety achieved the highest level consensus with four out of six panellists rating the importance of the category at eight or above with a mean score of eight.

**Table 3.3**

*Q3 Results*

| Tentative category | mean | change from Q2 | median | % ≥ 8 | change from Q2 | consensus? |
|---|---|---|---|---|---|---|
| Evaluating Substance Use | 7.17 | + 1.84 | 7 | 50.00% | + 33.33 | medium |
| Quality of Relating | 7 | + 0.33 | 7.5 | 50.00% | 0 | medium |
| Level of Safety | 7.83 | - 0.17 | 8 | 66.67% | 0 | medium |
| Experience of Sober State | 7.17 | + 0.34 | 8 | 66.67% | + 16.67 | medium |
| | | | | | 0 | |
| 'PSU' Definition | 7.67 | + 0.17 | 8 | 66.67% | + 16.67 | medium |

During the third round of the Delphi survey, all tentative categories as well as the provisional PSU definition achieved medium level consensus and mean scores between 7 and 7.83. The core category and main category I: Quality of Relating were endorsed by half of the panellists. Main categories II: Level of Safety and III: Experience of Sober State, as well as the PSU Definition were rated at eight or above by four out of six panellists. While consensus levels improved for the core category, main category III: Experience of Sober State and the PSU definition, there was a general improvement in increase in the means and medians for most items. Solely the mean and median scores for main category II: Level of Safety decreased but this did not affect level of consensus overall.

### 3.9 Pilot Inventory

Following the completion of the CGDM process, the finalised PSU definition was used to construct a pilot inventory to detect the presence of the PSU construct (see Box 3.7). The wording of the instructions and the response options ‘more agree than disagree’ and ‘more disagree than agree’ were chosen to emphasise the reflective process described by the core category as inherent in the endeavour to define PSU and distinguish the inventory from diagnostic screening tools.

**Box 3.7**

*Pilot Inventory for the Detection of PSU*

*Below are a number of statements that describe various thoughts, feelings, and experiences that may be relevant to determine whether somebody is using substances in a way that could be problematic. Please indicate your level of agreement to the below statements by choosing one of the following options: 'more agree than disagree' or 'more disagree than agree'*

1. Deep down, I often feel lonely.
2. I don't like myself very much.
3. I don't find my life very interesting.
4. It can feel as if the substance I use is a friend/enemy/significant other.
5. I don't feel like I can control my substance use.
6. I don't typically consider the risks and potential negative consequences of my substance use.
7. I'm not very clear on my personal boundaries when it comes to substance use.
8. I tend to feel anxious when I'm not under the influence of a substance.
9. I would prefer not to think about problems in my life.
10. If I could, I would prefer to be under the influence of a substance all the time.

*If you picked 'more agree than disagree' on any of the above items, you may benefit from reflecting on your substance use choices or seeking support around addressing your substance use or any underlying issues.*

The pilot inventory contains 10 items to reflect each of the subcategories described in this chapter and one aspect within each of these domains that was constructed as particularly salient feature by study participants. In order to ensure grounding in the data and aid resonance with individuals who may be at risk of experiencing PSU, items were constructed from data excerpts where possible. A summary of the correspondences between analytic categories, aspects of PSU definition, and associated pilot inventory items if presented in Table 3.4.

**Table 3.4**

*Development of PSU Definition and Pilot Inventory*

| Analytic Category | Aspect of PSU Definition | Pilot Inventory Item |
|---|---|---|
| **Main category I: Quality of Relating** | **Relational difficulties** | |
| Connectedness to others | Difficulties in relationships with other people | Deep down, I often feel lonely. |
| Relating to self | Negative feelings or thoughts about oneself | I don't like myself very much. |
| Feeling engaged in life | Lack of interest in other areas of life | I don't find my life very interesting. |

| | | |
|---|---|---|
| Being in relationship with substance | Emotional attachment to substance | It can feel as if the substance I use is a friend/enemy/significant other. |
| **Main category II: Level of Safety** | **Issues around safety** | |
| Control and choice | Sense of loss of control over substance use | I don't feel like I can control my substance use. |
| Risks and consequences | Difficulty around keeping oneself safe from harm or other negative consequences | I don't typically consider the risks and potential negative consequences of my substance use. |
| Boundaries | Escalating use over time | I'm not very clear on my personal boundaries when it comes to substance use. |
| **Main category III: Experience of Sober State** | **Negative experiences when not using or not having access to the substance** | |
| Emotional experience | Negative emotions and/or psychological problems without the substance | I tend to feel anxious when I'm not under the influence of a substance. |
| Engagement with 'Reality' | Difficulties coping without the substance | I would prefer not to think about problems in my life. |
| Value of sober state | struggling to find value in being in a state of not being under the influence | If I could, I would prefer to be under the influence of a substance all the time. |

# 4 Discussion

## 4.1 Overview

In this chapter I will discuss the research findings in the context of extant literature to evaluate and explore the study's contribution to the field. I first review the core category and the aspects of PSU constructed from the main categories in turn by linking them with the extant theories of addiction and empirical findings. This is followed by a critical evaluation of the study outputs (i.e., the PSU construct, pilot inventory, and methodological approach) in relation to the research aims. I will then discuss implications and applications of the findings, limitations to the present study, and directions for future research.

## 4.2 Interpretation of Findings and Link to Extant Literature

As explored in the Findings chapter, the CGDM research process yielded a connecting core category and three interconnected main categories. The following sections will draw on the extant literature to further interpret the findings in the context of established understandings of addiction to extract the novel contributions of the present study. Guided by the research questions a) *how can we begin to define PSU?* and b) *how could we use this understanding to detect PSU?*, the present study did not seek to test hypotheses based on the theoretical underpinnings of addictive processes, but rather add to the literature a co-constructed perspective of PSU to address the gaps that were identified in the Introduction chapter. The following sections will discuss the connecting core category and main categories in turn.

### 4.2.1 Core Category: Evaluating Substance Use and Process Model

The core category of Evaluating Substance Use from which the PSU construct was developed, describes the in-the-moment process of evaluating a given instance of substance use or substance use patterns by drawing on the three main categories of Quality of Relating, Level of Safety, and Experience of Sober State. It describes a subjective process of reflecting on one's use and requires a certain level of self-awareness which may in itself diminish with escalating PSU severity. It involves the definition of personal boundaries around what is acceptable and considers both the present context of a given instance of substance use as well as changes experienced across the domains over time, thus accounting for processes of escalating addiction. The notion of considering changes experienced in the context of use to identify PSU can be linked to established learning processes thought to be involved in the acquisition of substance use behaviours as well as negative consequences of use and the gradual loss of protective resources associated with addiction. Furthermore, the importance of changes experienced over time, (i.e., the comparison of past experience to current experiences in the context of substance use) has been acknowledged in some existing screening tools, such as Taylor and colleagues' (2016) modified CAGE, which includes an

item specifically enquiring about changes experienced within feelings towards the self and others.

Whilst the in-depth exploration of cognitive processes involved in reflection and decision-making lies outside the scope of this chapter, the reflective process described by the core category may apply to any individual with mental capacity who is engaging in substance use, regardless of whether they may present with an occasional use pattern or fall on the PSU spectrum. It may thus offer a certain utility in exploring and making sense of motivational forces operating at a given time and fits with West and Brown's (2013) synthetic PRIME theory, which conceptualises substance addiction as disturbances in the motivational system. Whilst prevalent disease models of addiction centre a pathological loss of control and compulsive behaviour at times against a person's will (Jellinek, 1960) as characterising features of addiction, West and Brown (2013) criticise this conceptualisation as it does not account for instances wherein a person is able to exercise restraint, unless it is to be assumed that they were never truly addicted in the first place. The PRIME theory contrast this by explicating the in-the-moment forces and impulses influencing motivational and response-generating processes, while acknowledging that many of these processes may lie outside of the individual's awareness. Whilst the present findings are not sufficient in substantiating any specific claims, it is likely that active evaluation of substance use experiences may facilitate increased insight into a person's motivational state in relation to using and perhaps help bring awareness to the degree of automaticity, craving, risks, and experiential avoidance experienced, thus adding a protective resource to help 'balance inputs' (West & Brown, 2013) and enable more reflexive substance use choices. Indeed, therapeutic approaches to the treatment of substance addiction emphasise the role of motivation and often directly aim to increase motivation to change (Heather, 2005).

#### 4.2.2 Relational Difficulties (Category I: Quality of Relating)

Relational difficulties are an important component of extant SUD constructs, although this is primarily reflected in diagnostic criteria and screening items describing negative consequences of use such as failure to meet role obligations and associated losses (e.g., relationship breakdown and loss of opportunities), and the prioritisation of substance use to the detriment of other areas of life. While extant constructs mainly frame negative relational outcomes as indicators that PSU takes place, the present findings add to this by explicating the subjective quality of how inter- and intrapersonal difficulties, disengagement from non-substance-use related life domains, and growing attachment to the substance may be experienced, and fit well with relationally focussed theories of addiction.

Participants constructed a sense of disconnection and alienation from the self and others as defining features of PSU, which is in line with the SMH (Khantzian, 1997, 2011). The

SMH further illuminates the developing emotional attachment to the substance that was described by participants with lived experience of PSU or addiction, suggesting that within PSU, the substance itself can become the (initially) safe other, whom a person can reliably turn to be soothed during times of distress. Due to the negative impact of such an attachment and difficult within other relationships in a person's life, this could lead to or exacerbate existing attachment difficulties and over time erode intra- and interpersonal relating. This is turn can impair emotional regulation and give rise to anxiety due to the need for connection that is thought to be integral for human wellbeing remaining unmet (Wallin, 2007). This is in line with extant research suggesting that those struggling with addiction may tend to experience difficulties around intimacy in personal relationships and may meet unmet needs through developing a substitute relationship to the substance(s) they are using (Keane, 2004). In fact, some authors have conceptualised addiction as an attachment disorder (Flores, 2004, 2006), proposing that attachment to the substance creates a sense of safety and trust while acting as both barrier to and substitute for close interpersonal relationships, and therefore maintaining the need to self-soothe through using. Whilst the present study did not specifically recruit individuals with insecure attachment styles and thus does not allow for inferences to be made around whether individuals experiencing PSU necessarily present with insecure attachment, the findings support a link between attachment difficulties and PSU (Murase et al., 2021), as a lack of sense of connectedness, satisfying emotional intimacy and trust in relationships, as well as difficulties around emotional regulation associated with relational difficulties were constructed as sources of painful affective states that are in turn responded to with substance use (McNally et al., 2003). Indeed, the data shows participants' accounts of turning to substance use to manage distress, fear, loneliness, and shame arising within interpersonal relationships (Fletcher, 2014), problems around affect-regulation, self-esteem, and self-care (Khantzian, 2003), as well as accounts of preexisting relational and developmental trauma (Marcenko et al., 2000; Stone et al., 2012).

Pelham and Swann (1989) identified three factors contributing to global self-esteem: 1) the individual's tendencies to experience positive and negative affective states, 2) their specific self-views, particularly around strengths and weaknesses, and 3) how these self-views are framed (i.e., the meanings, relative certainty and importance ascribed to them). The discrepancy between the actual view of the self and an ideal self are hereby thought to be of particular importance. PSU was constructed as substance that occurs in the context of or exacerbates pervasive negative experiences of self-self-relating. According to this model, this process of diminishing self-esteem in PSU can be explained through the compounding effects of increasingly negative emotionality when not using the substance, negative experiences resulting from negative consequences of escalating use, a growing sense of powerlessness

over one's use, and a loss of the ability to engage with and derive value from perhaps previously valued aspects of life and relationships. Furthermore, the growing influence of substance use on a person's sense of self and the marginalisation of other sources of self-evaluation may lead to the development of substance use identities that are thought to pose a risk factor for harmful use (Montes & Napper, 2019). A substance use identity is thought to reflect the extent to which the use forms a core feature of the user's identity (i.e., considering oneself a drinker or a cocaine user). A recent meta-analysis has found that substance user identity was significantly correlated to substance-related outcomes such as frequency and quantity of use but also SUD symptoms (Montes & Pearson, 2021). Participants highlighted the modification of a disliked self as a salient function of PSU, and relational difficulties across domains and emotional attachment to the substance may point to the growing reliance on substance use for self-expression and deriving a sense of identity, which may be accompanied by complex and at times conflicting feelings if the substance use makes the experience of the self more tolerable in the moment at the cost of long-term deterioration of self-esteem. Shinebourne and Smith (2009) conducted an interpretative phenomenological analysis exploring the experience of alcohol use in relation to the self, which produced findings indicating that substance use can enable a sense of character transformation in the context of conflicting parts of the self, which has been conceptualised as a form of dissociation (Seligman & Kirmayer, 2008). Although most prominently understood as a trauma response in Western mental health discourses, Seligman and Kirmayer (2008) argue that dissociative states are to some extent commonly sought out through substance use, music, and spiritual practices across cultures. This may highlight a spectrum of deliberate self-modification accessed through substance use while the findings indicate that PSU may involve a reliance on such dissociative experiences as a coping strategy, which will be further discussed in section 4.2.4.

Orford's (2001) *Excessive Appetites Theory* may be helpful in further understanding the conflicted and complex relational experiences participants constructed as salient feature of PSU. The author conceptualises addiction as an appetite for specific experiences that can give rise to significant internal conflict within the individual when this appetite develops into a need and the person's seeking to satisfy this need becomes increasingly characterised by experiences of loss of control. The theory argues that the exact mechanisms by which addictions develop may vary between substances and individuals but may generally involve a process during which the substance use becomes more important than other areas of life due to the level of pleasure derived from the states (initially) induced by the substance or the incomparable extent to which these states meet specific needs (e.g., coping with aversive experiences). Crucially, the theory incorporates the importance of social responses to PSU, proposing that witnessing another engage in excessive use or developing a problem around

substance use will provoke responses in those around them. Negative responses or attempts to help may be experienced as stigmatising or provoke other negative reactions in the user, which can result in new acquired motivations such as maintaining secrecy. Cultural and normative influences may hereby play an important role, supporting the utility of taking a constructivist approach to defining PSU. The theory further proposes that any appetitive activity can serve numerous and at times conflicting functions within an individual including mood modification and a providing a sense of identity, resulting in strong attachment to the chosen substance that can contribute to escalating use, which comes at significant personal and social costs in the form of further conflict. This in turn is thought to result in social changes, leading to distress, demoralisation, difficulties around information processing, and the loss of restraints that would otherwise facilitate the limitation of one's use. Orford further proposes that through learning pathways, the substance use may take on new emotional regulation functions over time, which may lead to a generalisation of substance use across contexts and further exacerbate the appetite and the incentive to engage in the substance use behaviour through global and uncontrollable feelings of guilt, self-blame, helplessness, and hopelessness in the face of failing to control one's use. The theory thus crucially emphasises the importance of social context to both the experience and development of PSU and conceptualises a conflict between attachment to the substance and compounding cost as a driving factor in addiction. Given the idiosyncratic nature of the particular conflict and functions of use that are thought to be dependent on personal, social and cultural contextual factors, the author argues that a universal construct of addiction as those proposed by the SUD constructs cannot sufficiently capture the spectrum of PSU (Orford, 2001). Due to the constructivist approach underpinning the present study, the findings retain a focus on subjective experience that may offer sufficient room for interpretation to resonate with a wider spectrum of experiences than extant constructs.

Participants' construction of engagement in meaningful life activities as salient factor for the evaluation of substance use is in line with several studies proposing that disconnection from personal values and otherwise meaningful aspects of life forms an important contributing factor for the development and maintenance of PSU. An investigation of the relationship between personally meaningful experiences, experiential avoidance, and substance use produced findings indicating that higher importance ascribed to personal values was predictive of lower rates of alcohol use problems (Serowik & Orsillo, 2019). Similarly, a study examining protective factors mediating the relationship between increased stress and stress-related drinking among college students during the Covid-19 pandemic, found that a sense of meaning and purpose in life appeared to provide a significant and robust buffer, as higher stress was only related to increased drinking among participants who reported low sense of

meaning (Jaffe et al., 2022). Conversely, Bupić and Dijaković, (2019) found that their sample of alcohol-dependent individuals reported significantly lower levels of experiencing their lives as meaningful than the control group. This attention to a sense of meaning, value, and engagement derived from life is especially reflected in therapeutic approaches to addiction (De Groot et al., 2014), specifically Acceptance and Commitment Therapy (ACT; Hayes et al., 2012). ACT is a third-wave CBT approach placing personal values and strategies to increase a person's ability to behave in accordance with these at the heart of the model. From this perspective, not having a clear sense of personal values and struggling to behave in egosyntonic ways could both contribute to and be a consequence of PSU, which is maintained by the substance use interfering with the pursuit of other valued activities through reduced performance and relationship problems (Serowik & Orsillo, 2019). While the process of disengagement from other domains of life and the growing prioritisation of substance use is thought to involve the loss of salience of non-substance use-related reward through neuroadaptations resulting from prolonged or excessive use (Ouzir & Errami, 2016), the present findings illustrate how this may be experienced as a general loss of the ability to experience a sense of feeling interested and engaged by non-substance use related activities.

#### 4.2.3 Issues Around Safety (Category II: Level of Safety)

The occurrence of harm and negative consequences affecting the user's wellbeing and apparent loss of control are defining aspects of extant SUD constructs. The processes participants constructed as mechanisms involved in escalating use fit well with the established literature relating to addictive processes and learning theories. The findings add to the literature an account of the subjective experience of competing forces of conscious and automatic cognitive processes and highlight the importance of physical, psychological, and emotional (un-)safety as salient feature of PSU.

As explored in the Introduction chapter, there exist a variety of views and some debate around the role of conscious decision-making processes and the degree to which automaticity and habitual cognitive-behavioural sequences drive PSU and addictive behaviours. The findings illustrate the phenomenological experience of conscious decision-making processes and choice within substance use behaviours, as well as the development of automated and conditioned processes. Skog's (2003) unstable choice theory aligns with the data, as negative emotionality and experiences of sober states and the developing function of using to disengage from experience may lead to an individual oscillating between wishing to stop if negative consequences are experienced and acknowledged and choosing to continue using to manage or escape aversive states. Therefore, the proposed cost-benefit analyses may indeed take place, but these may be biased by factors outside of the individual's awareness. While the present study did not test any hypotheses made around the nature of choice and

control within PSU, the findings highlight the importance of the individual's felt sense of choice and control over substance use behaviours as important indicators of PSU. The findings further fit the notion of Slovic and colleagues' affect heuristic (2002), suggesting that in PSU, individuals may experience difficulty evaluating the risk of negative consequences in the presence of strong affect. Risks that elicit negative affect such as fear may engage avoidant coping behaviours and acute negative states may take primacy within the motivational system (West & Brown, 2013). Negative experiences without the substance may thus create an environment in which accurate risk-perception is impaired and the in-the-moment benefits of using are perceived as inflated due to acute emotional needs. Acute intoxication may further skew the cost-benefit analysis assumed by rational choice models, as under the influence, a person may simply care less about what may happen once the effects have worn off (West & Brown, 2013). In fact, the ability to care about negative consequences and protect oneself from them in itself was constructed as impaired in PSU, which is likely to be influenced by relational difficulties and increasingly negative experiences of sober states. This could lead to risks of harm or other negative consequences being discounted or located within an unimaginable future (Slovic et al., 2002) or to thinking about them being avoided altogether, resulting in an apparent choice to engage in substance use despite risk of harm (Vuchinich & Heather, 2003). It has further been proposed that a person's ability to consider long-term consequences can be impaired through mechanisms reinforcing impulsive behaviours through negative urgency (i.e., a focus on achieving immediate relief) in the context of low distress tolerance (Cyders & Smith, 2008), which may be both predisposing factor and outcome of PSU.

The distinction participants made between a sense of choice over their use and the feeling of being controlled by the substance may be explained by learning pathways introducing increasing degrees of automaticity into substance use behaviour sequences following repeated use, wherein the substance use becomes a behavioural response to internal and environmental stimuli that have become associated with using over time (Hogarth et al., 2013). The data demonstrated that participants developed certain expectancies around their use which operated on varying levels of awareness and that these expectancies were likely acquired through personal pharmacological experiences as well as observations of others, especially as participants described gathering their first substance use experiences in social contexts (Thombs & Osborn, 2013). It has been proposed that the extent to which a person believes the substance use will produced a desired effect is related to level of consumption (Reich et al., 2004) and this expectancy-based control system is thought to have an automatic component operating outside of conscious awareness to reduce the demand on information-processing systems, which could account for cravings and perceived loss of

control over substance use (Brandon et al., 2004). Over time, substance use behaviours could thus become less influenced by conscious processes and more by unconscious expectancies as repetitive substance use behaviours and related expectancies are considered to influence each other in a reciprocal manner (Smith et al., 1995). In developing PSU at stages preceding a fully realised substance addiction, it is likely that substance use behaviour sequences have not yet reached a degree of automaticity that is experienced as a full loss of control over behaviour or perhaps the individual may not yet have tried to control their behaviour by refraining from using. The findings illustrate the value of exploring the perceived locus of control within a person's substance use patterns and the level of deliberateness ascribed to substance use choices, as they could be helpful indicators of the degree to which automatic processes may be involved in a person's substance use patterns, with higher levels of automaticity likely being linked with PSU severity.

In addition to grappling with the distinction between *wanting* and *needing* a substance, participants constructed a difference between *liking* and *wanting* to use or experience substance-specific effects, which can be illuminated by considering Robinson and Berridge's (2008) *Incentive Sensitisation Theory* (IST). 'Liking' describes hedonic sensations and experiences of pleasure (Berridge & Kringelbach, 2015), while 'wanting' ascribes desirable motivational value to stimuli and rewards (Hellberg et al., 2019). The intensity to which 'wanting' is experienced appears to be related to the dopaminergic system and amplified by enhanced reactivity during states of arousal (e.g., stress or excitement) (Berridge, 2012). All substances that are considered as 'addictive' act directly on the central nervous system and are experienced as rewarding either through inducing pleasurable effects or relieving unpleasant feelings, and often both (West & Brown, 2013). The IST proposes that repeated exposure to a substance simultaneously facilitates processes of habituation and sensitisation to specific substance effects, which may account for the increasing salience of substance-related cues (Robinson & Berridge, 2008). The authors propose that this sensitisation process could contribute to the apparently compulsive nature of addictive substance use observed in individuals reporting that the relative importance of pleasure derived from substance use decreased over time. This was reflected in the data, as participants who considered themselves as recovered reported that at the height of their addiction, they would use not necessarily to derive pleasure, but 'to feel normal'. The IST proposes that sensitisation can result in an excessive wanting of the substance wherein the incentive salience of substance-related stimuli becomes exaggerated to the point that there may be a discrepancy in the levels of wanting and liking (West & Brown, 2013). Evidence for this comes from studies reporting findings indicating that the administration of substance use cues in ways that are thought incapable of producing consciously experienced effects (e.g., subliminal presentation of visual

information or the administration of miniscule doses of a substance) lead to increased levels of substance-seeking behaviours (Lamb et al., 1991; Winkielman et al., 2005). This separates the substance craving and wanting from conscious wanting (Berridge & Robinson, 2016) and may begin to explain the characteristic 'need' to use as more than just a desire in anticipation of a pleasurable experience.

In addition to the increase incentivising and decrease of inhibiting forces, escalating PSU was constructed as substance use that gradually spilled into new contexts, transgressing previously held boundaries. The underpinning processes to which participants attributed escalating can be understood in the context of learning theories. Participants described, at times explicitly, the forming of associations between contextual factors and substance use as they constructed boundaries around what constitutes acceptable use and ascribed importance to retaining the ability to engage in activities without using. Participants identified experiences of learning around substance use practices and functions, at times explicitly identifying these as learned coping behaviours, and both positive and negative reinforcement processes are well represented in the data (Skinner, 1938). Participants' further described cravings elicited within substance use-associated contexts or when being confronted with associated stimuli (Field and Cox, 2008). Classical conditioning and the concept of secondary reinforcers (Glautier & Drummond, 1994) may help understand how previously neutral stimuli such as certain places, music or even time of day, could become increasingly associated with substance use and eventually become cues eliciting cravings that could trigger substance use sequences. Escalating substance use is thus facilitated by porous boundaries, and with repetition of the behaviour in increasingly varied contexts these boundaries further erode as the appetite for substance use becomes generalised and detached from initial contexts (Orford, 2001). The findings suggest that rather than only focussing on consumption levels and frequency of use, it may indeed be helpful to consider substance use contexts to identify PSU, especially in earlier stages when a person's consumption levels may not yet meet diagnostic thresholds. This is in line with previous research suggesting the importance of considering drinking contexts such as solitary use when screening for PSU (Fleming et al., 2021), which has been linked to substance use-related problems (Corbin et al., 2020).

#### 4.2.4 Negative Experiences When Not Using or Not Having Access to the Substance (Category III: Experience of Sober State)

Participants constructed the quality of how sober states are experienced as defining aspects of PSU. This comprised negative experiences without the substance, reliance on substance use as primary coping mechanism to facilitate disengagement from and avoidance of distress, and a diminished value ascribed to not using. Although there exist well-established links between negative emotionality, psychological distress, and coping motives and PSU within

the literature, these factors appear to be relatively neglected in extant SUD constructs and most screening tools. The present findings, however, place the subjective experience without the substance, and particularly a person's ability to engage with their experience at the heart of PSU, which may be especially important in earlier stages of PSU when the individual may not yet have experienced significant negative outcomes relating to their wellbeing or relationships, or developed aspects of automaticity associated with habitual use.

Negative emotionality, in particular emotional states and processes associated with depression and anxiety, are well established risk factors for the development of PSU (Elkins et al., 2006). The negative, painful, or distressing quality of experience without the substance highlights the importance of negative reinforcement mechanisms for the development and maintenance of PSU (Baker et al, 2004). Negative emotionality refers to dysphoric mood states including alexithymia, depression, anxiety, and irritability (Boness et al., 2021) and while these may predate substance use problems, they are thought to be exacerbated by accumulating negative consequences, relational problems, and diminishing protective resources, as well as withdrawal symptoms, which may introducing new problems around dysregulated mood (Weiss & Koob, 2001), incentivising the individual to alleviate these states through further use. Participants who identified as having recovered from addiction in particular constructed lived experiences of heightened anxiety and explicitly named fear around experiencing negative states as a salient factor driving preoccupation and exaggerated planning behaviours to ensure that the substance was always available to them. This supports the notion that the threat of negative states may be a sufficient driver of behaviour and subject to negative reinforcement mechanisms (Schulteis & Koob, 1996). Extant research has further demonstrated that inducing negative affective states can increase cravings for alcohol (Bresin et al., 2018) and act as a predisposing factor leading to drinking by indirectly influencing craving if there is limited access to alternative emotion regulation strategies (Khosravani et al., 2017; Merrill & Thomas, 2013). In accordance with the IST, repeated substance use may sensitise the dopaminergic system, making it hyper-reactive to substance use-related stimuli which amplifies 'wanting' (Robinson & Berridge, 2008). This in turn is thought to make substance use-related cues increasingly valuable (Hellberg et al., 2019), resulting in 'tunnel vision', wherein attention and decision-making domains become focussed on these cues, establishing substance use as the most feasible choice to avoid negative states (Loganathan & Ho, 2021). Similarly, the experienced loss of feeling engaged in other domains of life and the diminishing value ascribed to sober states may be an expression of neuroadaptation resulting in reduced responsiveness to non-substance-use-related reward reinforcers (Ouzir & Errami, 2016) paired with increasing sensitivity to and prioritisation of rewarding effects

experienced from substance use, which may account for the growing prioritisation and valuation of substance use and substance-induced states (Loganathan & Ho, 2021).

The SMH (Khantzian, 1997, 2003) is clearly represented within the findings as reliance on substance use to regulate negative affect in the absence of more helpful coping strategies permeated participants' conceptualisations of PSU. Some participants explicitly used the term 'self-medication', which could denote the appreciation for the tenets of the SMH within the public and recovery contexts. Participants constructing coping motives as salient feature of PSU, which is in line with the extant substance use motives literature (Cooper, 1988). The findings emphasise the crucial role of avoidance-based coping strategies in the development and maintenance of PSU. Participants constructed PSU as an attempt to disengage from internal and external experiences to the detriment of the ability to develop more helpful coping strategies with the increasing reliance on substance use undermining or eroding protective resources, as well as increasing stress through negative consequences of excessive and prolonged use (Compas et al., 2017; Metzger et al, 2017; Bugbee et al., 2019). Conversely, cognitive coping strategies involving conscious thought and reflective processes are considered more adaptive, helping the individual cope with stress more constructively (Shapiro et al., 2006) and have been linked to reduced substance use in adolescence and adulthood (Van Gundy et al., 2015). It has been suggested that substance-related expectancies may moderate the predictive value of coping styles for consumption levels (Cooper et al. 1988) and that expectancies may be influenced by personality factors (McCarthy et al., 2001), which could account for individual differences in vulnerability to escalating use. The findings demonstrate that substance use motives and functions, and particularly those involving coping through the facilitating of experiential avoidance, reflect salient PSU features and should not be neglected in screening approaches (Moitra et al., 2021).

Metacognitive theories may further help to understand the role of experiential avoidance and disengagement from experience that was associated with PSU. Metacognitive beliefs (i.e., beliefs about cognitive experiences and their control) (Wells, 2000) and repetitive negative thinking have been proposed as important processes contributing to the development and maintenance of addiction (Spada et al., 2015). The *Self-Regulatory Executive Function* model (S-REF; Wells & Matthews, 1996) proposes that metacognitive beliefs guide the choice of cognitive coping styles in response to intrusive thoughts, feelings, and sensations. Unhelpful cognitive coping styles, such as worry, rumination, or attempts at thought suppression, result in fixation on negative states and cognitions and increase negative affect (Nolen-Hoeksema, 1991; Wells & Matthews, 1996). It has been suggested that rumination in particular may be a risk factor for the development of AUD and at least in part account for the high comorbidity between problematic alcohol use and emotional disorders (Wolitzky-Taylor et al., 2021).

Thought suppression in an attempt to control substance use-related thoughts has further been identified as an important factor in addiction (Bernard et al., 2021), as this is thought to paradoxically lead to an increase in thoughts and can ultimately result in increased use (Garland et al., 2012). Desire thinking, a recent construct describing a thinking style that involves perseverative focussing on images, memories and information pertaining to a target of desire (i.e., SU) (Caselli & Spada, 2011) has been proposed to be a factor in various addictive behaviours (Mansueto et al., 2019). Empirical findings further suggest that desire thinking can strengthen facilitating beliefs in those diagnosed with AUD (Caselli et al., 2021), and induce (Caselli et al., 2013) and increase cravings and substance use-related behaviours (Caselli et al., 2017; Martino et al., 2017). Addictive behaviours may thus be underpinned by both positive and negative metacognitive beliefs, as the person may hold a belief that using a substance will help them control negative cognitions and affect or that they are unable to control their use, and overtime reduce a person's ability to regulate behaviour and monitor internal states (Spada, Caselli, Nikcevic, & Wells, 2015). Furthermore, the acute focus on the substance use behaviour and its effects may interrupt negative repetitive thinking processes as attention is directed away from these (Hull, 1981). Addictive behaviours in themselves could thus be conceptualised as cognitive-affective avoidance strategies at their core, maintained by negative reinforcement and metacognitive beliefs. Support for this theory comes from research findings suggesting that depressive rumination was found to predict alcohol use level and problematic drinking in clinical and non-clinical samples (Borders, 2020) and that alcohol use effectively reduced induced rumination (Mollaahmetoglu et al., 2021). Extant research has further produced findings suggesting that individuals engaging in addictive behaviours may tend to hold beliefs around the need to control and problematic thoughts and feelings (Hamonniere & Varescon, 2018), which seem to be prevalent in clinical populations and could predict the severity of the addiction (e.g., Spada & Roarty, 2015; Tulloch & Baillie, 2019). This is supported by Hamonniere and colleagues' (2022) findings suggesting that metacognitive beliefs around cognitive confidence, beliefs around the necessity to control thought and cognitive self-consciousness predicted problematic cannabis use and problem severity.

Participants constructed avoidant coping strategies as disengagement from reality and identified denial as a key process which could significantly impair a person's ability to reflect on their use and make reflexive substance use choices, which is supported by extant literature exploring the role of denial and low problem-recognition associated with PSU. Morris (2022) argues that the prevalent disease model of addiction promotes a dichotomy of acceptable *normal drinkers* and *abnormal alcoholics*, which could be seen as fundamentally different on a biological basis. Morris argues that this categorical view is entrenched in prevalent discourses, upholds stigma and contributes to low problem recognition in alcohol users

experiencing PSU. He proposes that individuals who do not consider themselves as having reached 'rock bottom' may distancing themselves from the problematised 'alcoholic' identity (Morris, 2022). A PSU identity may induce pronounced feelings of shame, which has been identified as one of the most significant barriers to seeking support around alcohol use (May et al., 2019). Morris (2022) further argues that the concept of denial to refer to low problem recognition in PSU in itself is stigmatising, and indeed, participants' constructions of denial were associated with negative attitudes and shame. As denial was explicitly spoken to by several participants, I chose to include this concept within the present findings to accurately represent the data, but in light of the overall findings I believe that denial is best understood as an attempt to cope with painful self-self-relating through disengaging from an otherwise intolerable 'reality'.

### 4.3 Critical Evaluation of Study Outputs in Relation to Aims

The present research had three aims 1) to produce a clear definition for a novel PSU construct, 2) to use the knowledge generated through the research process to develop a pilot inventory to detect this construct, and 3) to devise a research methodology ensuring the involvement of experts by experience throughout the research process. The following sections will discuss to what extent the study met these aims and evaluate its outputs in the context of the problem statements and gaps identified in the literature.

#### 4.3.1 PSU Construct

The PSU construct and definition constructed from the analytic categories sufficiently answers the first research question of *how can we begin to define PSU?*. It addresses the issue around sojourn time that was identified in relation to extant SUD constructs in the context of early detection and adds to the field a novel PSU construct that was transparently constructed from and is demonstrably grounded in data. Throughout the analytic process it became apparent that indicators of PSU and substance use-related negative consequences are indeed intimately linked, which to some extent may justify the focus on negative outcomes inherent in extant SUD constructs. However, the PSU construct includes the experience of harmful or negative consequences without being determined by them and illuminates the subjective experiences of the processes underpinning escalating substance use. The potential for escalation into more severe presentations is thus at the centre of the construct, which is compatible with extant theories of addiction and empirical findings. The findings further support the conceptualisation of PSU as existing on a spectrum. The present construct does not seek to replace SUD or addiction constructs but may be seen as existing alongside these, assuming that PSU may exist both in those who are not (yet) experiencing an addiction syndrome and in those who are. The construct may thus help add more texture and nuance to established understandings of substance addiction.

West and Brown (2013) argue that in the absence of objectivity, a socially constructed concept such as addiction cannot be unequivocally correct or incorrect, but only deemed to be useful or generally agreed upon by 'experts'. As delineated in the Methodology chapter, consensus among the Delphi panel was operationalised to guide and refine the CGDM analysis. Following the final round of the Delphi survey, all analytic categories and the PSU construct definition achieved medium level consensus and Category II: Level of Safety achieved a slightly reduced mean score than in the previous round. Given the epistemological and ontological underpinnings of the approach, it can be argued that perfect consensus may not be achievable in the first place due to the inherently subjective nature of meaning-making, which was highlighted in the at times conflicting feedback given by the panel (see Box 4.1)

**Box 4.1**

*Example of Conflicting Feedback*

"*Yes, I agree with the new description because it's more about being able to tolerate instead of valuing the sober state as substance addiction stays for life.*" (DP3, Q3)

*"I actually preferred the original one! I find the word 'tolerate" has negative connotations. To my mind, it means 'putting up with something you do not like or agree with'. Helping people to value being sober sends a more positive message."* (DP6, Q3)

### 4.3.2 Pilot Inventory

The pilot inventory answers the second research question of *how could we use this [generated] understanding to detect PSU?*. It was constructed directly and transparently from the PSU construct and thus forms a starting point for the development of screening tools that addresses the caveats identified in relation to extant measures. Extant approaches to identifying PSU have been criticised for attempting to create pre-defined categories, which may not necessarily fit with lived experiences of substance use and the sense individuals make of their use. In fact, discursive psychology research has shown that despite awareness of official guidelines, partaking individuals constructed problematic drinking interactively and viewed their substance use behaviour as nuanced (Melia et al., 2021). The present inventory was constructed directly from qualitative data and may thus better capture the lived experience of PSU than screening tools developed through traditional means. The items reflect the processes and experiences participants constructed as integral to PSU rather than negative outcomes of excessive or prolonged use and may thus be more helpful in the context of screening for substance use patterns placing individuals at risk of escalating addiction who do not yet meet SUD diagnostic criteria. Given the lack of data to validate the pilot inventory or its predictive power, it is not intended as a diagnostic tool but may be useful in indicating cases for further investigation and clinical service provision. Furthermore, its structure and representation of the subcategories constructed in the analytic process may enable further

exploration of the idiosyncratic experience of PSU by identifying the domains within which difficulties may be experienced.

### 4.3.3 Involving Lived Experience

The CGDM methodology developed in the context of the present research allowed for the involvement of experts by experience at different phases of data collection, as well as throughout the analytic process. The constructivist epistemology underpinning the approach explicitly values subjective experience and the analytic techniques and data collection methods selected facilitated the co-construction of theory and a novel construct. The analytic categories and PSU definition were presented to an expert panel in an iterative process which increased the robustness of the analysis and general usefulness of the study as it allowed me to test whether the developing findings resonated with different stakeholders. Whilst the scope of the study did not allow for further involvement of experts by experience in the development of the pilot inventory, the sample items are firmly grounded within the data. There remains a need to continue addressing power imbalances withing the field of addiction research (Ashworth, 2003) and the methodology illustrated within this thesis may be a useful starting point for future research endeavours.

## 4.4 Implications and Applications

The knowledge and outputs generated in this study have important implications for clinical practice, research, and educational contexts.

This research has contributed a novel construct of PSU that introduces a shift from a medical to a psychological paradigm. This can inform clinical practice through expanding on existing conceptualisations of PSU and addressing shortcomings of extant SUD constructs in the context of early intervention. The pilot inventory forms a starting point for the development of screening tools that may improve the detection of at-risk individuals, which could increase the likelihood of positive outcomes and reduce the risk of developing more severe presentations of PSU and addiction. The pilot inventory may further serve as a reflective tool to aid problem recognition and support individuals to make more reflexive substance use choices. It may be useful in illuminating areas of (underlying) difficulties and thus help clinicians and clients identify specific treatment targets.

The PSU construct addresses an important gap in the literature around definitional and conceptual clarity, which may aid in future research endeavours examining the PSU phenomenon and trajectory of developing addictive processes. The study further contributes a novel methodology, which combines CGT analytic methods with a Delphi survey process, capitalising on the strengths of both approaches. The CGDM may be utilised in future research endeavours aiming to answer similar research questions, develop novel constructs, and/or democratise knowledge generation and it can be further modified to fit different research aims.

The study outputs may be helpful in prevention and educational contexts by increasing awareness of experiences associated with and potential signs of PSU beyond consumption levels, legal status of a substance, and negative consequences. The generated construct could overtime feed into public discourses around addiction, bolstering continuum conceptualisations of PSU to reduce stigma perpetuated with the prevalent *normal* versus *abnormal* use dichotomy (Morris, 2022).

**4.5 Limitations**

There are several limitations to the study that need to be considered when interpreting the findings and applying the generated outputs.

One important limitation of the study was the relatively small number of participants. Due to the limited resources and scope of the study, I was unable to offer compensation to FG panellists. Doing so may have increased interest in participating. It is further likely that the sensitive and stigmatised nature of the phenomenon under investigation could have deterred individuals from taking part (Melia et al., 2021). It is especially noteworthy that amongst those expressing interest in participating, not a single person fit the inclusion criteria for the planned Recreational Alcohol group, resulting in this perspective being completely missed in the findings. This is noteworthy as it can be assumed that a majority of the population would have qualified for this group. It is possible that eligible individuals may have perceived a threat of their drinking being framed as problematic or simply believing that the subject matter did not concern them (Morris et al., 2022). The sample was further predominantly white and male, which resulted in more diverse and traditionally marginalised views being missed.

Due to my limited access to expert panellists, the PPI research advisor also served as an expert by experience panellist. This dual role and may have biased their Delphi responses as they were provided with a more detailed understanding of the research project and my thinking around the survey instruments and were able to develop a closer relationship to both the research team and the project.

As this study was conducted within the context of a doctoral thesis without me having any prior experience around moderating FGs or utilising any methodological components of CGDM, researcher inexperience is likely to have affected the research process at both data collection and analysis level. The quality of data collection likely fluctuated as my data collection skills developed over the course of the research project, potentially affecting the richness of data (Morse, 2015) and resulting in a qualitative difference between earlier and later phases of data collection. Furthermore, the quality of data generated through the Delphi survey iterations could have been improved by clearer structure, communication and feedback, particularly during the first two rounds (see Paivarinta et al 2011).

Whilst consensus was operationalised to guide the analytic process, data collection ceased following the completion of the pre-determined number of Delphi survey rounds and no survey item reached a high level of consensus. Given the general improvement demonstrated in panellist agreement with the developing analytic categories and definition between rounds, it is likely that consensus level may have been improved through further Delphi survey iterations. However, given the considerable time commitment required of participants, non-response and attrition between rounds are recurring problems in research utilising Delphi surveys and indeed, only six out of the initially recruited eight panellists completed all survey rounds. Refining the proposed items in response to panellist feedback to increase consensus, was further complicated by the at times conflicting feedback provided. This may point to a general difficulty around aiming for consensus in studies using constructivist analysis and should be considered in research planning.

### 4.6 Future Research

Considering the findings and limitations of the present study, directions for future research can be identified. Given the heterogeneity of the sample in terms of which substances they were using, the PSU construct may not account for substance-specific nuances in the development and experience of PSU. It may thus be valuable to conduct similar research posing the same research questions to a sample of individuals who identify the same substance of choice. The construct may be further refined by further data collection involving participants with more diverse characteristics to explore whether there are differences in how PSU is constructed and improve cultural sensitivity of the construct.

Future research needs to be conducted to validate the study outputs and further develop the pilot inventory, which can only offer a starting point to developing appropriate screening tools to measure the PSU construct. Validation studies should test the construct and associated measures with large samples of individuals presenting with PSU or addiction to varying degrees of 'strength' (West & Brown. 2013) in order to determine whether it accurately captures a spectrum of PSU. Longitudinal studies would be required to test the predictive validity and conceptual fit in regard to the risk of escalation into addiction syndromes/SUDs, by exploring whether a person presenting with the PSU construct may indeed meet SUD diagnostic criteria in the future. The hypothesised therapeutic and preventative utility also needs to be investigated in longitudinal studies evaluating therapeutic effects of using the measure as a reflective tool to intervene in risky substance use patterns and prevent further escalation.

### 4.7 Conclusion

There exists a vast literature base conceptualising substance addiction as the endpoint of addictive processes escalating over time. This highlights the importance of early intervention

in order to prevent the development of SUDs, which are the source of significant harm and distress for the person using and their communities. Yet, the present study has identified shortcomings in the ability of extant clinical constructs and the screening instruments based on them to identify at-risk individuals. Prevalent SUD constructs do not present a sojourn time and do not fit the experience of individuals who may be at risk of developing addiction in the future if they have not yet experienced negative consequences of long-term or excessive substance use. The lack of a psychological construct of PSU may further contribute to the low levels of problem recognition associated with addiction and uphold existing stigma. The present thesis argues that PSU should be conceptualised as substance use patterns that carry the potential for escalating into addiction. A new methodology combining CGT with the Delphi method has been designed to enable the co-construction of a novel PSU construct to address these issues and fill this conceptual gap. The findings and pilot inventory developed from the PSU construct may offer a starting point for developing screening tools that can enable preventive screening and may aid both clinicians and individuals engaging in substance use to reflect on their experience and make safer substance use choices.

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## Appendix A: Study Advert

**Department of Psychology, City, University of London**

# RESEARCH PARTICIPANTS NEEDED

**Do you use alcohol and/or drugs recreationally?**

**OR do you use alcohol and/or drugs in a way that you feel might be a problem?**

**OR do you consider yourself as recovered from a substance use problem/addiction?**

We are looking for volunteers to take part in an **online focus group discussion (90-120 minutes)** to explore **how people make sense of their substance use***. By taking part in this study you could help develop our understanding of how and why some people develop addiction problems and improve the help available to people who are at risk. All contact made will be kept confidential.

*to be eligible to participate you must be aged 25 or above and live in the UK

**Please get in touch via private message or at marie.bech@city.ac.uk.**

This project is supervised by Dr Jessica Jones Nielsen (Jessica.jones-nielsen@city.ac.uk).

This study has been reviewed by, and received ethics clearance through the Psychology Research Ethics Committee, City, University of London. If you would like to complain about any aspect of the study, please contact the Secretary to the Senate Research Ethics Committee on 020 7040 3040 or via email: Anna.Ramberg.1@city.ac.uk

City, University of London is the data controller for the personal data collected for this research project. If you have any data protection concerns about this research project, please contact City's Information Compliance Team at dataprotection@city.ac.uk

Appendix B: Focus Group Participant Information Sheet

(presented on headed paper)

## INFORMATION FOR PARTICIPANTS

**REC Reference Number:** ETH2021-0978, date and version: 08.02.2021 version 1.3

**Title of Study: Defining and Identifying Problematic Substance Use**

**Name of researcher:** Marie Katharina Bech

We would like to invite you to take part in a research study. Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

### What is the purpose of the study?

This study was designed to investigate the difference between recreational and problematic substance use and how people make sense of their experiences. Participants are asked to take part in a focus group discussion via the video conferencing platform Zoom, which should take around 90-120 minutes. This will then be analysed for recurring themes.

The research is being conducted as part of the professional doctorate in Counselling Psychology and will form the basis for the researcher's doctoral thesis.

### Why have I been invited to take part?

Participants for this study are being recruited on social media and online forums based on their lived experience of substance use. The focus group stage of the study will require approx. 32 participants.

### Do I have to take part?

Participation in the project is voluntary, and you can choose not to participate in part or all of the project. You can withdraw at any stage of the project without being penalised or disadvantaged in any way. It is up to you to decide whether or not to take part. If you do decide to take part you will be asked to sign a consent form. If you decide to take part you are still free to withdraw up until 4 weeks after the interview and without giving a reason. The data you have given will then be deleted and not used in the analysis.

### What will happen if I take part?

You will be asked to complete a short questionnaire about your current emotional wellbeing. You will then be asked to participate in a focus group discussion with 5-7 other participants during which you will be asked questions to encourage a conversation about your experiences with substance use. This will be followed by a short debrief and you will be given the opportunity to ask questions. The whole process should take 90-120 minutes and will take place on the video conferencing platform Zoom.

**What are the possible disadvantages and risks of taking part?**

Given the subject under investigation, the group discussion may include sensitive material or topics that some participants may find triggering or upsetting. Please remember that you will be free to stop at any point should you feel like the focus group discussion is causing you distress.

**What are the benefits of taking part?**

In taking part you could help further our understanding of the differences between certain substance use patterns and associated risk factors, which may help others in their recovery or be useful in the context of prevention.

**Data Privacy Statement**

City, University of London is the sponsor and the data controller of this study based in the United Kingdom. This means that we are responsible for looking after your information and using it properly. The legal basis under which your data will be processed is City's public task.

Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/public-task/).

City will use your name and contact details to contact you about the research study as necessary. If you wish to receive the results of the study, your contact details will also be kept for this purpose. The only person at City who will have access to your identifiable information will be Marie Bech. City will keep identifiable information about you from this study until the research project has been completed.

You can find out more about how City handles data by visiting https://www.city.ac.uk/about/governance/legal. If you are concerned about how we have processed your personal data, you can contact the Information Commissioner's Office (IOC) https://ico.org.uk/.

**Will my taking part in the study be kept confidential?**

The focus group discussion will be recorded but you can choose to enter a pseudonym and keep your camera off if that makes you feel more comfortable. The video recordings will be deleted immediately and only the audio will be used for the research. All of your personal information will be kept strictly confidential (subject only to legal limitations) and stored separately so they cannot be linked to the recording. Your focus group discussion responses will be assigned a pseudonym to ensure anonymity and they will not be shared with anyone not involved in the research. All quotes featured in the written report will appear under your pseudonym and no identifying information will be included. The data generated in the course of the research must be kept securely for a period of 10 years after the completion of the research project and will then be destroyed.

**What will happen to the results?**

The results of this study will be used in a doctoral thesis for the DPsych Counselling Psychology programme at City and submitted for publication in an academic journal. If you

would like to receive a summary of the results or be contacted about the publication, please indicate this on the consent form.

**Who has reviewed the study?**

This study has been approved by City, University of London Psychology Research Ethics Committee.

**What if there is a problem?**

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through City's complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is **Defining and Identifying Problematic Substance Use**.

You can also write to the Secretary at:

[redacted] [redacted]
Research Integrity Manager

City, University of London, Northampton Square London, EC1V 0HB

Email: [redacted]

**Insurance**

City holds insurance policies which apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

**Further Information and Contact Details**

**Marie Bech**, email: [redacted]

**Dr Jessica Jones Nielsen** (Research Supervisor), email: [redacted]

**Thank you for taking the time to read this information sheet.**

Appendix C: Focus Group Participant Consent Form

(presented on headed paper)

**CONSENT FORM**

**REC Reference Number:** ETH2021-0978, date and version: 08.02.2021 version 1.3

**Title of Study: Defining and Identifying Problematic Substance Use**

**Name of researcher:** Marie Katharina Bech

| | | Please tick or initial box |
|---|---|---|
| 1 | I confirm that I have read and understood the participant information dated 08.02.2021 version 1.3 for the above study. I have had the opportunity to consider the information and ask questions which have been answered satisfactorily. | |
| 2. | I understand that my participation is voluntary and that I am free to withdraw without giving a reason without being penalised or disadvantaged. | |
| 3. | I agree to participate in a 90-120 minute focus group. | |
| 4. | I understand that I will be able to withdraw my data up to 4 weeks after the focus group discussion. | |
| 5. | I agree to the focus group being recorded. | |
| 6. | I agree to maintain the confidentiality of focus group discussions. | |
| 7. | I agree to City recording and processing this information about me. I understand that this information will be used only for the purpose(s) explained in the participant information and my consent is conditional on City complying with its duties and obligations under the General Data Protection Regulation (GDPR). | |
| 8. | I agree to the use of anonymised quotes in potential publications, presentations and training materials | |
| 9. | I would like to be informed of the results of this study once it has been completed and understand that my contact details will be retained for this purpose. | |
| 10. | I agree to take part in the above study. | |

| | | |
|---|---|---|
| Name of Participant | Signature | Date |
| Name of Researcher | Signature | Date |

The act of submitting this form with it dated and named is viewed as a formal signature and therefore is binding.

## Appendix D: Pre-screening Questionnaire

*A) Inclusion/Exclusion Criteria*

1. Do you currently live in the UK?

2. Have you ever been diagnosed with a Substance Use Disorder, or been referred to or used services to receive treatment for substance use issues?

3. Do you consider yourself as recovered from substance use problems or addiction or in recovery and not currently using? Which substance were you using?

4. Do you drink alcohol?

5. Do you use any other substances other than alcohol or nicotine? Which ones?

6. If you only use alcohol, have you had a drink at least 12 times in the last year?

7. If you use other substances, have you done drugs at least 3 times in the last year?

8. Do you feel like your alcohol or drug use is problematic or does it worry you in any way?

9. Do you feel adequately supported by services and/or your social network?

*B) Demographic Questionnaire*

1. What is your age?

2. What is your gender?

3. What is your ethnicity?

Appendix E: DASS-21 Questionnaire and Scoring

**DASS 21** NAME _____ DATE _____

BLACK DOG INSTITUTE

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

*The rating scale is as follows:*

0 Did not apply to me at all - NEVER

1 Applied to me to some degree, or some of the time - SOMETIMES

2 Applied to me to a considerable degree, or a good part of time - OFTEN

3 Applied to me very much, or most of the time - ALMOST ALWAYS

| | | N | S | O | AA | FOR OFFICE USE D | A | S |
|---|---|---|---|---|---|---|---|---|
| 1 | I found it hard to wind down | 0 | 1 | 2 | 3 | | | |
| 2 | I was aware of dryness of my mouth | 0 | 1 | 2 | 3 | | | |
| 3 | I couldn't seem to experience any positive feeling at all | 0 | 1 | 2 | 3 | | | |
| 4 | I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion) | 0 | 1 | 2 | 3 | | | |
| 5 | I found it difficult to work up the initiative to do things | 0 | 1 | 2 | 3 | | | |
| 6 | I tended to over-react to situations | 0 | 1 | 2 | 3 | | | |
| 7 | I experienced trembling (eg, in the hands) | 0 | 1 | 2 | 3 | | | |
| 8 | I felt that I was using a lot of nervous energy | 0 | 1 | 2 | 3 | | | |
| 9 | I was worried about situations in which I might panic and make a fool of myself | 0 | 1 | 2 | 3 | | | |
| 10 | I felt that I had nothing to look forward to | 0 | 1 | 2 | 3 | | | |
| 11 | I found myself getting agitated | 0 | 1 | 2 | 3 | | | |
| 12 | I found it difficult to relax | 0 | 1 | 2 | 3 | | | |
| 13 | I felt down-hearted and blue | 0 | 1 | 2 | 3 | | | |
| 14 | I was intolerant of anything that kept me from getting on with what I was doing | 0 | 1 | 2 | 3 | | | |
| 15 | I felt I was close to panic | 0 | 1 | 2 | 3 | | | |
| 16 | I was unable to become enthusiastic about anything | 0 | 1 | 2 | 3 | | | |
| 17 | I felt I wasn't worth much as a person | 0 | 1 | 2 | 3 | | | |
| 18 | I felt that I was rather touchy | 0 | 1 | 2 | 3 | | | |
| 19 | I was aware of the action of my heart in the absence of physicalexertion (eg, sense of heart rate increase, heart missing a beat) | 0 | 1 | 2 | 3 | | | |
| 20 | I felt scared without any good reason | 0 | 1 | 2 | 3 | | | |
| 21 | I felt that life was meaningless | 0 | 1 | 2 | 3 | | | |
| | | | | | TOTALS | | | |

## DASS Severity Ratings

The DASS is a **quantitative** measure of distress along the 3 axes of depression, anxiety[1] and stress[2]. It is not a categorical measure of clinical diagnoses.

Emotional syndromes like depression and anxiety are intrinsically dimensional - they vary along a continuum of severity (independent of the specific diagnosis). Hence the selection of a single cut-off score to represent clinical severity is necessarily arbitrary. A scale such as the DASS can lead to a useful assessment of **disturbance**, for example individuals who may fall short of a clinical cut-off for a specific diagnosis can be correctly recognised as experiencing considerable symptoms and as being at high risk of further problems.

However for clinical purposes it can be helpful to have 'labels' to characterise degree of severity relative to the population. Thus the following cut-off scores have been developed for defining mild/moderate/severe/ extremely severe scores for each DASS scale.

**Note**: the severity labels are used to describe the full range of scores in the population, so 'mild' for example means that the person is above the population mean but probably still way below the typical severity of someone seeking help (ie it does not mean a mild level of disorder.

The individual DASS scores do not define appropriate interventions. They should be used in conjunction with all clinical information available to you in determining appropriate treatment for any individual.

[1]Symptoms of psychological arousal
[2]The more cognitive, subjective symptoms of anxiety

## DASS 21 SCORE

| DEPRESSION SCORE | ANXIETY SCORE | STRESS SCORE |
|---|---|---|
| | | |

| | Depression | Anxiety | Stress |
|---|---|---|---|
| **Normal** | 0 - 4 | 0 - 3 | 0 - 7 |
| **Mild** | 5 - 6 | 4 - 5 | 8 - 9 |
| **Moderate** | 7 - 10 | 6 - 7 | 10 - 12 |
| **Severe** | 11 - 13 | 8 - 9 | 13 - 16 |
| **Extremely Severe** | 14 + | 10 + | 17 + |

Appendix F: Pre-screening Debrief

(presented on headed paper)

**Defining and Identifying Problematic Substance Use**

**DEBRIEF INFORMATION**

Thank you for expressing your interest in taking part in this study.

Unfortunately I am currently only looking for participants who meet certain criteria. This does not mean that you have 'failed' in any way and you may still become eligible for participation in the future.

If participating in this research has upset or distressed you in any way, you can find support resources and information at www.mind.org.uk or call the Samaritans telephone helpline on 116 123. If you are concerned about your or a loved one's substance use, you can find more information and help at https://www.nhs.uk/live-well and https://www.turning-point.co.uk.

If you have any other questions please do not hesitate to get in touch!

**Marie Bech**, email: [redacted]

**Dr Jessica Jones Nielsen** (Research Supervisor), email: [redacted]

Ethics approval code: ETH2021-0978, date and version: 08.02.2021 version 1.3

**Appendix G: Pilot Focus Group Participant Information Sheet**

(presented on headed paper)

**INFORMATION FOR PARTICIPANTS**

**REC Reference Number:** ETH2021-0978, date and version: 08.02.2021 version 1.3

**Title of Study: Defining and Identifying Problematic Substance Use**

**Name of researcher:** Marie Katharina Bech

We would like to invite you to take part in a research study. Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

**What is the purpose of the study?**

This study was designed to investigate the difference between recreational and problematic substance use and how people make sense of their experiences. In this phase of the research project, participants are asked to take part in a focus group discussion in order to 'pilot' or test out and make improvements to the discussion points and questions asked in the actual study.

The research is being conducted as part of the professional doctorate in Counselling Psychology and will form the basis for the researcher's doctoral thesis.

**Why have I been invited to take part?**

Participants for this study are being recruited on social media and online forums based on their lived experience of substance use. The piloting stage of the study will require approx. 12 participants.

**Do I have to take part?**

Participation in the project is voluntary, and you can choose not to participate in part or all of the project. You can withdraw at any stage of the project without being penalised or disadvantaged in any way. It is up to you to decide whether or not to take part. If you do decide to take part you will be asked to sign a consent form.

**What will happen if I take part?**

You will be asked to participate in a focus group discussion with 5-7 other participants during which you will be asked questions to encourage a conversation about your experiences with substance use. This will be followed by a short debrief and you will be given the opportunity to ask questions. The whole process should take 90-120 minutes and will take place on the video conferencing platform Zoom.

**What are the possible disadvantages and risks of taking part?**

Given the subject under investigation, the group discussion may include sensitive material or topics that some participants may find triggering or upsetting. Please remember that you will be free to stop at any point should you feel like the interview is causing you distress.

**What are the benefits of taking part?**

In taking part you could help further our understanding of the differences between certain substance use patterns and associated risk factors, which may help others in their recovery or be useful in the context of prevention.

**Data Privacy Statement**

City, University of London is the sponsor and the data controller of this study based in the United Kingdom. This means that we are responsible for looking after your information and using it properly. The legal basis under which your data will be processed is City's public task.

Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/public-task/).

City will use your name and contact details to contact you about the research study as necessary. If you wish to receive the results of the study, your contact details will also be kept for this purpose. The only person at City who will have access to your identifiable information will be Marie Bech. City will keep identifiable information about you from this study until the project has been completed.

You can find out more about how City handles data by visiting https://www.city.ac.uk/about/governance/legal. If you are concerned about how we have processed your personal data, you can contact the Information Commissioner's Office (IOC) https://ico.org.uk/.

**Will my taking part in the study be kept confidential?**

The focus group discussion will not be recorded. You can choose to enter a pseudonym and keep your camera off if that makes you feel more comfortable. Your personal information will be kept strictly confidential (subject only to legal limitations) and stored on an encrypted USB key.

**What will happen to the results?**

The results of this study will be used in a doctoral thesis for the DPsych Counselling Psychology programme at City and submitted for publication in an academic journal. If you would like to receive a summary of the results or be contacted about the publication, please indicate this on the consent form.

**Who has reviewed the study?**

This study has been approved by City, University of London Psychology Research Ethics Committee.

**What if there is a problem?**

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through City's complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is **Defining and Identifying Problematic Substance Use**.

You can also write to the Secretary at:

[redacted] [redacted]
Research Integrity Manager

City, University of London, Northampton Square London, EC1V 0HB

Email: Anna.Ramberg.1@city.ac.uk

**Insurance**

City holds insurance policies which apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

**Further Information and Contact Details**

**Marie Bech**, email: [redacted]

**Dr Jessica Jones Nielsen** (Research Supervisor), email: [redacted]

**Thank you for taking the time to read this information sheet.**

**Appendix H: Pilot Focus Group Participant Consent Form**

(presented on headed paper)

**CONSENT FORM**

**REC Reference Number:** ETH2021-0978, date and version: 08.02.2021 version 1.3

**Title of Study: Defining and Identifying Problematic Substance Use**

**Name of researcher:** Marie Katharina Bech

| | | Please tick or initial box |
|---|---|---|
| 1 | I confirm that I have read and understood the participant information dated 08.02.2021 version 1.3 for the above study. I have had the opportunity to consider the information and ask questions which have been answered satisfactorily. | |
| 2. | I understand that my participation is voluntary and that I am free to withdraw without giving a reason without being penalised or disadvantaged. | |
| 3. | I agree to participate in a 90-120 minute focus group. | |
| 4. | I agree to maintain the confidentiality of focus group discussions. | |
| 5. | I agree to City recording and processing this information about me. I understand that this information will be used only for the purpose(s) explained in the participant information and my consent is conditional on City complying with its duties and obligations under the General Data Protection Regulation (GDPR). | |
| 6. | I would like to be informed of the results of this study once it has been completed and understand that my contact details will be retained for this purpose. | |
| 7. | I agree to take part in the above study. | |

| | | |
|---|---|---|
| Name of Participant | Signature | Date |
| Name of Researcher | Signature | Date |

The act of submitting this form with it dated and named is viewed as a formal signature and therefore is binding.

**Appendix I: Topic Guide for Focus Groups**

*1. Introductions and Ice-Breaker (10 mins)*

- What's your name and can you tell us one interesting fact about you?

*2. Unpacking Different Substance Use Patterns (20 mins)*

- What counts as substance use?
- What are the attitudes towards different substances?
- How do people use different substances in the UK?
- Has this changed during the pandemic?

*3. Identifying and Describing Personal Experience of Substance Use* (25 mins)*

- Can you tell me a bit about how the people in this group use substances?
- Appeal
- Expectations
- Circumstances and situations
- Motives
- Functions
- Internal and external factors influencing use
- Meaning
- Impact
- Limits to/boundaries around use

*(FG1+2) 4. Identifying Problematic Use* (25 mins)*

- What is the difference between recreational and problematic substance use?
- How would you recognise problematic use?
- How do the people in this group view substance use in general?

*(FG3) 4. Exploring Process of Escalating Use/Identifying Problematic Use* (25 mins)*

- Was there a point when it felt like it was becoming a problem?
- What was it about it that felt problematic?
- How would I know that my substance use was problematic?
- Were there any changes over time that people in this group noticed?

- What is the difference between recreational and problematic substance use?
- How do the people in this group view substance use in general?

*(FG4) 4. Identifying Problematic Use/Exploring Escalating Use* (25 mins)*

- What is it about the way people in this group use substances that feels problematic to them?
- How would I know that my substance use was problematic?
- Were there any changes over time that people in this group noticed?
- What is the difference between recreational and problematic substance use?
- How do the people in this group view substance use in general?

*5. Space for Additional Reflections and Conclusion (15 mins)*

- Summary of key ideas discussed
- Explain rational of study - additional Reflections/Comments

---

FG1 – Recreational Alcohol

FG2 – Recreational Drug

FG3 – Recovered

FG4 – Current Problematic

*critical

**Appendix J: Focus Group Participant Debrief**

(presented on headed paper)

**Defining and Identifying Problematic Substance Use**

**DEBRIEF INFORMATION**

Thank you for taking part in this study. Now that it's finished we'd like to tell you a bit more about it.

In the context of addiction and treatment, problematic substance use is often only recognised when the person is already experiencing negative consequences of their substance use. The aim of this research is to gain a better understanding of what problematic substance use looks and feels like before it negatively affects a person's life by exploring the way different people use substances. We hope that this in turn can lead to the development of screening tools that can help identify at-risk individuals early on so they can get the support they need.

If participating in this research has upset or distressed you in any way, you can find support resources and information at www.mind.org.uk or call the Samaritans telephone helpline on 116 123. If you are concerned about your or a loved one's substance use, you can find more information and help at https://www.nhs.uk/live-well and https://www.turning-point.co.uk.

We hope you found the study interesting. If you have any other questions please do not hesitate to get in touch!

**Marie Bech**, email: [redacted]

**Dr Jessica Jones Nielsen** (Research Supervisor), email: [redacted]

Ethics approval code: ETH2021-0978, date and version: 08.02.2021 version 1.3

**Appendix K: Focus Group Feedback Survey**

(delivered on survey platform Qualtrics)

Thank you again for participating in our research project 3 weeks ago.

Now that some time has passed, we wanted to give you the opportunity to share any further reflections or feedback. This is entirely optional, but if there is anything else you would like to tell us in relation to your experience, please use the comment box below.

## Appendix L: First Round Delphi Survey Instrument (Q1)

(delivered on survey platform Qualtrics)

**INFORMATION FOR PANELLISTS**

**REC Reference Number:** ETH2021-0978, date and version: 08.02.2021 version 1.3

**Title of Study: Defining and Identifying Problematic Substance Use**

**Name of Researcher:** Marie Katharina Bech

You have been invited to take part in the present study as a Delphi survey panellist. Please take time to read the following information carefully before proceeding with the questionnaire.

**What is the purpose of the study?**

This survey was designed to gain expert input for a study aiming to define what constitutes problematic substance use. Panellists will be asked to complete several online surveys over a period of approx. 4 months. The responses will be analysed and feed into the items for the next survey.

The research is being conducted as part of the professional doctorate in Counselling Psychology and will form the basis for the researcher's doctoral thesis.

**Why have I been invited to take part?**

Participants for this survey were recruited based on their professional or experiential expertise in the field of problematic substance use. The panel involves 12 participants.

**Do I have to take part?**

Participation in the project is voluntary, and you can choose not to participate in part or all of the project. You can withdraw at any stage of the project without being penalised or disadvantaged in any way. It is up to you to decide whether or not to take part. If you decide not to take part, you are free to discontinue your participation at any point without giving a reason.

**What will happen if I take part?**

You will be asked to complete an online survey which should take approx. 30 minutes. The researcher will then contact you with information about the follow-up survey. There will be approx. 3 surveys released at 6-week intervals.

**What are the possible disadvantages and risks of taking part?**

Given the subject under investigation, some panellists may find participating in the survey triggering or upsetting. Please remember that you will be free to stop at any point should you feel like the questions are causing you distress.

**What are the benefits of taking part?**

By taking part in this study you could help further our understanding of problematic substance use and aid in the development of tools to help identify individuals at risk of developing substance use problems or addiction.

**Data Privacy Statement**

City, University of London is the sponsor and the data controller of this study based in the United Kingdom. This means that we are responsible for looking after your information and using it properly. The legal basis under which your data will be processed is City's public task.

Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/public-task/).

City will use your name and contact details to contact you about the research study as necessary. The only person at City who will have access to your identifiable information will be Marie Bech. City will keep identifiable information about you from this study until the research project has been completed.

You can find out more about how City handles data by visiting https://www.city.ac.uk/about/governance/legal. If you are concerned about how we have processed your personal data, you can contact the Information Commissioner's Office (IOC) https://ico.org.uk/.

**Will my taking part in the study be kept confidential?**

You have been assigned a participant identification number to record your responses. Your identity is only known to the researcher and will not be shared with the other panellists. All of your personal information will be kept strictly confidential (subject only to legal limitations) and stored separately from your responses. The questionnaire responses will not be shared with anyone not involved in the research. The data generated in the course of the research must be kept securely for a period of 10 years after the completion of the research project and will then be destroyed.

**What will happen to the results?**

The results of this study will be used in a doctoral thesis for the DPsych Counselling Psychology and submitted for publication in an academic journal.

**Who has reviewed the study?**

This study has been approved by City, University of London Psychology Research Ethics Committee.

**What if there is a problem?**

If you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through City's complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is **Defining and Identifying Problematic Substance Use**.

You can also write to the Secretary at:

[redacted]
Research Integrity Manager

City, University of London, Northampton Square
London, EC1V 0HB

Email: [redacted]

**Insurance**

City holds insurance policies which apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

**Further Information and Contact Details**

**Marie Bech**, email: [redacted], phone: 0749 110 1880

**Dr Jessica Jones Nielsen** (Research Supervisor), email: [redacted]

**By completing this survey you are indicating that you have read and consent to the above terms.**

**Thank you for taking the time to read this information. Your participation is much appreciated!**

**QUESTIONNAIRE**

**D1: Please enter your participant identification number (you can find this in the email containing this link):**

**D2: What is your gender?**

**D3: What is your ethnicity?**

**D4: What country are you based in?**

**D4: Please indicate your type of expertise (you may choose more than one)?**

Lived experience of problematic substance use or addiction

Research experience in the field of problematic substance use or addiction

Clinical experience in the field of problematic substance use or addiction

**1. The Diagnostic and Statistical Manual of Mental Health Disorders (DSM-5) defines Substance Use Disorders as follows:**

"*A problematic pattern of [substance] use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:*

*1. [Substance] is often taken in larger amounts or over a longer period than was intended.*

*2. There is a persistent desire or unsuccessful efforts to cut down or control [substance] use.*

*3. A great deal of time is spent in activities necessary to obtain [substance], use [substance], or recover from its effects.*

*4. Craving, or a strong desire or urge to use [substance].*

*5. Recurrent [substance] use resulting in a failure to fulfil major role obligations at work, school, or home.*

*6. Continued [substance] use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of [substance].*

*7. Important social, occupational, or recreational activities are given up or reduced because of [substance] use.*

*8. Recurrent [substance] use in situations in which it is physically hazardous.*

*9. [Substance] use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by [substance].*

*10. Tolerance, as defined by either of the following:*

> *a. A need for markedly increased amounts of [substance] to achieve intoxication or desired effect.*
>
> *b. A markedly diminished effect with continued use of the same amount of [substance].*

*11. Withdrawal, as manifested by either of the following:*

> *a. The characteristic withdrawal syndrome for [substance].*
>
> *b. [Substance] (or a closely related substance) is taken to relieve or avoid withdrawal symptoms."*

**How helpful do you think the above criteria are for identifying substance use patterns that may put a person at risk of developing a substance use problem or addiction in the future?**

**2. The International Statistical Classification of Diseases and Related Health Problems (ICD-11) classifies problematic substance use along a spectrum ranging from Hazardous Substance Use to Substance Dependence. The categories are defined as follows:**

1. Hazardous Substance Use:

*"Hazardous substance use is a pattern of psychoactive substance use that appreciably increases the risk of harmful physical or mental health consequences to the user or to others to an extent that warrants attention and advice from health professionals. The increased risk may be from the frequency of substance use, from the amount used on a given occasion, from risky behaviours associated with substance use or the context of use, from a harmful route of administration, or from a combination of these. The risk may be related to short-term effects of the substance or to longer-term cumulative effects on physical or mental health or functioning. Hazardous substance use has not yet reached the level of having caused harm to physical or mental health of the user or others around the user. The pattern of substance use often persists in spite of awareness of increased risk of harm to the user or to others."*

2. Harmful Pattern of Use of [Substance]:

*"A pattern of [substance] use that has caused damage to a person's physical or mental health or has resulted in behaviour leading to harm to the health of others. The pattern of [substance] use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behaviour related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behaviour related to [substance] intoxication on the part of the person to whom the diagnosis of Harmful pattern of use [substance] applies"* – NB: the same criteria apply for a similar diagnosis termed 'Episode of Harmful Use of [Substance]' when there is no known pattern of use

3. [Substance] Dependence:

*"[Substance] dependence is a disorder of regulation of [substance] use arising from repeated or continuous use of [substance]. The characteristic feature is a strong internal drive to use [substance], which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use [substance]. Physiological features of dependence may also be present, including tolerance to the effects of [substance], withdrawal symptoms following cessation or*

*reduction in use of [substance], or repeated use of [substance] or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if [substance] use is continuous (daily or almost daily) for at least 3 months."*

**How helpful do you think the above criteria are for identifying substance use patterns that may put a person at risk of developing a substance use problem or addiction in the future?**

**3. How would you describe problematic substance use?**

**4. How would you recognise problematic substance use?** (Please note that this is the final question. Clicking 'continue' will submit your response and you will not be able to go back to amend your answers.)

**Appendix M: Second Round Delphi Survey Instrument (Q2)**

(delivered on survey platform Qualtrics)

## Instructions for Panellists

The data collected in focus groups and the first Delphi survey were analysed to explore how participants defined problematic substance use. Through the analytic process, we developed a provisional model to describe the *process* of *how* participants thought about and defined problematic substance use. Please see below a diagrammatic representation of our findings.

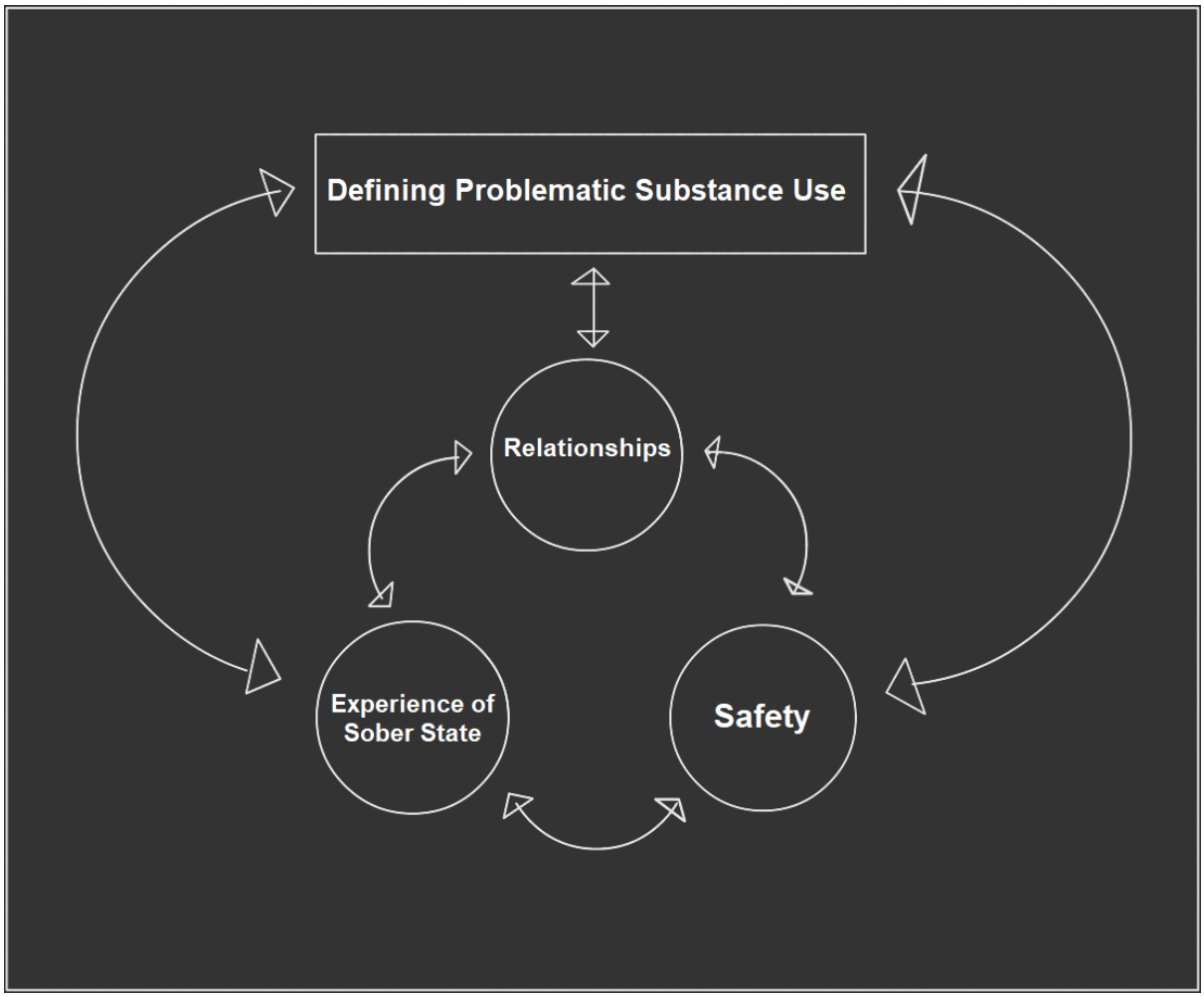


Figure 1: Working Diagram of the Process of Defining Problematic Substance Use

The following will describe in turn the four components of the model and ask you to rate the level of importance of each concept on a 9-point Likert scale.

Based on this model, we propose our definition of problematic substance use and ask you to rate your level of agreement. Please use the textboxes to elaborate on your answers or add any other comments.

**1. Please enter your participant identification number (you can find this in the email containing this link):**

**2.1. Defining Problematic Substance Use:**

*A subjective process of evaluating a single instance or pattern of substance use by reflecting on the present context and changes experienced over time in the way a person feels and behaves and defining personal boundaries as to what is acceptable. This reflective process draws on the areas of 1) the quality of relationships a person finds themselves engaged in, 2) the extent to which they feel safe, and 3) how they experience being sober (further described below).*

**2.1.1. How important do you think the above concept is for identifying substance use that may put a person at risk of developing a substance use problem or addiction?**

- 9-point Likert scale (not at all – critically important)

**2.1.2. Please elaborate on your response:**

- Text box

**2.2. Quality of Relating:**

*How a person experiences and feels about their relationships with themselves, others, their own lives, and the substance they are using.*

**2.2.1 How important do you think the above concept is for identifying substance use that may put a person at risk of developing a substance use problem or addiction?**

- 9-point Likert scale (not at all – critically important)

**2.2.2. Please elaborate on your response:**

- Text box

**2.3. Level of Safety:**

*The extent to which a person experiences a sense of choice and control over their substance use and is able to manage associated risks and consequences and keep to their personal boundaries.*

**2.3.1. How important do you think the above concept is for identifying substance use that may put a person at risk of developing a substance use problem or addiction?**

- 9-point Likert scale (not at all – critically important)

**2.3.2. Please elaborate on your response:**

- Text box

**2.4. Experience of Sober State:**

*How a person feels when not using the substance, how they value a sober state and the extent to which they feel able to engage with their experience.*

**2.4.1. How important do you think the above concept is for identifying substance use that may put a person at risk of developing a substance use problem or addiction?**

- 9-point Likert scale (not at all – critically important)

**2.4.2. Please elaborate on your response:**

- Text box

**3. Provisional Definition of 'Problematic Substance Use':**

*'Problematic substance use' may be defined as an instance or pattern of substance use that occurs in the context of or contributes to:*

*1) negative feelings or thoughts about oneself, difficulties in relationships with other people, a diminishing interest in other areas of life and a growing prioritisation of the substance use*

*2) a sense of loss of control over the substance use, difficulty around keeping oneself safe from harm or other negative consequences of substance use and escalating use (e.g., using more of the substance, using more often, or using in different situations than before)*

*3) negative emotions and/or psychological problems when not using the substance and difficulties around coping and engaging with this experience*

NB: The proposed construct views problematic substance use as existing on a spectrum rather than a 'problematic – unproblematic' dichotomy. It does not rely on all the above criteria being met. It is intended as a tool for subjective reflection to increase a person's self-awareness and help them make reflexive choices about their substance use, which may pose a protective factor against escalating use.

**3.1. Please rate your agreement with this definition of problematic substance use:**

- 9-point Likert scale (completely disagree – completely agree)

**3.2. Please elaborate on your response:**

- Text box

**4. Are there any defining features or anything else that you find important missing?** (Please note: this is the final question. Clicking 'continue' will submit your response and you will not be able to go back to amend your answers.)

- Text box

**Appendix N: Third Round Delphi Survey Instrument (Q3) Sample**

(delivered on survey platform Qualtrics)

## Instructions for Panellists

The aim of the present study is to define *problematic substance use* from a psychological perspective. The data collected in focus groups and the first Delphi survey were analysed to explore how participants defined problematic substance use. Our findings were further refined through analysing the data collected in the second Delphi survey.

The objective of this third and final round of the Delphi survey is to present the findings of the second stage of the research process for the panel's evaluation. Please refer to the supplementary material attached to your invitation email for a summary of the results of the previous questionnaire and the panel's valuable feedback.

Please take a moment to review and digest the material, as it may influence your answers in the final round. The following questionnaire will present you with the previous definitions, the changes made based on the findings of the second round, and the ratings given in the previous round. Like last time, you will be asked to evaluate the concepts developed through the analytic process and our provisional definition for 'problematic substance use'.

Please note: The feedback given within the questionnaire and the supplementary material is designed to provide you with information that may bring together a common understanding of problematic substance use. However, reaching consensus, while welcomed, is not a requirement of the study, so please do not feel pressured to give the items a higher rating than you feel is right.

Through the analytic process, we developed a provisional model to describe the <u>thought process</u> of <u>how</u> participants thought about and defined problematic substance use. A diagrammatic representation of this model is presented below.

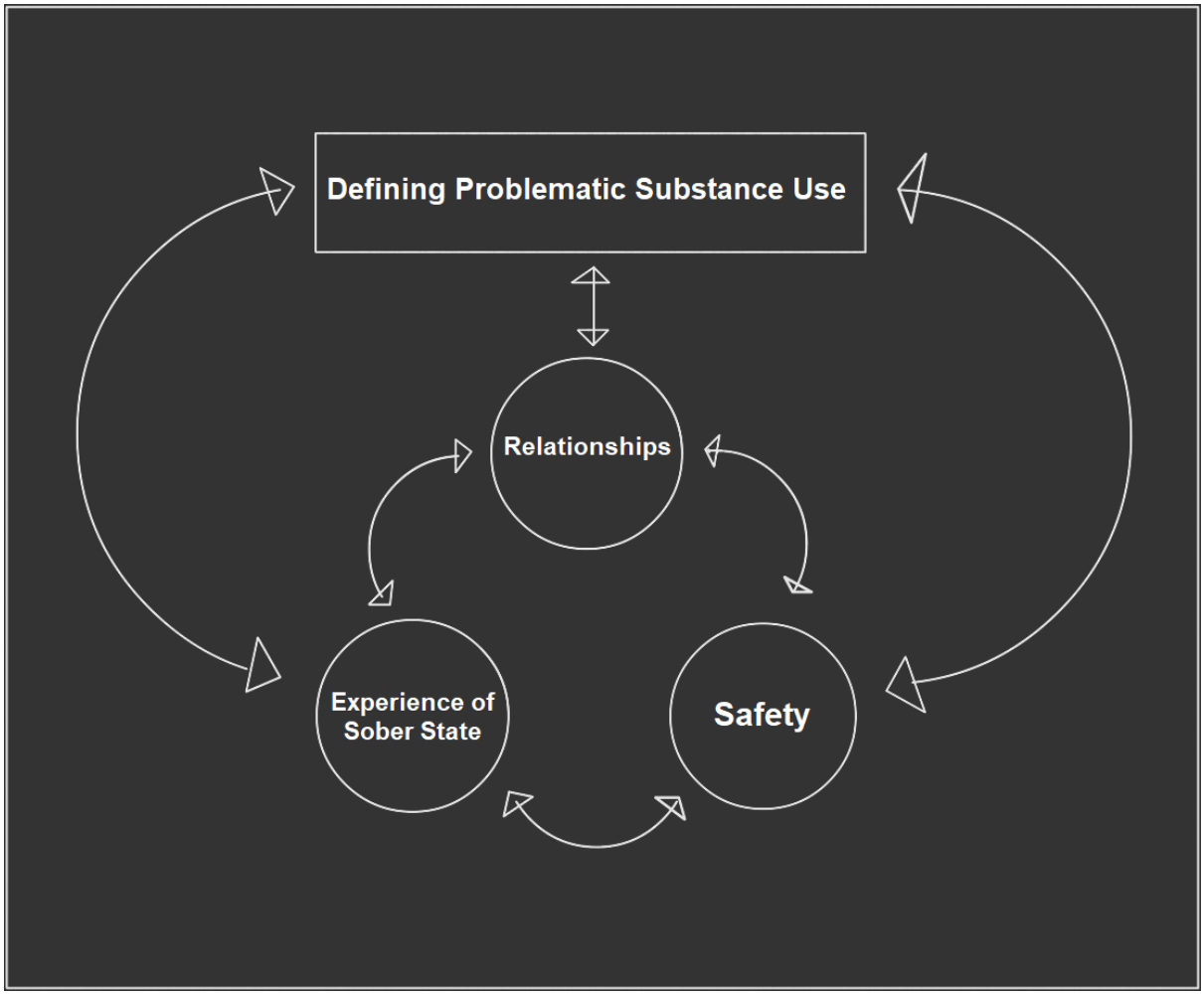


Figure 1: Working Diagram of the Process of Defining Problematic Substance Use

Our analysis yielded a model with four components. It showed that defining problematic substance use was an active process of thinking and reflecting and that study participants would draw on information from three distinct areas of their life to evaluate whether substance use is problematic. Whilst we propose that this model can apply to the process of reflecting on one's substance use in general, in accordance with the aim of the present study, we ask you to think about how it may apply to a person using in a way that may put them at risk of developing a substance use problem or addiction in the future, even if they may not meet diagnostic criteria for a Substance Use Disorder yet.

The following will describe in turn each of the four components of the model and ask you to rate the level of importance of each concept on a 9-point Likert scale.

Based on this model, we finally propose our draft definition of problematic substance use and ask you to rate your level of agreement. Please use the textboxes to elaborate on your answers or add any other comments.

**1.1. Defining Problematic Substance Use:**

Previous description:

*A subjective process of evaluating a single instance or pattern of substance use by reflecting on the present context and changes experienced over time in the way a person feels and behaves and defining personal boundaries as to what is acceptable. This reflective process draws on the areas of 1) the quality of relationships a person finds themselves engaged in, 2) the extent to which they feel safe, and 3) how they experience being sober (further described below).*

New description:

*A process of evaluating a pattern or particular instance of substance use by reflecting on the context within which the substance use takes place and its potential consequences. This reflective process draws on the areas of 1) a person's relationships to themselves, others, and the world around them, 2) their physical and emotional safety, and 3) their experience when not using or not having access to the substance (further described in turn below). It is an active, subjective process that involves thinking about how a person feels and behaves, reflecting on whether any problems are experienced in one or more of these areas, and defining personal boundaries as to what is acceptable. It can involve reflecting on both the present circumstances of a particular instance of substance use and/or changes experienced over time.*

**1.1.1. How important do you think the above concept is for identifying substance use that may put a person at risk of developing a substance use problem or addiction?**

Feedback from the previous questionnaire:

| | Not at all important 1 | 2 | 3 | 4 | Neither important nor | 6 | 7 | 8 | Critically important 9 | Total | Your choice was |
|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | unimportant 5 | | | | | | |
| % | 0 | 16.67 | 16.67 | 0 | 16.67 | 16.67 | 16.67 | 0 | 16.67 | 100% N=6 | X |

Please re-rate the level of importance under consideration of the feedback and changes made.

- 9-point Likert scale (1 = not at all – 9 = critically important)

**1.1.2. Please elaborate on your response:**

- Text box

**1.2. Quality of Relating:**

Previous description:

*How a person experiences and feels about their relationships with themselves, others, their own lives, and the substance they are using.*

New description:

*This refers to how a person experiences the different ways they are in relationship. It involves how a person feels about themselves, their relationships with others, how engaged they feel in their own lives and the world around them, and how they view and relate to the substance they are using.*

**1.2.1 How important do you think the above concept is for identifying substance use that may put a person at risk of developing a substance use problem or addiction?**

Feedback from the previous questionnaire:

| | Not at all important 1 | 2 | 3 | 4 | Neither important nor unimportant 5 | 6 | 7 | 8 | Critically important 9 | Total | Your choice was |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % | 0 | 0 | 16.67 | 0 | 0 | 33.34 | 0 | 33.34 | 16.67 | 100% N=6 | X |

Please re-rate the level of importance under consideration of the feedback and changes made.

- 9-point Likert scale (1= not at all – 9 = critically important)

**1.2.2. Please elaborate on your response:**

- Text box

**1.3. Level of Safety:**

Previous description:

*The extent to which a person experiences a sense of choice and control over their substance use and is able to manage associated risks and consequences and keep to their personal boundaries.*

New description:

*The extent to which a person experiences a sense of safety and is able to keep themselves safe from harm. This involves the extent to which they are able to keep to their personal boundaries, think about and manage risks and consequences associated with their substance use, and the extent to which they generally experience a sense of choice and control over their use.*

**1.3.1. How important do you think the above concept is for identifying substance use that may put a person at risk of developing a substance use problem or addiction?**

Feedback from the previous questionnaire:

| | Not at all important 1 | 2 | 3 | 4 | Neither important nor unimportant 5 | 6 | 7 | 8 | Critically important 9 | Total | Your choice was |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % | 0 | 0 | 0 | 0 | 0 | 16.67 | 16.67 | 16.67 | 50.01 | 100% N=6 | X |

Please re-rate the level of importance under consideration of the feedback and changes made.

- 9-point Likert scale (1 = not at all – 9 = critically important)

**1.3.2. Please elaborate on your response:**

- Text box

**1.4. Experience of Sober State:**

Previous description:

*How a person feels when not using the substance, how they value a sober state and the extent to which they feel able to engage with their experience.*

New description:

*How a person feels without the substance, the extent to which they feel able to tolerate and engage with this experience, and how they value being in a state of not being under the influence.*

**1.4.1. How important do you think the above concept is for identifying substance use that may put a person at risk of developing a substance use problem or addiction?**

Feedback from the previous questionnaire:

| | Not at all important 1 | 2 | 3 | 4 | Neither important nor unimportant 5 | 6 | 7 | 8 | Critically important 9 | Total | Your choice was |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % | 0 | 0 | 0 | 16.67 | 0 | 16.67 | 16.67 | 50.01 | 0 | 100% N=6 | X |

Please re-rate the level of importance under consideration of the feedback and changes made.

- 9-point Likert scale (1 = not at all – 9 = critically important)

**1.4.2. Please elaborate on your response:**

- Text box

**2. Provisional Definition of 'Problematic Substance Use':**

Previous definition:

*'Problematic substance use' may be defined as an instance or pattern of substance use that occurs in the context of or contributes to:*

*1) negative feelings or thoughts about oneself, difficulties in relationships with other people, a diminishing interest in other areas of life and a growing prioritisation of the substance use*

*2) a sense of loss of control over the substance use, difficulty around keeping oneself safe from harm or other negative consequences of substance use and escalating use (e.g., using more of the substance, using more often, or using in different situations than before)*

*3) negative emotions and/or psychological problems when not using the substance and difficulties around coping and engaging with this experience*

*NB: The proposed construct views problematic substance use as existing on a spectrum rather than a 'problematic – unproblematic' dichotomy. It does not rely on all the above criteria being met. It is intended as a tool for subjective reflection to increase a person's self-awareness and help them make reflexive choices about their substance use, which may pose a protective factor against escalating use.*

New definition:

*'Problematic substance use' can be thought of as existing on a spectrum and may be defined as an instance or pattern of substance use that contributes to one or more of the following:*

*1) Relational difficulties, such as a) negative feelings or thoughts about oneself, b) difficulties in relationships with other people, c) a lack of interest in other areas of life or d) emotional attachment to the substance*

*2) Issues around a person's safety, such as a) a sense of loss of control over the substance use, b) difficulty around keeping oneself safe from harm or other negative consequences of substance use or c) escalating use over time (e.g., using more of the substance, using more often, or using in different situations than before)*

*3) Negative experiences when not using or not having access to the substance, such as a) negative emotions and/or psychological problems without the substance, b) difficulties coping without the substance or c) struggling to find value in being in a state of not being under the influence*

**2.1. Please rate your agreement with this definition of problematic substance use:**

Feedback from the previous questionnaire:

| | Completely Disagree 1 | 2 | 3 | 4 | Neither agree nor disagree 5 | 6 | 7 | 8 | Completely agree 9 | Total | Your choice was |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % | 0 | 0 | 0 | 0 | 0 | 33.34 | 16.67 | 16.67 | 33.34 | 100% N=6 | X |

Please re-rate your level of agreement under consideration of the feedback and changes made.

- 9-point Likert scale (1 = completely disagree – 9 = completely agree)

**2.2. Please elaborate on your response:**

- Text box

**3. Are there any defining features or anything else that you find important missing?** (Please note: This is the final question. Clicking 'continue' will submit your response and you will not be able to go back to amend your answers.)

- Text box

**Appendix O: Summary of Round Two Results**

(presented on headed paper)

# Delphi Survey Supplementary Material:

# Summary of Round 2 Results

The panel's responses to the second Delphi questionnaire were analysed in two different ways. The written content of the panellists' thoughtful responses and comments was analysed using a grounded theory approach (Charmaz, 2014a). The ratings panellists assigned to the individual questionnaire items underwent statistical analysis.

Following analysis, we made changes to the concepts, descriptions and definitions presented in the questionnaire. In line with similar research, we made changes where:

**a)** the analysis of the content of the panel's responses indicated that the concepts themselves were incomplete or did not fit with the phenomenon under investigation (i.e., problematic substance use)

or **b)** where the panel gave a poor rating and/or their response indicated that there was a need to describe the concept in question more clearly or makes specific changes to the proposed wording. We defined the threshold for consensus, i.e., no need to make any changes, at 80% of panellists rating the importance of questionnaire items or their agreement with the definition at 8 or above.

## a) Conceptual changes based on the qualitative analysis of the panel's responses:

The analysis of the content of the panel's responses indicated that they fit with the tentative categories constructed during the grounded theory analytic process. Therefore, no conceptual changes to the model or tentative categories were deemed necessary.

## b) Semantic changes based on the panel's rating of importance/agreement and associated comments

No questionnaire item reached the panel's consensus and changes were made to the wording of descriptions and definitions under consideration of the panel's comments. Below is a summary of the level of consensus (the percentage of panellists who rated the importance of or their agreement with the item at 8 or above), the mean rating for each item, and an anonymised summary of relevant comments.

Please find below an anonymised summary of the panel's responses.

**1.1. Defining Problematic Substance Use:**

Consensus level (percentage of panel rating item at 8 or above): 16.67%

Mean rating: 5.33

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

**1.2. Quality of Relating:**

Consensus level (percentage of panel rating item at 8 or above): 50%

Mean rating: 6.67

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

**1.3. Level of Safety:**

Consensus level (percentage of panel rating item at 8 or above): 66.68%

Mean rating: 8

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

**1.4. Experience of Sober State:**

Consensus level (percentage of panel rating item at 8 or above): 50%

Mean rating: 6.83

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

**2. Provisional Definition of 'Problematic Substance Use':**

Consensus level (percentage of panel rating item at 8 or above): 50%

Mean rating: 7.5

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

**3. Are there any defining features or anything else that you find important missing?**

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

Reference

Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). London: Sage.

**Appendix P: Summary of Round Three Results**

(presented on headed paper)

# Delphi Survey Summary of Round 3 Results

Similar to the last round, the panel's responses to the third and final Delphi questionnaire were analysed in two different ways. The written content of the panellists' thoughtful responses and comments was analysed using a grounded theory approach (Charmaz, 2014a). The ratings panellists assigned to the individual questionnaire items underwent statistical analysis.

Following analysis, we made changes to the concepts, descriptions and definitions presented in the questionnaire. In line with similar research, we made changes where:

**a)** the analysis of the content of the panel's responses indicated that the concepts themselves were incomplete or did not fit with the phenomenon under investigation (i.e., problematic substance use)

or **b)** where the panel gave a poor rating and/or their response indicated that there was a need to describe the concept in question more clearly or make specific changes to the proposed wording. We defined the threshold for consensus, i.e., no need to make any changes, at 80% of panellists rating the importance of questionnaire items or their agreement with the definition at 8/9 or above.

## a) Conceptual changes based on the qualitative analysis of the panel's responses:

The analysis of the content of the panel's responses indicated that they fit with the tentative categories constructed during the grounded theory analytic process. Therefore, no conceptual changes to the model or tentative categories were deemed necessary.

## b) Semantic changes based on the panel's rating of importance/agreement and associated comments

No questionnaire item reached the panel's consensus and changes were made to the wording of descriptions and definitions under consideration of the panel's comments. Please find below an anonymised summary of the panel's responses, including the level of consensus and the mean rating for each item (with comparisons to the last survey indicated in brackets), as well as a summary of relevant comments. The finalised definitions and descriptions are presented at the end of each section.

**1.1. Defining Problematic Substance Use / Evaluating Substance Use:**

Consensus level (percentage of panel rating item at 8/9 or above): 50% (+33.33%)

Mean rating: 7.17 (+1.84)

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

Finalised description:

The title of the category was changed to ‘Evaluating Substance Use’.

A process of evaluating a pattern or particular instance of substance use by reflecting on the context within which the substance use takes place and its potential consequences. This reflective process draws on the areas of 1) a person’s relationships to themselves, others, and the world around them, 2) their physical and emotional safety, and 3) their experience when not using or not having access to the substance (further described in turn below). It is an active, subjective process that involves thinking about how a person feels and behaves, reflecting on whether any problems are experienced in one or more of these areas, and defining personal boundaries as to what is acceptable. It can involve reflecting on both the present circumstances of a particular instance of substance use and/or changes experienced over time.

**1.2. Quality of Relating:**

Consensus level (percentage of panel rating item at 8/9 or above): 50% (no change)

Mean rating: 7 (+0.33)

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

<u>Finalised description:</u>

This refers to how a person experiences the different ways they are in relationships. It involves how a person feels about themselves, their relationships with others, how engaged they feel

in their own lives and the world around them, and how they view and relate to the substance they are using.

**1.3. Level of Safety:**

Consensus level (percentage of panel rating item at 8/9 or above): 66.67% (no change)

Mean rating: 7.83 (-0.17)

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

Finalised description:

The extent to which a person experiences a sense of physical and emotional safety and is able to keep themselves safe from harm. This involves the extent to which they are able to keep to their personal boundaries, think about and manage risks and consequences associated with their substance use, and the extent to which they generally experience a sense of choice and control over their use.

**1.4. Experience of Sober State:**

Consensus level (percentage of panel rating item at 8/9 or above): 66.67% (+16.67)

Mean rating: 7.17 (+0.34)

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

Finalised description:

How a person feels without the substance, how they value a state of not being under the influence, and the extent to which they feel able to tolerate and engage with this experience.

**2. Provisional Definition of 'Problematic Substance Use':**

Consensus level (percentage of panel rating item at 8/9 or above): 66.67% (+16.67)

Mean rating: 7.67 (+0.17)

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

**3. Are there any defining features or anything else that you find important missing?**

Comments:

[redacted]

[redacted]

[redacted]

[redacted]

*Shortened for brevity

Finalised definition of 'Problematic Substance Use':

'Problematic substance use' can be thought of as existing on a spectrum and may be defined as an instance or pattern of substance use that contributes to one or more of the following:

1) Relational difficulties, such as a) difficulties in relationships with other people, b) negative feelings or thoughts about oneself, c) a lack of interest in other areas of life or d) emotional attachment to the substance

2) Issues around a person's safety, such as a) a sense of loss of control over the substance use, b) difficulty around keeping oneself safe from harm or other negative consequences of substance use or c) escalating use over time (e.g., using more of the substance, using more often, or using in different situations than before)

3) Negative experiences when not using or not having access to the substance, such as a) negative emotions and/or psychological problems without the substance, b) difficulties coping without the substance or c) struggling to find value in being in a state of not being under the influence

Reference

Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). London: Sage

## Appendix Q: Changes Made to Tentative Categories Between Delphi Survey Rounds

| Stage: Q1 -> Q2 | Q2 -> Q3 |
|---|---|
| **(TC) Defining Problematic Substance Use**<br>A subjective process of evaluating a single instance or pattern of substance use by reflecting on the present context and changes experienced over time in the way a person feels and behaves and defining personal boundaries as to what is acceptable. This reflective process draws on the areas of 1) the quality of relationships a person finds themselves engaged in, 2) the extent to which they feel safe, and 3) how they experience being sober (further described below). | **(TC) Defining Problematic Substance Use**<br>A process of evaluating a pattern or particular instance of substance use by reflecting on the context within which the substance use takes place and its potential consequences. This reflective process draws on the areas of 1) a person's relationships to themselves, others, and the world around them, 2) their physical and emotional safety, and 3) their experience when not using or not having access to the substance (further described in turn below). It is an active, subjective process that involves thinking about how a person feels and behaves, reflecting on whether any problems are experienced in one or more of these areas, and defining personal boundaries as to what is acceptable. It can involve reflecting on both the present circumstances of a particular instance of substance use and/or changes experienced over time. |
| **(TC) Quality of Relating**<br>**(FC) Connectedness to others**<br>**(FC) Relating to Self**<br>**(FC) Feeling Engaged in Life**<br>**(FC) Being in Relationship with Substance**<br>How a person experiences and feels about their relationships with themselves, others, their own lives, and the substance they are using. | **(TC) Quality of Relating**<br>**(FC) Connectedness to others**<br>**(FC) Relating to Self**<br>**(FC) Feeling Engaged in Life**<br>**(FC) Being in Relationship with Substance**<br>This refers to how a person experiences the different ways they are in relationship. It involves how a person feels about themselves, their relationships with others, how engaged they feel in their own lives and the world around them, and how they view and relate to the substance they are using. |
| **(TC) Level of Safety**<br>**(FC) Risks and Consequences**<br>**(FC) Control and Choice**<br>**(FC) Boundaries** | **(TC) Level of Safety**<br>**(FC) Risks and Consequences**<br>**(FC) Control and Choice**<br>**(FC) Boundaries** |

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| The extent to which a person experiences a sense of choice and control over their substance use and is able to manage associated risks and consequences and keep to their personal boundaries. | The extent to which a person experiences a sense of safety and is able to keep themselves safe from harm. This involves the extent to which they are able to keep to their personal boundaries, think about and manage risks and consequences associated with their substance use, and the extent to which they generally experience a sense of choice and control over their use. |
| **(TC) Experience of Sobriety**<br>**(FC) Emotional Experience**<br>**(FC) Value of Sober State**<br>**(FC) Engagement with 'Reality'**<br>How a person feels when not using the substance, how they value a sober state and the extent to which they feel able to engage with their experience. | **(TC) Experience of Sobriety**<br>**(FC) Emotional Experience**<br>**(FC) Value of Sober State**<br>**(FC) Engagement with 'Reality'**<br>How a person feels without the substance, the extent to which they feel able to tolerate and engage with this experience, and how they value a state of not being under the influence. |

## Appendix R: Changes Made to the Provisional Definition for PSU Construct Between Delphi Survey Rounds

| Stage: Q1 -> Q2 | Q2 -> Q3 |
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| Problematic substance use' may be defined as an instance or pattern of substance use that occurs in the context of or contributes to:<br><br>1) negative feelings or thoughts about oneself, difficulties in relationships with other people, a diminishing interest in other areas of life and a growing prioritisation of the substance use<br><br>2) a sense of loss of control over the substance use, difficulty around keeping oneself safe from harm or other negative consequences of substance use and escalating use (e.g., using more of the substance, using more often, or using in different situations than before)<br><br>3) negative emotions and/or psychological problems when not using the substance and difficulties around coping and engaging with this experience<br><br>NB: The proposed construct views problematic substance use as existing on a spectrum rather than a 'problematic – unproblematic' dichotomy. It does not rely on all the above criteria being met. It is intended as a tool for subjective reflection to increase a person's self-awareness and help them make reflexive choices about their substance use, which may pose a protective factor against escalating use. | 'Problematic substance use' can be thought of as existing on a spectrum and may be defined as an instance or pattern of substance use that contributes to one or more of the following:<br><br>1) Relational difficulties, such as a) negative feelings or thoughts about oneself, b) difficulties in relationships with other people, c) a lack of interest in other areas of life or d) emotional attachment to the substance<br><br>2) Issues around a person's safety, such as a) a sense of loss of control over the substance use, b) difficulty around keeping oneself safe from harm or other negative consequences of substance use or c) escalating use over time (e.g., using more of the substance, using more often, or using in different situations than before)<br><br>3) Negative experiences when not using or not having access to the substance, such as a) negative emotions and/or psychological problems without the substance, b) difficulties coping without the substance or c) struggling to find value in being in a state of not being under the influence |

## Appendix S: Proof of Ethical Approval

City, University of London

Dear Marie

**Reference: ETH2021-0978**

**Project title: A Grounded Theory Study Aiming to Define and Identify Pre-symptomatic Problematic Substance Use**

**Start date: 8 Feb 2021**

**End date: 30 Sep 2022**

I am writing to you to confirm that the research proposal detailed above has been granted formal approval from the Psychology committee: medium risk. The Committee's response is based on the protocol described in the application form and supporting documentation. Approval has been given for the submitted application only and the research must be conducted accordingly. You are now free to start recruitment.

**The approval was given with the following conditions:**

- The references to 'the interview' on the participant information sheets and consent forms could be confusing and could be replace with 'the focus group discussion'.
- Please add an explicit statement about the duration of the focus group on the consent forms (e.g. 'I agree to participate in a 90-120 minute focus group')

Please ensure that you are familiar with City's Framework for Good Practice in Research and any appropriate Departmental/School guidelines, as well as applicable external relevant policies.

Please note the following:

**Project amendments/extension**

You will need to submit an amendment or request an extension if you wish to make any of the following changes to your research project:

- Change or add a new category of participants;
- Change or add researchers involved in the project, including PI and supervisor;
- Change to the sponsorship/collaboration;
- Add a new or change a territory for international projects;
- Change the procedures undertaken by participants, including any change relating to the safety or physical or mental integrity of research participants, or to the risk/benefit assessment for the project or collecting additional types of data from research participants;
- Change the design and/or methodology of the study, including changing or adding a new research method and/or research instrument;
- Change project documentation such as protocol, participant information sheets, consent forms, questionnaires, letters of invitation, information sheets for relatives or carers;
- Change to the insurance or indemnity arrangements for the project;
- Change the end date of the project.

**Adverse events or untoward incidents**

You will need to submit an Adverse Events or Untoward Incidents report in the event of any of the following:

a) Adverse events

b) Breaches of confidentiality

c) Safeguarding issues relating to children or vulnerable adults

d) Incidents that affect the personal safety of a participant or researcher

Issues a) and b) should be reported as soon as possible and no later than five days after the event. Issues c) and d) should be reported immediately. Where appropriate, the researcher should also report adverse events to other relevant institutions, such as the police or social services.

Should you have any further queries relating to this matter, please do not hesitate to contact me. On behalf of the Psychology committee: medium risk, I do hope that the project meets with success.

Kind regards

[redacted]

Psychology committee: medium risk

City, University of London

**Ethics ETH2021-0978: Miss Marie Bech (Medium risk)**

# Part B: Combined Client Study and Process Report: [redacted]

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