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Exploring Attentional Bias and the Overall Recovery Experience of Individuals with a Drug or Alcohol Dependency

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Exploring Attentional Bias and the Overall Recovery Experience of Individuals with a Drug or Alcohol Dependency

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List of Contents

List of Figures

List of Tables

List of Appendices

Thesis Summary

Formal treatment (such as inpatient detoxification) often plays an important role in an individual's addiction journey, but it is important to recognise that recovery from substance use disorder does not stop with formal treatment (Drug Strategy, 2017). This thesis investigated the attentional bias processes that can be used to predict treatment outcome after detoxification, and the experiences of individuals recovering from substance use disorders who were involved in a wide range of mutual aid groups. Previous research suggests that individuals with a substance dependency transition from identifying as an 'addict' to a 'recovered' individual, and that mutual aid groups play a significant role in this identity shift (Frings & Albery, 2015). The research in this thesis explored whether this identity shift could be detected through measuring individuals' attentional bias processes towards identity-related words, and explored the beneficial nature of mutual aid groups and their role in maintaining recovery.

Using the Stroop task, Study One assessed the relationships between clients' attentional bias for alcohol and recovery-related stimuli, and their treatment outcomes. The results showed that an attentional bias for positive recovery-related words was the best predictor of treatment outcome after detoxification, with successful individuals having less attentional bias for these words than for the other word categories.

Study Two aimed to qualitatively depict individuals' experiences within social-based recovery groups. Four themes emerged from the semi-structured interviews with 10 group members: (a) the group's role in their recovery, (b) personal choices and flexibility in the recovery experience, (c) group as an inclusive family unit, and (d) active involvement in the group. These themes provided an in-depth insight and highlighted the importance of social-based groups for some individuals in recovery.

The objective of Study Three (Part A) was to validate the Recovery Strengths Questionnaire (RSQ) as a new measure of recovery capital. The questionnaire was found to be psychometrically sound, with high internal consistency and concurrent validity with similar measures. RSQ scores were positively correlated with length of time both in recovery and in recovery groups. Factor analysis of the RSQ revealed a two-factor structure of recovery capital ('internally generated recovery strengths' and 'externally generated recovery strengths'). Only internal strengths developed within recovery groups could predict length of time in recovery, and this finding emphasises the important role groups can play in developing recovery capital and helping sustain recovery.

Study Three (Part B) used a survey to gain a first-hand perspective of the components that are offered and are considered important in recovery groups. Triangulation of the qualitative and quantitative data collected supported the presence and importance of the group components that have been suggested in previous literature (Moos, 2008). The qualitative results highlighted other important components of groups that were not identified in the previous literature, such as the presence of like-minded individuals, and an updated list of recovery group components was created. This updated list could be used to help develop new mutual aid groups, and evaluate the groups that are already established.

Collectively, the findings from this thesis provide insight into the processes and experiences associated with the recovery pathway, and the identity transition from 'addict' to 'recovering' individual. The findings theoretically contribute towards the addiction literature, and have important clinical implications that can be used to help improve both substance misuse services and mutual aid groups.

CHAPTER ONE

An Introduction to Substance Use Disorders

What is Addiction?

Addiction can be defined as a behaviour that an individual continuously repeats, that provides pleasure and/or an escape from difficult internal sensations such as thoughts. There are often negative consequences to continuing the behaviour, yet the individual feels that they are unable to control or manage it (Goodman, 1990). Addiction is a diverse, multi-faceted concept, as people can be addicted to many different things for a multitude of reasons (Sinnott-Armstrong & Pickard, 2013). This includes pathological gambling, over-eating, Internet gaming and sex addiction; however, the focus of this thesis is on addiction to psychoactive substances. Individuals can be addicted to a wide range of substances, including legal substances such as alcohol, illegal drugs such as heroin, cocaine and amphetamines, and prescription medications such as benzodiazepines (Welsh Assembly Government, 2008).

There has been significant debate surrounding the definition of addiction (Griffiths, 2005). A study that asked both clients and professionals to define addiction found that there was little consensus between the definitions provided by the two groups (Walters & Gilbert, 2000). Clients' definitions more often focused on concepts such as urges and loss of control, whereas professionals' definitions focused primarily on the physical dependency. There was also little consensus *within* the two groups, and this lack of agreement on a definition could explain why there is no unifying model of addiction used in research (Griffiths, 2005).

One model of addiction is the disease model, which holds that addiction is a chronic brain disease (Smith, 2012). Neuroscientific research used as evidence to support this model has investigated how reward circuits in the brain are desensitized through the use of these substances, and how brain regions that are associated with executive functions are weakened (Volkow, Koob, & McLellan, 2016). However, it is important to note that implementing the

disease model in clinical practice and research has certain implications for policies, practitioners, and individuals with the disorder. It has been suggested that the disease model reduces stigma towards individuals with a substance use disorder as it enables the disorder to have a similar status as a physical health illness (Dackis & O'Brien, 2005); conversely, arguments against this model suggest that it removes an individual's personal responsibility to reduce their substance use (Bell et al., 2014). In addition, it is clear that environmental and psychological factors (such as personality, attitudes and beliefs, and an individual's social environment) also play a part in addiction (Griffiths, 2005). In light of these limitations, the brain disease model is not universally accepted within the addiction field (Bell et al., 2014; Cunningham & McCambridge, 2012).

The biopsychosocial framework acknowledges the role that biological, psychological and social factors all play, and that it is the interaction of these elements that contribute to the development of an addiction. Cox and Klinger's (2011) motivational model of alcohol use is a widely cited model centred on this framework. The model proposes that biological, psychological, environmental and sociocultural factors can increase or decrease the value an individual associates with drinking alcohol, and this has an impact on an individual's motivation to drink (or to become abstinent).

The advantages of the biopsychosocial approach are that it addresses the complex, multi-faceted nature of addiction (Buchman, Skinner, & Illes, 2010), and it incorporates both substance-related and behavioural addictions. Individuals with a behavioural addiction (such as gambling) do not physically ingest a drug, and therefore do not experience physical dependence (as the disease model would suggest). Griffiths' (2005) model for the biopsychosocial approach identifies the common components of all types of addictions. These are mood modification (which can involve self-medicating), salience (where the addiction becomes extremely important in the individual's life), conflict (including external

conflicts with others and internal conflicts within themselves), relapse (re-starting the behaviour after a period of abstinence), tolerance (needing increased amounts of something to get the same effects), and withdrawal (when the addictive behaviour is reduced or stopped and negative effects occur). These components help distinguish between somebody who has an addiction, and somebody who is engaging in the same behaviour (e.g., drinking) but in a non-harmful way.

Prevalence of Alcohol and Drug Use in the General Population

Despite alcohol consumption being widespread, only a small proportion of people use it problematically. According to the World Health Organisation (WHO, 2014), 66.4% of the population in Europe above the age of 15 drinks alcohol. Drinking alcohol is widely accepted in Western culture, with 75% of individuals in England and Wales stating that they think it is acceptable to occasionally get drunk (Lader, 2016). Whereas the majority of individuals drink moderately, 22.9% of drinkers in Europe engage in heavy episodic drinking (i.e., binge drinking). Binge drinking is defined as consuming more than 60 grams (7.5 units) of pure alcohol at least once a month (WHO, 2014). In Wales, 20% of adults disclosed that they binge drink, and 40% admitted to drinking above the recommended limits (Welsh Assembly Government, 2008). The current drinking guidelines suggest that both men and women should not regularly drink more than 14 units per week (Department of Health, 2016). These guidelines are regularly reviewed and updated, and in order to ensure the current guidelines were simple, suggested daily drinking limits were no longer provided alongside the weekly ones.

Research has suggested that there are minimal risks associated with low to moderate levels of drinking, and some health benefits have been identified, such as a reduced risk of cardiovascular disease (De Gaetano et al., 2016). However, when an individual binge drinks there are less health benefits and more associated risks. Adolescents who engaged in binge

drinking during college years were more likely than non-binge drinkers to experience alcohol-related problems and alcohol dependence at a 10-year follow-up (Jennison, 2004), and were more likely to have health problems (such as obesity and high blood pressure) in comparison to those who did not engage in binge drinking (Oesterle et al., 2004).

Many individuals have also tried illicit drugs. Although it is illegal to consume these drugs in the United Kingdom (U.K.), one in twelve adults aged 16 to 59 and one in five young adults aged 16 to 24 in England and Wales have taken an illicit drug over the past year (Lader, 2016). The report identified that the drugs most commonly used were cannabis, powder cocaine, and ecstasy, all of which can be used infrequently and non-problematically for many individuals. Frequent drug use was defined as individuals who, over the period of a year, used their drug on average monthly (or more), and it was found that 3.3% of individuals fit this description (Lader, 2016). Similar to alcohol, the risks associated with drug use are significantly heightened when the drug is used frequently (Hawkins, Catalano, & Miller, 1992).

Categorical Diagnoses for Substance Use Disorders

Addiction is often a gradual process (Sussman & Sussman, 2011), and diagnostic manuals can be used to identify whether an individual's substance use has become a significant problem. The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V; American Psychiatric Association, 2013) used the term 'substance use disorder' to encompass a wide range of substance-related problems. In the manual, different substances are referred to separately (e.g., opiate use disorder or alcohol use disorder), yet the same diagnosis criteria are used for most substance use disorders. There are 11 criteria included, and the individual identifies which of the criteria have occurred for him or her over the last 12 months. Examples of criteria for alcohol use disorder include statements relating to issues with family and friends as a result of drinking, increased tolerance to alcohol, and

presence of withdrawal symptoms. The severity of substance use disorder is then measured on a continuum from mild to severe. The disorder is considered mild if two to three symptoms are present, moderate if four to five symptoms are present, and severe if the individual identified that he or she has more than six of the symptoms (American Psychiatric Association, 2013). The term 'addiction' which is commonly used can be seen to be synonymous with the DSM-V's term 'severe substance use disorder' (Volkow et al., 2016).

In previous editions of the manual, such as the DSM-IV-TR (American Psychiatric Association, 2000), substance use disorder was divided into substance abuse (which was considered the earlier, milder stages of the disorder) and substance dependence (the more severe, later stages). These diagnoses did not overlap, with individuals being provided either an abuse diagnosis or a dependency diagnosis. These terms are still used in some policies and research (e.g., Department of Health, 2017; Hoggatt et al., 2015). However, these disorders were combined in the DSM-V (American Psychiatric Association, 2013) because there were reliability and validity issues with the abuse diagnosis, and item response theory established that the diagnostic criteria for both substance abuse and substance dependence were represented uni-dimensionally by a single factor (Hasin et al., 2013).

The 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10; World Health Organisation, 1992) provides an alternative diagnostic system to the DSM. The ICD-10 uses the diagnosis 'substance dependence' to describe an individual who has an 'internal driving force' to use substances, and individuals must meet at least three of the six outlined criteria to be diagnosed. The draft ICD-11 is also currently being reviewed, and in this updated edition the diagnosis criteria for substance dependency has been simplified to individuals having to meet at least two of the three central features of addiction (impaired control of substance use, substance use becoming a priority, and physiological features such as withdrawal; Saunders, 2017).

Research conducted by Hoffman and Kopak (2015) with 7,672 prisoners found that there was high convergent validity between DSM-V and ICD-10 diagnoses when the participant met the DSM-V criteria for a severe substance use disorder or had no diagnosis; however, if the participant was diagnosed with a mild or moderate substance use disorder (using the DSM-V), there was more variance in the ICD-10 diagnosis. Thus, the DSM-V's diagnostic criteria for substance use disorder are believed to be broader and more heterogeneous than the ICD-10 criteria for substance dependency (Saunders, 2017).

It is worth noting that neither the DSM nor the ICD criteria were used in the recruitment of participants in the studies outlined in this thesis. The assumption was made that those individuals who were engaging with services, whether this was in inpatient detoxification or substance-related recovery groups, would all be doing so because they had a problem with a given substance. Individuals in detoxification had met ICD-10 criteria for substance dependency prior to entering treatment, and those in recovery groups would more than likely no longer meet the criteria for the disorder.

Factors Associated with Substance Use Disorders

It was estimated in 2014 that 595,131 individuals in England had an alcohol use disorder (Pryce et al., 2017), and 300,783 individuals were opiate and/or crack cocaine users (Hay, Rael dos Santos, & Swithenbank, 2017).

Who are all these individuals with substance use disorder, and are certain groups of individuals more at risk than others? Research has found that addiction is more prevalent in socially deprived areas, and in individuals who have low IQ, another psychiatric disorder, and/or a childhood trauma (Department of Health, 2007; Sinnott-Armstrong & Pickard, 2013).

Military veterans are another group with an increased risk of developing a substance use disorder. Many veterans use substances as a way to cope with the psychological and

physical impact of having been in the military (Drug Strategy, 2017), and the prevalence of prescribed opioid and alcohol use disorders is believed to be higher among veterans than in the general population. This increased prevalence is found to be particularly prominent for male veterans aged 18-25 (Teeters, Lancaster, Brown, & Back, 2017).

Domestic abuse is another significant risk factor for substance use disorder. A report found that women who had experienced severe sexual and physical violence were eight times more likely to have a drug dependence, and twice as likely to have an alcohol dependency in comparison to women who have not experienced this violence (Scott & McManus, 2016).

Research has suggested that children who have parents with a substance dependency could be at a higher risk of developing a substance use disorder themselves (Elliott, Carey, & Bonafide, 2012; Velleman & Templeton, 2007). It has been shown that both genetic and environmental factors have an influence (Barnow, Schuckit, Lucht, John, & Freyberger, 2002; Goldman, Oroszi, & Ducci, 2005). For example children often see their parent as a role model, which could increase the likelihood of mimicking drug-related behaviour (Drug Strategy, 2017). Other adverse childhood experiences (e.g., witnessing domestic violence and childhood abuse) also increase the risk that an individual will develop a substance use disorder when they reach adulthood (Anda et al., 2006).

Some lifestyle factors such as homelessness can be both a cause and a consequence of substance use disorders. A large-scale study conducted in Australia by Johnson and Chamberlain (2008) found that among 4,291 homeless individuals, 43% had issues with substances. It was uncovered that one-third of these individuals claimed to have substance-related problems prior to becoming homeless, and the other two-thirds claimed to have developed these issues after becoming homeless. Similar findings have been reported in the U.K. (Drug Strategy, 2017).

There is also a high co-occurrence between mental health conditions and substance use disorders. A cross-sectional prevalence survey conducted in mental-health and substance use services in four cities across the UK assessed this comorbidity (Weaver et al., 2003). It was found that during the year prior to the survey, 44% of patients from the mental-health services reported problem drug/alcohol use, and 80% of the patients from the drug and alcohol services had experienced a mental health condition. 27% of the substance use disorder patients reported severe depression, 37% reported a personality disorder and 8% had a psychotic disorder. In general, drug use is negatively related to mental well-being, with findings showing that as drug use increases, life satisfaction decreases (Lader, 2016). Many individuals with a substance use disorder use substances as a coping strategy to 'self-medicate' the difficult feelings they are experiences, and enhance their mood (Griffiths, 2005).

It is clear from the risk factors discussed here that there are a range of environmental influences that are associated with substance use disorder. These findings reinforce the biopsychosocial perspective on addiction.

Impact of a Substance Use Disorder on the Individual

Both physical and mental health problems are associated with substance use disorders (World Health Organisation, 2014). Rehm and Shield (2014) suggested that there are causal links between alcohol use and over 200 diseases, conditions and injuries. This included an increased risk of heart disease, cancer, and epilepsy (Department of Health, 2016). Every year an estimated 1,600 people in Wales are hospitalised for alcohol-related liver disease (Welsh Assembly Government, 2008), and heavy alcohol use is believed to weaken the immune system, thereby increasing the likelihood of an individual developing inflammatory diseases such as pneumonia (World Health Organisation, 2014). Injecting drug use is associated with other health problems, with an increased risk of obtaining a multitude of

blood-borne viruses, including Hepatitis B, Hepatitis C, and HIV (Department of Health, 2007).

The physical impact of substance misuse can be fatal. Substance use is a significant contributor to premature mortality (Rehm, Shield, Gmel, Rehm, & Frick, 2013). In 2016, 7,327 alcohol-specific deaths and 2,593 drug-misuse deaths were recorded in the U.K (Office for National Statistics, 2017a; Office for National Statistics, 2017b). Conditions responsible for substance-related mortality include alcohol-attributable cancer and liver cirrhosis (Rehm & Shield, 2014) and overdose for drug-related deaths (Office for National Statistics, 2017a).

Substance use can also affect an individual's employment, with reports suggesting that alcohol misuse predicts future job loss and unemployment (Black, 2016). In England, fewer than 20% of individuals commencing drug treatment were employed (The Centre for Social Justice, 2013). This relationship between employment and substance misuse is bi-directional, with employment affecting an individual's substance use. However, this relationship does not always suggest a negative impact, as employment can be an important aspect of an individual's recovery from addiction and can help prevent future relapse (Henkel, 2011).

Impact of Substance Use Disorder on Other People and the Wider Society

The negative impact of alcohol and drug use disorders is not restricted just to the individual, with friends, partners and family often experiencing the negative impacts of an individual's substance use (World Health Organisation, 2014). For example, a study by Casswell, You and Huckle (2011) found that individuals who were regularly exposed to heavy drinkers had lower levels of self-reported well-being and health. This relationship was found even when controlling for demographics and the participants' own drinking level. In addition, the risk of violence within intimate relationships is increased when either partner has an alcohol use disorder (Cunradi, Caetano, & Schafer, 2002).

It is estimated that between 189,119 and 207,617 children in England live with at least one adult who has an alcohol use disorder (Pryce et al., 2017). Velleman and Templeton (2007) outlined the adverse childhood experiences children can face when living with parents who have a substance use disorder (e.g., higher risk of violence, neglect, negative emotions), and how these experiences can impact on them later in life (e.g., conduct disorders, social isolation, anxiety and depression). The negative impact of substances can occur for children perinatally, with conditions such as fetal alcohol syndrome and neonatal abstinence syndrome impacting infants' lives immediately (Bläser et al., 2008; World Health Organisation, 2014).

There are also significant wider cost implications to society. An estimated two billion pounds each year is spent in Wales on the economic and social costs of Class A drug and alcohol misuse. In the Welsh NHS, around £17.6 million is spent yearly on drug-related issues and a further £70-85 million on alcohol-related incidents or health problems (Welsh Assembly Government, 2008). Drug-related crime costs the U.K. approximately six billion pounds per year (Mills, Skodbo, & Blyth, 2013), and The Centre for Social Justice (2013) reported that half of prison inmates committed crimes that were related to their drug-use (e.g., stealing to obtain money to buy drugs).

Formal Treatment Options for Substance Use Disorders

Within the U.K., treatment options are available for individuals who have a substance use disorder, but not all individuals will engage with treatment. Pryce et al. (2017) estimated that 57.3% of adults with an alcohol use disorder would like to reduce their drinking, with only 41.2% actually intending to reduce. Approximately 300,000 individuals in England have severe alcohol dependency, yet in 2014/15 only half of these people engaged in specialist alcohol treatment (Black, 2016).

In their latest report Public Health England (2017) outlined that 279,793 individuals in England were undergoing structured drug and/or alcohol treatment. There were more

males (69%) than females (31%) entering treatment, and approximately half (52%) of these clients used opiates. There is a diverse range of support provided for individuals who are undergoing problems with alcohol and drug misuse, including pharmacological interventions, key working sessions, psychosocial interventions, harm reduction, both home and inpatient detoxification, residential rehabilitation, and relapse prevention (Welsh Assembly Government, 2008). It is also worth noting that there is also support outside of treatment services (i.e., mutual aid groups) (Humphreys, 2004), and the importance of these groups is discussed in Chapter Four.

Drug strategies produced by both the British government and the Welsh Assembly aim to improve and expand treatment services through directing resources and funding to the appropriate places (Department of Health, 2007; Welsh Assembly Government, 2008). Funding has allowed improvements to be made within services; for example, the number of individuals entering treatment has increased (Department of Health, 2007). However, only half of the individuals leaving formal treatment in England in 2016 had successful treatment outcomes (i.e., achieved care plan goals and no longer needing structured treatment) (Black, 2016). Seventeen percent of individuals who were in treatment in England in 2005-2006 were still in treatment in 2017, and 39% had exited treatment without completing it (Public Health England, 2017).

Detoxification is an important aspect of treatment. Here individuals are provided with pharmacological and psychological support to overcome their physical and/or psychological dependence on a substance (Hayashida, 1998). The aim of detoxification is for individuals to leave substance-free, and be able to move forwards into recovery. A recent study by Hogan, Jabeen, Race and Rettie (2018) found that 83% of individuals who accessed treatment at a detoxification unit in the U.K. successfully completed their pharmacological detoxification. However, despite these high completion rates and continuous improvements in these services,

relapse rates after treatment are still very high. Relapse rates post-detoxification for alcohol dependency are between 60% and 90% (Aguiar, Neto, Lambaz, Chick, & Ferrinho, 2012; Becker, 2008; Raistrick, Heather, & Godfrey, 2006; Spada, Nuamah, Luty, & Nikcevic, 2008).

Thesis Overview

In order to try and reduce rates of relapse, it is important to determine the reasons why individuals relapse. An attentional bias for substance-related stimuli is believed to be one of the core features of addiction, playing a significant role in the maintenance of the behaviour (Field & Cox, 2008). It is an automatic focus of attention on personally salient stimuli (Fadardi & Cox, 2008), and previous research has found that an individual's attentional bias for alcohol-related stimuli during detoxification was predictive of their future treatment outcome (Cox, Hogan, Kristian, & Race, 2002). Chapter Two reviews the literature on addiction-related attentional bias, and Chapter Three presents the first study of the thesis. This study focused on identifying the clinical applications of attentional bias; more specifically, the study assessed whether an attentional bias for alcohol-related and change-related words predicted treatment outcome following detoxification.

The first study in this thesis investigated whether we could detect the identity shift that occurs in early recovery. However, it is important to recognise that recovery from an addiction does not stop with formal treatment (Drug Strategy, 2017). Whereas many individuals relapse post-treatment, some individuals successfully recover and remain abstinent. A study that assessed the prevalence of drug and alcohol problems in the United States estimated that 9.1% of American adults were recovering from a substance-related problem (Kelly, Bergman, Hoeppner, Vilsaint, & White, 2017). Recovery from addiction is a growing topic of research (Best & Laudet, 2010; Drug Strategy, 2015), and strategies are now being used to study the recovery journey (Drug Strategy, 2017). In line with this emphasis on

recovery, the remaining chapters in this thesis focus on mutual aid groups, and how these groups play a vital role in maintaining an individual's recovery identity. Chapter Four reviews the literature on recovery from an addiction, and Chapters Five, Six and Seven present empirical studies on recovery from addiction.

The overall aim of this thesis was to explore the shift from addiction to recovery, and how mutual aid groups help initiate and maintain this positive social identity shift. The research also provided a unique insight into the experience of individuals with substance use disorders in Wales; most of the previous research discussed in this Introduction was conducted in England or the United States. The methodologies used in the thesis research were diverse and included both qualitative and quantitative approaches. It is worth noting that all of the studies involved collaborations with the research participants, with service users involved in the design, piloting, recruitment and dissemination of the conducted research. Neale et al. (2017) recently emphasized the importance of involving experts by experience in addiction research. Collaborating with service users can increase the credibility of a study, improve recruitment, ensure the procedure is understandable for the participants, and provide real world feedback on research feasibility. Thus, the findings of this thesis are relevant and useful not just for academia, but also for addiction and recovery communities.

CHAPTER TWO

Alcohol Attentional Bias: A Review of the Literature

As mentioned in the previous chapter, living with an alcohol dependency can create an array of physical and emotional problems for both individuals and their families. For example, alcohol dependency is associated with mental health conditions such as depression and anxiety, and can cause heart and liver disease (Cargiulo, 2007). The financial costs to the wider society are also evident. Health problems arising from alcohol misuse cost the NHS an estimated £3.5 billion annually (National Treatment Agency for Substance Misuse, 2013). Providing treatment at detoxification units is a cost-effective way of reducing the financial impact (Raistrick, Heather, & Godfrey, 2006). Despite continuous improvements to the treatment services, the rate of relapse post-detoxification remains between 60-90% (Aguiar, Neto, Lambaz, Chick, & Ferrinho, 2012; Becker, 2008; Raistrick et al., 2006; Spada, Nuamah, Luty, & Nikcevic, 2008).

Identifying the reasons for this high rate of relapse and the factors that determine treatment outcome in alcohol detoxification is of particular interest to researchers. Research has found a multitude of factors that can determine relapse, including a lack of coping mechanisms, interpersonal problems, low self-efficacy and maladaptive motivation (Marlatt & Donovan, 2005; McKay, 1999). In particular, it has been suggested that an attentional bias towards alcohol-related stimuli is a primary function of alcohol dependency; it encourages cravings and helps maintain the addiction (Field & Cox, 2008).

Previous attentional bias literature has explored a wide range of addictive behaviours, such as gambling, smoking and illicit drug use (Cox, Fadardi, & Pothos, 2006). However, the current chapter aims to review the literature for alcohol attentional bias, focusing specifically on the alcohol-Stroop as a valid measure of the construct. Clinical implications of alcohol attentional bias will be discussed, such as the ability to predict treatment outcome.

Theories of Alcohol Attentional Bias

Attentional bias is an automatic focus of attention on personally salient stimuli, which is not under conscious control (Fadardi & Cox, 2008; Williams, Mathews, & MacLeod, 1996). The type of stimuli eliciting the bias is determined by what is important to the individual. For example, patients with an anxiety disorder have an attentional bias towards threat words, as their anxiety is salient to them like alcohol is salient to individuals with an alcohol use disorder (MacLeod, Mathews, & Tata, 1986).

Several theorists have explored the role of attentional bias in addiction. Theories are often learning-based, and acknowledge the role of classical conditioning in the development of attentional bias. Stimulus-response pairings result in an association between the presence of alcohol-related stimuli and substance availability. This causes alcohol-related stimuli to induce substance-seeking behaviour and cravings (Field & Cox, 2008). Cravings are manifested as urges to use alcohol that involve difficult physical sensations, thoughts and emotions (Chakravorty et al., 2011).

Early studies exploring alcohol attentional bias often focused solely on these Pavlovian principles (Carter & Tiffany, 1999); however, theorists soon began to recognise the additional influences emotion, cognition, and motivation can have on attentional bias towards alcohol-related stimuli (Field & Cox, 2008). For example, Robinson and Berridge's (1993; 2008) incentive sensitization theory of addiction provided a neurological explanation of alcohol attentional bias. After repeated exposure the motivational dopaminergic systems in the brain can become sensitized to alcohol. This results in a motivational 'wanting' (called incentive salience) for alcohol, which is independent from drug 'liking'. A strong relationship between alcohol-related stimuli and reward develops, as alcohol-related stimuli is considered motivationally salient and captures the individual's attention. This attentional bias, alongside

subjective craving, helps maintain drinking behaviour and further increase an individual's drug 'wanting'.

Similar theories such as Franken's (2003) neuro-psychopharmacological model also emphasize how classically conditioned responses to drug-related stimulus cause increases in dopamine levels, which results in attention being directed towards these cues. However, Franken's model extends on the incentive sensitization hypothesis by suggesting that there is a reciprocal excitatory relationship between craving and attentional bias, and that this mutual relationship plays a significant part in maintaining drug use. When substance-related cues grab an individual's attention, this will increase their subjective craving, which will in turn further increase their attentional bias, and so on.

Alternative theories have focused on the influence of emotions on attentional bias. Waters and Green (2003) proposed that a greater attentional bias for alcohol stimuli in individuals with an alcohol-dependency is due to a conditioned emotional response towards alcohol and related items. For example, alcohol stimuli may induce anxiety, which will reduce an individual's concentration on their current task. This is highlighted in Stormark, Laberg, Nordby, and Hugdahl's (2000) study, which found an increased skin conductance for individuals with alcohol dependency in comparison to controls.

Despite offering different explanations, core aspects from numerous theories can be integrated to create a more comprehensive explanation of attentional bias (Cox, Fadardi, & Pothos, 2006; Field & Cox, 2008). Cox et al. (2006) suggested that Klinger and Cox's (2004) theory of current concerns provides a unitary model that integrates multiple explanations. The premise of this theory is that drinking alcohol has become a major goal in the individual's life. The commitment towards achieving major goals of drinking induces a current concern. This construct 'current concern' refers to an unconscious brain process, which allows alcohol to gain priority in the cognitive system to assist future goal pursuits. As a result of this

process the individual has automatic reactions towards alcohol-related stimuli. This model has received a significant amount of support (outlined in Cox et al., 2006).

Measures of Attentional Bias

There are several techniques used to measure attentional bias, including the alcohol-Stroop task. This is a variant of the emotional Stroop (Williams et al., 1996), where individuals are slower to respond to tasks containing words related to their psychopathology. For the alcohol-Stroop, lists of neutral and alcohol-related words are used. Participants are expected to respond to the colour of words presented on screen as quickly and accurately as possible, whilst ignoring the word meaning. Stroop interference, which is an indirect measure of attentional bias, is calculated as the difference in reaction times between the alcohol and neutral trials (Cox, Fadardi, Intrilligator, & Klinger, 2014). There is a large body of evidence showing that individuals with an alcohol dependency have a large Stroop interference on this task, as their attention is captured by the alcohol-related words (Cox, Blount, & Rozak, 2000; Cox, Yeates, & Regan, 1999).

Other indirect measures of attentional bias include the flicker and dot-probe paradigms (Cox et al., 2006). The flicker paradigm involves participants identifying a change in a flickering picture. Heavy drinkers are quicker to respond to alcohol-related changes in comparison to social drinkers, and the heavy drinkers respond to alcohol-related changes faster than neutral changes (Jones, Bruce, Livingstone, & Reed, 2006; Jones, Jones, Smith, & Copley, 2003). Dot-probe tasks involve two images being simultaneously shown, and participants are asked to respond to the probe that follows on the left or right side of the screen. An attentional bias towards alcohol-related stimuli is indicated in this task when participants respond quicker to the probe on the same side as the alcohol-related picture in comparison to the neutral picture side. Similar patterns were found for this paradigm, with

heavy drinkers having a greater attentional bias towards probes following alcohol pictures in comparison to social drinkers (Townshend & Duka, 2001).

A criticism of indirect measures such as the alcohol-Stroop, dot-probe and flicker paradigm is that it is unclear whether these tasks actually measure attentional bias, or whether they measure other related processes such as cognition, motivation and subjective craving instead (Christiansen, Schoenmakers, & Field, 2015; Field, Marhe, & Franken, 2014). It is difficult to break down attentional bias into its different cognitive components, thus it is not clear whether the attentional bias is due to a quicker initial orientation to the stimuli, or delayed disengagement (Field & Cox, 2009). As a result, direct measures of attentional bias such as eye-tracking are being introduced. In eye-tracking attentional bias tasks, participants are expected to fixate centrally, attempting to ignore peripheral alcohol-related distractors (Wilcockson & Pothos, 2014). Eye-tracking can also be used alongside indirect measures to help break down the attentional bias mechanisms (Field & Cox, 2009). Although direct measures such as this may have increased validity, indirect methods are cheaper and more practical, so are often still the preferred choice (Field et al., 2014).

In addition, some of the ambiguities associated with indirect measures, particularly the alcohol-Stroop, have been dispelled through research. For example, Fadardi and Cox (2006) explored the alcohol attentional bias of alcohol dependent and social drinkers, controlling for measures of cognitive ability during statistical analysis. Their results showed that a dependent drinker's attentional bias is a result of their current concerns (i.e., drinking alcohol), and not due to impaired cognitive abilities. The Stroop effect is also independent of other factors, including participants' demographic characteristics and their mood disturbances (Lusher, Chandler, & Ball, 2004).

Currently, the most widely used and accepted attentional bias measure is the alcohol-Stroop test (Field & Cox, 2008). Research supports the validity and reliability of this method

(Cox et al., 2006), and research findings often are consistent with Klinger and Cox's (2004) theory of current concerns. Individuals' levels of dependency are proportional to their attentional bias shown on the alcohol-Stroop, with dependent drinkers showing the greatest degree of attentional bias towards alcohol-related stimuli (Fadardi & Cox, 2009; Field & Cox, 2008; Stormark et al., 2000). This may be because drinking alcohol is a greater concern for dependent drinkers in comparison to social drinkers; thus, the current concern will be more likely to gain priority in dependent drinkers' cognitive systems.

However, not all research has found the same effects for the alcohol-Stroop task (Field & Cox, 2008). For example, research by Bauer and Cox (1998) and Ryan (2002) found no significant difference between levels of alcohol attentional bias in individuals with alcohol-dependency and levels in non-dependent individuals. These null results may be explained by certain methodological decisions. Bauer and Cox's (1998) study used inter-mixed blocks, which produce a smaller Stroop interference in comparison to using a blocked presentation. (Cox et al., 2006). Other procedural recommendations for optimal Stroop research include using a semantically related neutral word list to match the semantically related alcohol list, having equal number of stimuli for each condition, and ensuring word lists are matched for word frequency and length (Cox et al., 2006). Another reason for the null effects could be that the control group used in both studies consisted of staff members working in addiction. A career of working with individuals who have alcohol dependency makes it likely that alcohol will also be a current concern for the control group (Cox, Hogan, Kristian, & Race, 2002). Thus, these individuals' alcohol attentional biases may be greater than control groups who have no alcohol-related concerns (e.g., Lusher et al., 2004). Research conducted by Albery, Sharma, Noyce, Frings and Moss (2015) identified that individuals who consume low levels of alcohol can show a strong attentional bias towards alcohol-related stimuli if they work in environments where there is high exposure to alcohol-

related cues. In this study the participants in the high exposure group worked in pubs or bars, but similar findings may occur for individuals working in other high exposure environments such as substance misuse services. Researchers have not yet identified the ideal control group for addiction research (Cox et al., 2002), thus it is important for researchers to recognise the potential implications of the particular control group they choose to use in their research.

Clinical Implications of Alcohol Attentional Bias

The clinical implications of alcohol attentional bias are beginning to be explored. Researchers have discovered that a reduction in attentional bias can reduce levels of drinking in both hazardous and harmful drinkers (Fadardi & Cox, 2009). These reductions can be achieved through an alcohol attention-control training programme. One such programme, which is called the Alcohol Attentional Control Training Programme (AACTP), was created by Fadardi and Cox, and provides participants with immediate feedback on an alcohol-Stroop task that increases in difficulty over time. The premise is that feedback and goal setting will motivate the individual to reduce their reaction times over the trials, which should in turn reduce their attentional bias for alcohol-related stimuli. Harmful drinkers in Fadardi and Cox's study displayed immediate reductions in their alcohol attentional bias and alcohol consumption, and these reductions were maintained at three months post-training. A reduction in drinking at three-month follow-up was replicated in the findings of Cox, Fadardi, Hosier and Pothos (2015). However, in this study there were no significant reductions in mean weekly drinking after six-months, suggesting that the programme's utility is instigating rapid changes.

A quick-paced online arcade game has also been created using the principles of this programme. In it, the player has to identify and grab healthy items in a simulated supermarket, while avoiding the alcohol-related items that are jumping out towards them. A pilot study for this game involved 37 heavy drinkers, and produced significant reductions in

weekly alcohol consumption. These reductions were maintained at the eight-week follow-up (Cox et al., 2014). However, participants in the study were aware that the aim of the programme was to reduce their alcohol use, thus social desirability biases may have influenced the results. There were also no comparisons made with the control group due to high attrition rates, so it is difficult to determine whether the game itself reduced alcohol consumption, or whether this would have happened naturally over the time course. It appears that gamification of cognitive programmes can be intrinsically motivating and have a positive impact on individuals wishing to make changes; however, further larger-scale research is still needed in this area (Boendermaker, Prins, & Wiers, 2015).

Another clinical implication is that attentional bias can be used as a predictor of treatment outcome for individuals with alcohol dependency in treatment settings. Research conducted by Cox et al. (2002) found that performance on the alcohol-Stroop task during detoxification was predictive of later relapse. Service users completed an alcohol-Stroop task at the beginning of their detoxification, and several weeks later prior to their discharge. Researchers conducted follow-up sessions four weeks later, to determine the service user's treatment outcome (i.e., have they relapsed?). Results found that individuals who relapsed had a greater attentional bias to alcohol-related stimuli, in comparison to individuals who had successful treatment outcomes. The attentional bias of individuals who relapsed increased throughout treatment, as they became progressively preoccupied with their current concern of drinking alcohol (Klinger & Cox, 2004). In contrast, the Stroop interference for successful service users produced a similar profile to the control group of staff members, with an unchanging Stroop interference throughout treatment. This similarity may provide an alternative explanation for the null results previously mentioned (e.g., Bauer & Cox, 1998; Ryan, 2002). As treatment outcome were not recorded in the studies with the null findings, it

is unclear as to whether the similar levels of attentional bias found between staff members and service users may have been due to a successful cohort of service users in these cases.

Attentional bias as a predictor of success has also been explored in a non-treatment setting. The alcohol-Stroop task was administered to 158 heavy drinkers who were interested in reducing their drinking. It was found that a low attentional bias at the start of the study was predictive of decreased alcohol consumption at six-month follow-up (Cox, Pothos, & Hosier, 2007). Similar findings to these studies were also produced in abstinent patients who had previously had a heroin addiction. Participants who had already completed inpatient detoxification had their attentional bias measured before and after their stay at a drug-free therapeutic centre. Drug-Stroop attentional bias before their stay at the therapeutic centre was found to be predictive of relapse three months later (Marissen et al., 2006). Together these results provide promising support for the use of the alcohol-Stroop as a predictive tool, however further research is still needed in this area to validate this relationship (Field et al., 2014).

Attentional Bias as a Predictor of Treatment Success

Previous research has focused on predictors of relapse; however, it is also important to explore predictors of treatment success. There has been a shift in perspective in the field of addiction, from a problem-management approach that focuses on living with an addiction, to a more positive recovery-based paradigm (White, 2007). It has been suggested that those who are successful in their recovery may experience a ‘quantum change’—an enduring transformation of their cognitions, affect and behaviour (Miller & C’de Baca, 2001). In their research, Miller and C’de Baca informally interviewed 55 people who had experienced a ‘quantum change’, often following years of addiction. Some commonalities were identified between the experiences reported, such as a permanent change of identity, and positivity associated with the quantum change. However, the change reported often varies between

individuals, making recovery unique for each individual. For example, it can involve a sudden change, or occur in stages over time. The journey can be personal, or one shared with others, and may be a result of the fear of negative consequences of addiction, striving towards positive consequences of abstinence, or a combination of these factors (White & Kurtz, 2005). Thus 'quantum change' is currently considered a phenomenon, which is difficult to predict, quantify and measure (Bien, 2004; Miller, 2004; Miller & C'de Baca, 2001).

The 'social identity model of cessation maintenance' (SIMCM) presents a similar idea to Miller and C'de Baca's (2001) theory of quantum change (Frings & Albery, 2015). The SIMCM model suggests that individuals transition from identifying as an 'addict' to identifying as a 'recovering individual', and it is recognised that attentional bias processes may play a role in the development and maintenance of these social identities.

The Readiness to Change Questionnaire (Heather & Honekopp, 2008) measures an individual's conscious desire to change, and reduce their alcohol consumption. In this questionnaire, service users rate how much they agree with numerous statements about their drinking, and their scores determine what stage of change they are in: pre-contemplation, contemplation and action. Research by Cox et al. (2007) has shown that an individual's readiness to change can only predict short-term reductions of alcohol consumption, and cannot predict longer-term reductions at six months. Recovery and change are not always conscious processes (White, 2007), thus an implicit measure of change may be a better predictor.

Perhaps an attentional bias on an emotional-Stroop task for change-related words could be used as an implicit measure of 'quantum change' and a shift in social identity? The alcohol-Stroop task used in the previously mentioned studies is a variant of the emotional-Stroop task (Williams et al., 1996), where individuals take longer to respond to words that are motivationally salient for them. Alcohol-related stimuli are salient to individuals with an

alcohol dependency, and capture their attention as a result. Thus, if an individual has had a motivationally salient recovery, change words associated with that recovery could cause a similar attentional bias for successful individuals. In line with the theory of current concerns, the recovery has become the major goal-pursuit in the individual's life, resulting in automatic reactions towards related stimuli (Klinger & Cox, 2004).

Attentional bias towards change words could be a more robust predictor of treatment outcome. A fundamental criticism of using alcohol attentional bias as a predictor of treatment outcome is that an individual's attentional bias can change depending on the cravings and motivational state they are experiencing at the time (Christiansen et al., 2015; Field et al., 2014). Research has shown that an individual's attentional bias can be temporarily modified through craving (Field & Eastwood, 2005). A study using a visual probe task trained individuals with an alcohol dependency to look towards or away from alcohol-related stimuli, and results found that those trained to attend to the alcohol stimuli expressed a greater urge to drink during the subsequent taste test. As suggested in Franken's (2003) neuro-psychopharmacological model, this relationship between craving and attentional bias is reciprocal. For example, increasing subjective craving before a task by asking participants to smell alcohol resulted in a greater attentional bias to alcohol-related stimuli and impaired inhibition (Gauggel et al., 2010). However, a meta-analysis of 68 data sets found that the correlation between attentional bias and subjective craving was significant but weak, and this relationship was moderated by a number of factors (Field, Munafò, & Franken, 2009). The relationship between the two variables was strongest for caffeine and illicit drug cravings (in comparison to alcohol cravings), and when direct measures of attentional bias such as eye-tracking were used. These findings suggest that although subjective craving and alcohol attentional bias are related, the relationship between these two variables may not be as strong as some studies suggest.

It is evident that alcohol attentional bias may fluctuate depending on a number of factors. Conversely, an identity shift is expected to involve a permanent, stable transformation (Miller, 2004; Miller & C'de Baca, 2001), so the likelihood of fluctuations in recovery-related attentional bias may be reduced. Future research should determine whether change-related attentional bias could be a better predictor of treatment outcome than alcohol attentional bias.

Developing a means of predicting successful treatment outcome is key to refining effective treatments. It is often difficult to determine which treatments are most effective, as once people leave treatment or therapy, there are a number of external factors that can impact on their success (e.g., life events and post-treatment support). As a result, when evaluated at follow-up, all treatments appear to be of equal effectiveness (Stiles, Barkham, Mellor-Clark, & Connell, 2008). The ability to objectively predict treatment outcome prior to discharge will therefore assist in development of suitable future treatments.

Present Research

The study outlined in Chapter Three of this thesis aimed to validate the findings from Cox et al.'s (2002) study where the alcohol-Stroop was found to be a predictor of relapse. An additional aim was to determine whether an attentional bias to change-related stimuli could be a more robust predictor of treatment success.

CHAPTER THREE

A Negative Attentional Bias for Positive Recovery-Related Words as a Predictor of Treatment Success Among Individuals with an Alcohol Use Disorder

As outlined in Chapter Two, health problems arising from alcohol misuse cost the U.K. National Health Service an estimated £3.5 billion annually (National Treatment Agency for Substance Misuse, 2013). Providing treatment at detoxification units is considered a cost-effective way of reducing this financial impact (Raistrick, Heather, & Godfrey, 2006), yet 60-90% of individuals relapse post-treatment (Aguiar, Neto, Lambaz, Chick, & Ferrinho, 2012; Becker, 2008; Raistrick et al., 2006; Spada, Nuamah, Luty, & Nikcevic, 2008).

It is important to understand why these high rates of relapse after detoxification occur. It has been suggested that attentional bias for alcohol-related stimuli is a primary feature of alcohol dependency; it promotes craving and helps maintain the addiction (Field & Cox, 2008). Attentional bias is an automatic focus of attention on personally salient stimuli (Fadardi & Cox, 2008; Williams, Mathews, & MacLeod, 1996). According to Klinger and Cox's (2011) theory of current concerns, drinking alcohol has become a major goal in the life of alcohol-dependent individuals. Being committed to achieving this major goal causes a *current concern* to develop. It is a latent, unconscious brain process, which allows alcohol to gain priority in the cognitive system to facilitate the goal of procuring and imbibing alcohol. As a result, the individual has automatic distractions for alcohol-related stimuli.

The most widely used measure of attentional bias is the alcohol-Stroop test (Cox, Fadardi, & Pothos, 2006; Field & Cox, 2008). Typically, neutral and alcohol-related words are presented on a computer screen in various colors, and participants are required to respond as quickly and accurately to the colour of the words while ignoring their meaning. Stroop interference, which is a measure of attentional bias, is calculated by subtracting mean

reaction times to the neutral words from mean reaction times to the alcohol words (Cox, Fadardi, Intrilligator, & Klinger, 2014).

A large body of evidence shows that heavy drinkers have an attentional bias for alcohol-related words on the alcohol-Stroop test (Cox, Blount, & Rozak, 2000; Cox et al., 2006; Cox, Yeates, & Regan, 1999). Individuals' degree of attentional bias is proportional to the amount of alcohol that they habitually consume, with dependent drinkers showing the greatest attentional bias (Fadardi & Cox, 2009; Field & Cox, 2008; Stormark, Laberg, Nordby, & Hugdahl, 2000). This is likely because dependent drinkers have the greatest concern for drinking alcohol, which gains priority in their cognitive system.

There are clinical implications of alcohol attentional bias. Cox, Hogan, Kristian, and Race (2002) found that performance on the alcohol-Stroop task during detoxification predicted later relapse. In this study, clients completed an alcohol-Stroop task at the beginning of their detoxification, and again four weeks later prior to their discharge. A four-week, post-treatment follow-up indicated that the individuals who had relapsed had a greater attentional bias for alcohol-related stimuli than successful individuals. Similar findings have also been found in predicting heavy drinkers' alcohol consumptions (Cox, Pothos, & Hosier, 2007). Taken together, the results presented here provide support for the use of the alcohol-Stroop task as a predictor of later outcome, although further research is needed to clarify this relationship (Field, Marhe, & Franken, 2014).

Unlike the research described above, which focused on predicting relapse, the present study aimed to identify predictors of treatment success. This is consistent with a shift in the addiction field from a problem-management approach to a more positive recovery-based paradigm (White, 2007).

Miller and C'de Baca (2001) described the process of stopping drinking and moving toward recovery as an enduring transformation of cognitions, affect, and behavior—a process

that might not be conscious (White, 2007). This change may involve a shift in social identity, from ‘addict’ to ‘recovering individual’ (Frings & Albery, 2015). Many individuals in treatment may appear to have a conscious intention to change, regardless of whether they actually change. For example, scores on an explicit measure of change such as the Readiness to Change Questionnaire (RCQ; Heather & Honekopp, 2008) can predict short-term reductions in consumption but not longer-term ones (Cox et al., 2007). In addition, because change is an expected outcome of treatment, some individuals may give socially desirable answers on such explicit measures. For these reasons, implicit measures of change might be a better predictor of actual change than self-report measures.

The current study assessed whether attentional bias for change-related words on a Stroop task could serve as an implicit measure of change. It was expected that if individuals do experience a meaningful shift in their motivation for recovery, they would show an attentional bias for change-related words. Consistent with the theory of current concerns (Klinger & Cox, 2011), recovery would have become a major goal for such individuals, thus causing them to react automatically to recovery-related stimuli.

The study aimed to determine whether attentional bias for change-related stimuli could predict treatment success. It was hypothesised that clients who had successful treatment outcomes would have a greater attentional bias for change-related words, and less attentional bias for alcohol-related words, than would clients who relapsed. It was also predicted that clients would have a greater attentional bias for both alcohol-related and change words than would a control group who had not been in treatment. Finally, it was expected that RCQ scores as an explicit measure of motivation for change would not predict treatment outcome.

Method

Participants

There were two groups of participants: (a) an experimental group of clients who had completed their pharmacological regime and were going to be discharged within the next three days and (b) a control group of staff members at the same detoxification unit. Staff members were chosen in an attempt to regulate the control group's exposure to alcohol-related cues (Cox et al., 2002). Exclusion criteria were that participants could not have had a severe psychotic disorder or neurological impairment, or a history of illicit drug use; staff members could not have had a history of alcohol dependency.

Participants were recruited in two ways: (a) a member of staff at the unit approached eligible service users and provided them with an information sheet (Appendix A), and (b) unit staff were informed of the study (through email and posters in staff areas) and asked to contact the researcher directly (see Appendix B for the recruitment poster). If participants were interested, the researcher attended the unit the following day to answer any questions and distribute consent forms (Appendix C).

A total of 45 clients and 36 staff members were recruited. The sample size was almost twice as large as that in other similar studies (e.g., Cox et al., 2002), and was determined by the availability of the clinical population. A £10 voucher was provided as an incentive to participate.

Stimuli

Lists of positive and negative change-related words were compiled from interviews with clients who did not participate in the experimental study. These clients were actively involved in recovery and had maintained a substantial period of sobriety. They were asked to discuss their *change experience* and to list words that reminded them of it. Examples of positive and negative change-related words that these clients provided are, respectively, *hope*

and *acceptance* and *death* and *crime*. Lists of alcohol-related and neutral words were compiled from words used in previous studies (e.g., Fadardi & Cox, 2009). Examples of alcohol-related words used are *bar* and *vodka*; examples of neutral words used are *chair* and *door*. Each list comprised 22 words. Participants were asked to select eight words from each of the four lists. All word lists were matched for mean number of syllables per word and word frequency using the Subtlex U.K. database of word frequencies (Van Heuven, Mandera, Keuleers, & Brysbaert, 2014).

All participants were asked to rate the personal relevance of each alcohol-related word on a Likert scale and to identify the eight words that were most personally relevant for them. They were also asked to rate the personal relevance of each of the neutral words, but this time they identified the eight words that were least personally relevant for them. In the same manner, participants in the experimental group rated and identified positive and negative change-related words that were personally relevant for them. In contrast, participants in the control group rated and identified words that they believed would be most personally relevant for clients undergoing detoxification. This was to avoid staff choosing change words relevant to their own lives (see Appendices D and E for the word lists).

The words that each participant chose were used in that person's Stroop task. Each word was presented twice in each of four font colors (red, blue, yellow, and green). In order to optimise the Stroop effect (Cox et al., 2006), words in each of the four categories were presented in separate blocks. These blocks were counter-balanced, and the words were randomised within blocks. In total, each participant completed 20 practice trials containing words from all four categories, and 256 experimental trials. Participants completed the experiment on a visual display monitor powered by a laptop, using a serial response PST button box.

Materials

A demographics questionnaire (Appendix F) was administered. Daily drinking was assessed using the computerised version of the Alcohol Timeline Followback (TLFB; Sobell & Sobell, 1992). Participants retrospectively estimated their alcohol consumption over a three-month period. Participants completed the treatment-specific, revised version of the Readiness to Change Questionnaire (RCQ; Appendix G; Heather & Honekopp, 2008). This 12-item questionnaire identified what stage of change someone was in (pre-contemplation, contemplation and action), and derived a readiness-to-change score. The Difficulties in Emotion Regulation Scale (DERS; Appendix H; Gratz & Roemer, 2004) is a 36-item measure that was used to assess emotional dysregulation on six sub-scales; the Short Inventory of Problems (SIP; Appendix I; Kiluk, Dreifuss, Weiss, Morgenstern, & Carroll, 2013) is a 15-item measure used to assess problems associated with drinking alcohol; and the Hospital Anxiety and Depression Scale is a 14-item measure (HADS, Appendix J; Zigmond & Snaith, 1983) used to determine participants' level of anxiety and depression.

Procedure

The Bangor University and NHS ethics committees provided approval for the current study. Participants provided informed consent and their contact details. They rated the word lists, completed the questionnaires and then the computerised Stroop task. Participants were instructed to respond as quickly and accurately as possible to the colour in which each word was presented by pressing the corresponding colour on the button box.

The researcher conducted a follow-up interview with the clients three months later. All questionnaires (except for demographics) were re-administered, and the participant's treatment outcome was determined during this interview using the alcohol TLFB (Sobell & Sobell, 1992). All participants were then debriefed (Appendix K).

Data Analysis

Four clients were excluded from the analyses involving reaction times. Three of them were color blind, and one had a very high (80%) error rate. Only correctly answered trials (93.66%) were included in the analysis. Trials on which a participant's reaction times were 2.5 standard deviations above or below his or her mean for each of the four word types were also removed. This resulted in a further 2% of the trials being removed. Interference scores were then calculated by subtracting mean reaction times to the neutral words from mean reaction times to the alcohol or change words.

Mann-Whitney U tests were run to determine whether there were differences between the clients and the staff in their interference scores. Non-parametric tests were chosen because the data were not normally distributed. Two logistic regressions were conducted to determine whether interference scores and questionnaire scores could predict treatment outcome. Linear regressions were conducted using continuous measures of treatment outcome: average units drunk and percentage of drinking days.

Results

Analysis of the demographic characteristics of the staff members (n = 36, 78% females) and the clients (n = 45, 71% males) indicated that there were no significant differences between their age, $t(60.56) = 0.38$, $p = .708$, and their age when they had their first drink, $t(67) = 0.78$, $p = .446$. As expected, clients had drunk significantly more alcohol per day than staff members during the prior three months, $t(40.40) = 15.11$, $p < .001$, and they had significantly ($p < .001$) higher scores than staff members on each of the questionnaires (see Table 3.1).

Despite the difference in the proportion of males and females in the staff and client groups, gender was unrelated to the interference scores for all three word types ($p > .05$), so was not controlled for in the analyses. Visual inspection indicated that the clients' and staffs'

distribution of interference scores were similar. The Mann-Whitney U tests showed that alcohol interference scores were not significantly different between clients (*Mdn* = 1.38) and staff (*Mdn* = 17.66), *U* = 585, *z* = -1.56, *p* = .118. Positive change interference scores were not significantly different between clients (*Mdn* = -10.22) and staff (*Mdn* = 3.95), *U* = 684, *z* = -0.55, *p* = .581. Finally, negative change interference scores were not significantly different between clients (*Mdn* = -10.95) and staff (*Mdn* = 14.87), *U* = 557, *z* = -1.85, *p* = .065. On the whole, these results suggest that clients' interference scores were not different from those of the staff. There were, however, differences between clients who did and did not relapse (see Figure 3.1).

Table 3.1.

Mean Age, Alcohol Consumption and Questionnaire Scores for Staff and Clients.

	Staff	Clients
Age (in years)	44.11 (13.38)	44.83 (9.92)
Mean units drunk per day	0.96 (1.02)	37.61 (15.67)
Difficulties in Emotion Regulation Scale	62.22 (13.85)	116.58 (25.63)
Short Inventory of Problems	1.81 (1.90)	13.58 (1.73)
Readiness to Change	-13.44 (7.17)	16.38 (5.34)
Hospital Anxiety and Depression Scale		
Anxiety	5.08 (2.75)	12.20 (4.63)
Depression	1.72 (2.43)	9.49 (4.34)

Note. Standard deviations are shown in parentheses.

Follow-up data was provided by 35 of the 41 clients included in the reaction time analysis. These clients were separated into two groups based on their treatment outcome. If individuals had returned to a dependent level of drinking that was similar to their pre-treatment level, they were placed into the *relapsed* category (*n* = 15). Individuals who had not

drunk (n = 14), or were drinking at a non-dependent level (n = 6) were placed into the *successful* category (n = 20). This division was used in a previous study that assessed relapse using the alcohol TLFB (Evren, Durkaya, Evren, Dalbudak, & Cetin, 2012), and is consistent with the view that abstinence is not a suitable goal for everyone with an alcohol-use disorder (Subbaraman & Witbrodt, 2014). The two groups did not differ in the number of units of alcohol they had drunk prior to detoxification, $t(33) = 0.01$, $p = .925$. They also did not differ in their explicit ratings of the alcohol-related, $t(33) = 0.52$, $p = .606$, positive change-related, $t(33) = 1.18$, $p = .248$, negative change-related, $t(20.22) = 1.62$, $p = .122$, or the neutral words, $t(33) = 0.11$, $p = .915$.

The mean interference scores for both groups are shown in Figure 3.1. The group of clients who were *successful* had lower interference scores for alcohol-related and positive change-related words than the individuals who *relapsed*. The effect size for positive change-related words was large (g = 0.79); for alcohol words, it was small-to-medium (g = 0.38), and for the negative change-related words it was very small (g = 0.03). Accordingly, negative change-related words were not included in further analyses.

A logistic regression analysis was used to determine whether positive change-related and alcohol-related interference scores predicted treatment outcome for the 35 clients. The regression model was statistically significant, $\chi^2(2) = 6.12$, $p = .047$. Based on the non-significant results from the Hosmer and Lemeshow test, $\chi^2(7) = 8.91$, $p = .259$, the model appeared to be a good fit. It explained 21.5% (Nagelkerke R^2) of the variance in the clients' treatment outcome. The model correctly classified 68.6% of the cases, with 85% of the successful outcomes being correctly identified. However, of the two predictor variables, only positive change-related interference scores were significant (p = .048).

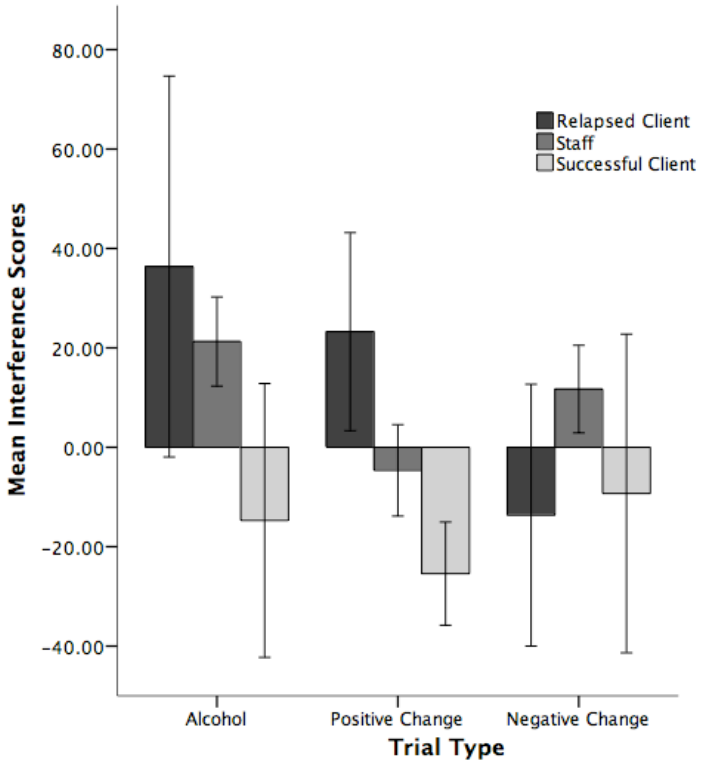

Figure 3.1. Mean interference scores for staff and clients who did and did not relapse. Error bars represent one standard error from the mean.

Negative interference scores for the positive change-related words were associated with treatment success. A one-sample t-test against zero (i.e., no interference) showed that the successful individuals' negative attentional bias for positive words was significant, $t(19) = -2.45$, $p = .024$. To further explore whether positive change-related words were a significant predictor of treatment outcome, two simple linear regressions were conducted using continuous measures of treatment outcome: average units drunk and percentage of drinking days. Of the 35 clients who were tested, 28 provided this more detailed information about their level of drinking during the follow-up period (see Table 3.2).

Table 3.2

Clients' Alcohol Consumption at Follow-Up

	Relapsed	Success
Mean units drunk per day	23.16 (14.30)	0.46 (1.25)
Mean % drinking days	65.55 (26.11)	4.94 (15.37)

Note. Standard deviations are shown in parentheses.

Homoscedasticity and normally distributed residuals were achieved through a log10 transformation for both dependent variables. Positive change interference scores significantly predicted the number of units drunk during the follow-up period, $F(1, 26) = 4.73$, $p = .039$, and the percentage of drinking days, $F(1, 26) = 6.44$, $p = .018$, with higher interference scores associated with more units drunk and a higher percentage of drinking days. Positive change-related interference scores accounted for 15.4% of the variance in the number of units drunk during follow-up and 19.8% of the variance in the percentage of drinking days. Using r^2 as a measure of effect size, the relationship with both number of units drunk ($r^2 = 0.15$) and percentage of drinking days ($r^2 = 0.20$) yielded a medium effect size (Cohen, 1988).

Finally, a logistic regression analysis was run to determine whether scores on the questionnaires completed during detoxification predicted treatment outcome. As expected, the regression model was not statistically significant, $\chi^2(5) = 6.71$, $p = .243$. None of the measures was a significant predictor of outcome: DERS scores ($p = .248$), SIP scores ($p = .101$), HADS anxiety scores ($p = .440$), HADS depression scores ($p = .377$), and RCQ total scores ($p = .859$).

Discussion

The current study aimed to determine whether a variant of the emotional Stroop task could predict the treatment outcome of alcohol-dependent individuals undergoing detoxification. The results indicated that positive change-related words were a significant

predictor of treatment outcome, but not in the expected direction. Individuals who relapsed had significantly larger interference scores (i.e., an attentional bias) for the positive change-related words than those who were successful, whereas those who were successful had *negative* interference scores (i.e., a *negative* attentional bias). That is, the successful individuals responded more quickly to the positive change words than to neutral words. Attentional bias for positive change-related words also significantly predicted continuous measures of drinking (e.g., number of units drunk and percentage of days drinking) during the follow-up period.

Why did the relapsed individuals show an attentional bias for the positive change-related words and the successful individuals did not? Previous research on Stroop interference in patients with anxiety may provide an explanation. Mathews and Klug (1993) found that patients with an anxiety disorder had an attentional bias for both positive and negative valenced words that were related to their disorder. They suggested this was because the patients viewed both the positive and negative words as aversive regardless of their overt meaning. Similarly, in the current study the positive words might have become aversive for the individuals who were unable to attain recovery and had not experienced an identity shift, thus causing them to have an attentional bias for these words.

On the other hand, the successful individuals might have found the positive words appealing rather than aversive. There has been limited research exploring whether positive words elicit positive affect. However, a meta-analysis of studies of attentional bias for positive emotional stimuli (Pool, Brosch, Delplanque, & Sander, 2016) found that positive words have a greater impact on initial orientation to them (i.e., they are grabbing attention) than on disengagement from them and re-orientation to a new task. Words that are perceived as appetitive (i.e., words that produce positive affect) broaden an individual's attention and facilitate the processing of new stimuli (Fredrickson, 2001). Thus, in the present study

whereas the words might have initially captured all participants' attention, the successful individuals may have quickly oriented to the stimuli and experienced positive affect, which in turn facilitated their ability to quickly name the color in which the word appeared. On the other hand, the participants who relapsed might have perceived the positive words as aversive and struggled to disengage their attention from them (which resulted in an attentional bias). Future research should test this hypothesis by assessing participants' affective reactions to positive words and determining whether this improves or impairs their reaction times to positive change-related words on the Stroop task.

The individuals who relapsed showed a nonsignificant trend toward greater alcohol attentional bias than the successful individuals, but why was their alcohol attentional bias not stronger? Field et al. (2014) suggested that alcohol attentional bias is greatest in *high-risk* situations in which heavy drinkers are tempted to drink. The treatment unit where this study was conducted was a low-risk environment that did not provide an opportunity to drink. Future research in which the alcohol Stroop is administered in naturalistic settings would likely show that alcohol attentional bias is a stronger predictor of treatment outcome than was found in the current study.

In line with our hypotheses, the RCQ did not predict treatment outcome. The RCQ was developed as a measure of individuals' motivation to change their drinking behavior (Heather & Honekopp, 2008), but studies of its predictive utility have yielded mixed results (Cox et al., 2007; Heather, Rollnick & Bell, 1993). The results of the present study suggest that alcohol-dependent individuals' stated readiness to change is unrelated to their subsequent actual change. Possibly, the participants provided socially desirable answers on the RCQ. In this study, some implicit attentional bias measures predicted treatment outcome better than the RCQ.

Attentional bias for negative change-related words did not predict treatment outcome. Both relapsed and successful clients explicitly rated these words as meaningful, yet neither group showed an attentional bias for them. It is clear from participants' responses on the Short Inventory of Problems questionnaire that they had experienced serious and multiple problems resulting from their drinking, yet they had continued to drink. They might, however, have become desensitized to stimuli related to these negative consequences.

The lack of difference in interference scores between staff members and clients also warrants attention. Staff members showed an attentional bias to alcohol-related stimuli probably because in their day-to-day work with alcohol-dependent patients, they were continually exposed to alcohol-related stimuli, even though they themselves might not have had concerns about drinking alcohol. Research conducted by Albery, Sharma, Noyce, Frings and Moss (2015) identified that individuals who consume low levels of alcohol can show a strong attentional bias towards alcohol-related stimuli if they work in environments where there is high exposure to alcohol-related cues. In Albery et al.'s study the participants worked in pubs, but similar findings may have occurred for our staff members who work in a different high exposure environment. As expected, the staff did not show an attentional bias for the positive change-related words. As Field and Cox (2008) suggested, the ideal control group to use in alcohol attentional bias research has not yet been identified.

A criticism of indirect measures such as the alcohol-Stroop is that it is unclear whether these tasks actually measure attentional bias, or whether they measure other related processes such as cognition and motivation instead (Christiansen, Schoenmakers, & Field, 2015). Future research expanding on the clinical utility of using attentional bias to predict treatment outcome could use more direct measures of attentional bias, such as eye-tracking, to further validate the current findings (Wilcockson & Pothos, 2014).

It is also worth noting that although treatment outcome often focuses on the amount that people drink, there are other important factors associated with treatment success (Laudet, 2007; Welsh Assembly Government, 2013). Future research should consider using a wider definition of treatment outcome than that used in the current study, taking into account other important factors such as an individual's well-being.

This study points to potential clinical utility of using attentional bias as a predictor of treatment outcome, but the results suggest that positive words may be a better predictor than alcohol-related words. However, before the paradigm can be used in clinical practice, further research is needed to replicate the current findings and better determine why relapsed individuals showed an attentional bias for positive change-related words and successful individuals showed a *negative* attentional bias for them. Developing valid predictors of successful treatment outcomes is important for refining effective treatments, and predicting outcome using an implicit measure might help overcome the limitations of explicit measures.

CHAPTER FOUR

Recovery: A Review of the Literature

The previous chapter explored whether we could detect the identity shift from 'addict' to 'recovering individual'. The remaining chapters will now focus on the experiences associated with this latter identity, and the role recovery group's play in helping initiate and maintain this change.

There has been a recent shift in the addiction field, from a problem-based management approach to a recovery, solution-focused paradigm (Laudet, 2008). Whilst the previous treatment movement helped professionals recognise addiction as something that needs to be medically treated (White, 1998; White, 2000), it is evident that recovery from addiction does not end once a patient has left these treatment services (Drug Strategy, 2010; Welsh Assembly Government, 2013). The recovery movement has recognised the complexities of addiction, and purports that recovery is a process that happens over a long period of time (Best & Laudet, 2010; Laudet, 2007; Welsh Assembly Government, 2013). As a result of this change in perspective, there is a new focus in both research and practice on the concept of 'recovery' (Best & Laudet, 2010; Drug Strategy, 2015).

The current chapter aims to review the literature on recovery from substance misuse. The diverse, unique nature of recovery experiences will be discussed, and the importance of mutual aid groups in helping individuals along their recovery journeys.

Definitions of Recovery

Despite this new focus on recovery in drug policy in both the United States and the United Kingdom (Drug Strategy, 2010; Welsh Assembly Government, 2013), there has been a lack of clarity as to what 'recovery' actually means (Paylor, Measham, & Wilson, 2012). This lack of consensus can present problems for researchers, clinicians and other stakeholders, particularly (like in Chapter Three) when evaluating treatment outcomes

(Laudet, 2007). The word ‘recovery’ can have different meanings to different people (Drug Strategy, 2010; Welsh Assembly Government, 2013). An emphasis on abstinence was evident in many early definitions of recovery (Maffina, Deane, Lyons, Crowe, & Kelly, 2013), and the amount of substance use consumed is often the primary outcome measure in research studies (Laudet, 2007; Laudet & White, 2008). This is also evident in the media, where portrayals focus on abstinence-oriented goals and the struggles associated with trying to achieve them (Laudet, 2007). More recent definitions recognise the importance of additional factors in this individualised journey (Welsh Assembly Goverment, 2013). For example, the Drug Strategy (2010) defines recovery as not just freedom from dependence, but also an improvement in well-being and citizenship. Similarly, the Welsh Assembly Government’s definition of recovery focuses on a reduction in addiction-related problems, and on a long-lasting personal improvement.

It is also important to consider definitions of recovery from the perspective of individuals who have first-hand experience with addiction, as they are the experts of the recovery process (Neale et al., 2015). Laudet (2007) explored whether individuals who had actual experience with addiction considered abstinence to be a key component of their recovery. Using semi-structured telephone interviews, this researcher found support for this idea, as recovery was often defined as abstinence from all substances. It is important to note that one of the inclusion criteria for this study was that individuals needed to be abstinent from substances for at least a month. It is possible, therefore, that the study excluded individuals who considered themselves to be ‘in recovery’, but who also chose to use in a controlled manner or to use other substances non-problematically. Participants in the study also acknowledged the importance of additional factors, such as finding one’s identity, and the idea of recovery as a continuous process rather than a final goal.

Research has identified that clients' views about recovery are often different from staff members' views (Maffina et al., 2013; Neale et al., 2015). A study by Maffina and colleagues (2013) used surveys to assess both service users' and service providers' perceptions of recovery. They concluded that although service users and service providers viewed abstinence as an important factor in recovery, service users tended to have more externally focused perspectives of recovery. For example, they viewed the re-building of relationships with others and with the society in which they lived as important factors. This was in contrast to the staff, who often felt that intrinsic goals such as attaining spirituality were most important. The different views of service users and staff identified in this study should be interpreted cautiously, as only individuals from religious-based programs were included, which may explain the staff members' focus on spirituality. In addition, many of the staff members were themselves in later stages of recovery. Thus, the differences in focus between staff and service users could reflect differences between individuals in varying stages of recovery.

In a later study, Neale and colleagues (2015) conducted five focus groups, containing either current problematic alcohol or drug users or individuals in recovery. The researchers asked the groups to discuss a number of measures of recovery that had previously been identified by service providers. Although the service users agreed with the service providers on a number of aspects, such as attaining an improved quality of life, social support from non-using friends and improved coping skills, there were areas of disagreement. For example, the service users concluded that one of the measures, having substance cravings, was beyond a person's free will and should not be considered a measure of their recovery. In addition, it was noted that measures created by service providers could often place unrealistic expectations on the service users. For example, having good relationships with all significant others, having complete self-awareness or not being bored were all seen as beyond what is

normally expected of someone who has never had a drug or alcohol problem. Public perceptions of addiction can also differ from the experiences of people in recovery. For example, 72% of the participants in a national public opinion survey in the United States believed that recovery is not possible for an individual who remains addicted after treatment (Barry, McGinty, Pescosolido, & Goldman, 2014). These studies as a whole remind us of the importance of taking people's actual experiences with recovery into account.

Recovery Capital

It is evident from these reports that recovery is more than just becoming abstinent from substances. It involves a complex interplay of many factors (Laudet, 2007). Granfield and Cloud (1999) captured these factors as a whole in their concept of 'recovery capital'. They hold that addicted individuals access multiple resources to help them begin and maintain their recovery. These resources can be both internal and external, and they play a fundamental role in determining whether or not an individual's recovery is successful (White & Cloud, 2008). For example, research has shown that an individual's recovery capital is one of the best predictors of their long-lasting recovery (Best et al., 2009) and is associated with their enhanced quality of life and a reduction in their level of stress (Laudet & White, 2008). The Advisory Council on the Misuse of Drugs (2013) suggest that individuals with high recovery capital may experience an 'easier' recovery because of their enhanced resources, but there is a lack of empirical evidence to support this claim. Thus, further research in this area is needed.

According to Cloud and Granfield (2008), recovery capital is believed to comprise four key components: social, human, physical and cultural capital. Social capital is the resources achieved from having relationships with others (e.g., support from one's family). Physical capital refers to tangible resources, such as money, that make the recovery process easier (e.g., having one's own house). Human capital includes a variety of internal resources,

such as skills, intelligence and health. Finally, cultural capital refers to the values, beliefs and attitudes held by the individual that comply with societal norms. Combined, these components should assist an individual's recovery journey.

The notion of recovery capital recognises the significance of social influences on the individual. Previous definitions of recovery have often focused on an individualised experience of being 'recovered' (e.g., Drug Strategy 2010; Welsh Assembly Government, 2013), without acknowledging the importance of other people in this process (Best et al., 2016). Even for those who recover 'naturally' without involving themselves in formal treatment and/or addiction recovery groups, social capital was still important for maintaining their recovery (Cloud & Granfield, 2001). Inevitably, despite the availability of help from many other sources, individuals often favour the help from another person who is also in recovery (Humphreys, 2004). Best et al.'s social identity model of recovery (SIMOR) argued that there is a transition between identifying with a substance abusing social group and identifying with a recovery-based social group. This transition helps maintain recovery and may be the reason for individuals preferring to receive help from like-minded individuals. This is not an instantaneous shift in membership and is something that occurs throughout early recovery. As individuals become more involved in these recovery-oriented groups, they develop a new social identity with values and beliefs that match those of the recovery group.

The social identity model of cessation maintenance (SIMCM) also emphasises the important role groups play in increasing an individual's recovery identity (Frings & Albery, 2015). This model extends on SIMOR by recognising the social cognitive factors that also play a part in identity transition (Bathish et al., 2017). Through social control (e.g. structure) and social identity (e.g. cohesiveness) processes, mutual aid groups can help facilitate positive behaviour change. For example, a greater recovery group identity has been associated with higher cessation efficacy (Frings, Collins, Long, Pinto, & Albery, 2016), and

higher evaluative differentiation (i.e. the perceived difference between old 'addict' identity and new 'recovery' identity) has been associated with lower levels of relapse and destructive behaviours (Buckingham, Frings, & Albery, 2013).

It is important to also consider how changing social groups (i.e., from other drug or alcohol using associates to recovery-focused ones) may assist recovery by reducing exposure to alcohol-related activities that may have previously induced alcohol attentional bias and amplified cravings (Kelly, Stout, Magill, & Tonigan, 2011). Nonetheless, the SIMOR and SIMCM highlight the importance of individuals getting involved in non-substance using social groups such as mutual aid groups when choosing to tackle their dependency.

Mutual aid Groups

According to Humphreys (2004), mutual aid groups involve members all of whom are in recovery and are reciprocally helping one another to progress by sharing experiences and encouraging goal-setting. A peer rather than a professional leads the group, and groups cost no money to join. Mutual aid groups are also known as a self-help group in the literature (Kelly & Yeterian, 2008), and a review of the evidence indicates that the supportive nature of mutual aid groups can have a beneficial effect on recovery (Best et al., 2010). Involvement in mutual aid groups can increase certain aspects of recovery capital (Best et al., 2009), particularly social capital through support from like-minded peers. This is extremely important, as building social capital has been associated with greater quality of life for individuals recovering from an alcohol or drug dependency (Best et al., 2012). Group meetings can often occur on evenings or at weekends, which provides support for individuals beyond the 9:00-to-5:00 working day that most kinds of professional care follows (Kelly & Yeterian, 2008).

A recent prevalence study in the United States estimated that 45% of individuals who report to have resolved a drug or alcohol problem use mutual aid as their main source of

support (Kelly, Bergman, Hoeppner, Vilsaint, & White, 2017). Many mutual aid groups have developed over the years (Humphreys, 2004). In certain social contexts, stigma and biases alienating those in need can inhibit access to formal health and social-care structures (Sproule, O'Halloran, & Borkman, 2000). This, in addition to the desire for long-term support that healthcare services cannot provide, can stimulate the growth of alternative, community-based, mutual aid groups. Although the aim of all these groups is to facilitate recovery, groups can differ significantly in their structure, underlying approaches, theoretical framework and practices (Humphreys, 2004).

One of the first mutual aid groups was Alcoholics Anonymous (AA). Founded in 1935 by Bill Wilson and Dr. Bob Smith (Kurtz, 1979), the group has had widespread international success and reach, with groups across approximately 181 different countries and comprising an estimated two million members (AA, 2016). AA members adopt a disease-model of alcohol use, which means they see addiction as a lifelong disease that someone is unable to control, and from which they will never completely recover (Schaler, 2000). Members follow a 12-step philosophy, abiding by 12-steps of recovery and 12 traditions within the group (Donovan, Ingalsbe, Benbow, & Daley, 2013; Wilson, 1953). In summary, members are expected to become abstinent and improve both their morality and spirituality. AA meetings can differ in a number of ways, for example closed versus open meetings, and the option of having specialty meetings, such as women-only meetings. Regardless of these differences, commonalities across groups include a ritual to start and end the meeting, and a story-telling focus throughout (Humphreys, 2004).

A plethora of research has explored the success of AA over the years. Research has shown that group attendance and AA-related helping was associated with greater long-term abstinence after a 10-year follow-up (Pagano, White, Kelly, Stout, & Tonigan, 2013). This research is correlational, so one cannot be certain that participation in AA directly caused

these positive outcomes. A common problem with research exploring the effectiveness of AA is that using a randomised control trial, which is considered the 'gold standard' and can help determine causation (Kaptchuk, 2001), is usually not possible in anonymous groups such as AA. Despite having high internal validity, randomised control trials can have low external validity, and strict exclusion criteria can make them unrepresentative (Humphreys, 2004). Also it is unethical to have a control group for which no alternative support is provided (Kelly, 2003), and the control group could still, through choice, attend groups unassociated with the study (Humphreys, 2004). AA is a group joined through choice, and forcing an individual to join (or not join, depending on their group allocation) is not generalisable to reality (Kelly & Yeterian, 2008). In addition, a report from the Advisory Council on the Misuse of Drugs (2013) concluded that involvement in mutual aid groups is usually only beneficial when individuals make the choice to join, rather than being coerced. To address these issues, different statistical methods have been used on other longitudinal studies to help support a causal direction between AA attendance and abstinence. Magura, Cleland and Tonigan (2013) used a cross-lagged panel design, which is a type of structural equation modeling, on Project MATCH data. They found that, in line with previous research, attending an AA group increased abstinence in individuals recruited from outpatient and aftercare sites, regardless of the treatment type they had received.

Project MATCH was the largest research trial known to date, which primary aim was to match individuals to the most effective treatment for them (Cutler & Fishbain, 2005). This included 12-step facilitation therapy, which was implemented on a one-to-one basis, and involved the professional working through the first three steps of AA with the client (Project Match Research Group, 1997). The other two therapies used in Project MATCH were motivational enhancement therapy and cognitive-behavioural therapy, and participant outcomes were recorded one and three years post-treatment. The study found that individuals

significantly reduced their alcohol consumption and alcohol-related problems after all treatment types. However, the study failed to successfully match individuals to the best treatment for them (Project Match Research Group, 1998). Despite 12-step facilitation therapy showing no distinct advantage over the other therapies, the inclusion of AA-related therapy in this large-scale study emphasizes the significant impact AA has had on the addiction field.

A review of the AA literature by Kaskutas (2009) has also provided some support for AA's effectiveness. Kaskutas argued that for AA to be considered effective, and a causal effect established, six criteria need to be considered. These being: (1) a strong relationship between AA attendance and abstinence, (2) that abstinence should improve with greater AA exposure, (3) a consistent relationship found across studies, (4) that previous AA exposure should predict subsequent drinking outcomes, (5) agreement with psychological theories and that (6) the effect should be specific to AA exposure and not due to other confounding variables. The review concluded that the evidence supports five of the six criteria. When studies explored the sixth criteria, specificity of the effect, mixed results were found when controlling for potential confounding variables (such as type of treatment received). However, the results from this review are still promising, and in line with anecdotal reports from AA attendees (Cain, 1991).

Following the success of AA, other 12-step groups have emerged such as Narcotics Anonymous (NA) and Cocaine Anonymous (CA). These groups are extremely similar to AA, in that they follow the same philosophy, have twelve steps and have twelve traditions. NA differs to AA in that AA focuses solely on alcohol addiction, whereas NA is available for individuals addicted to any drugs, including alcohol (Humphreys, 2004). Research into NA has shown similar positive outcomes to AA, with those who frequently attend NA post-treatment more likely to be abstinent from opiates over a five-year follow-up period, in

comparison to non-frequent attendees, and non-attenders (Gossop, Stewart, & Marsden, 2008). Cocaine Anonymous focuses specifically on addictions to cocaine (Cocaine Anonymous, 2016). Variations of AA have also developed in numerous countries, to better suit the cultural context they are based in. For example, in Japan, which is a collectivist culture, the family attends the Danshukai group alongside the recovering individual, completing the 12-steps together (Chenhall & Oka, 2009).

Although the success of 12-step groups is evident from the literature, these groups do not suit all individuals in recovery. For example, it has been suggested that women and ethnic minority groups may struggle with the idea of powerlessness, due to the inequality they can face in society (Donovan et al., 2013). From the first step of AA, members are expected to admit to being powerless over alcohol. Although this is intended to be an empowering experience, if interpreted incorrectly an individual could see it as adopting a 'victim' status, and losing all control over another area of their lives. This is particularly difficult for individuals whose addiction has originated from previous abuse (Covington & Surrey, 1997). Youths can also experience a number of barriers when joining AA. For example, being significantly younger than the rest of the group can prevent the individual from identifying with other group members, and without similar-aged peers to model they may struggle to accept the restrictions placed on their behaviour. Accessibility can also be difficult, with young individuals often unable to access their own transport (Kelly & Myers, 2007). Finally, not everyone believes in the disease-model of addiction, and some individuals choose to believe that they themselves have the power to cease their addiction (Schaler, 2000). These individuals see addiction as a habit developed from a number of psychological and social factors, not a biological disease (White, 2001). This habit like any other can be broken through taking responsibility and control over one's own actions, and this perspective does not fit with AA's 12-steps. The disease-concept debate is still ongoing in the addiction field

(White, 2001), therefore it is clear that addiction experiences are different for everyone, and as a result recovery should be an individualised experience (Drug Strategy, 2010).

Whereas AA focuses on individuals receiving help from a higher power, other emerging groups such as SMART focus on teaching self-reliance, and helping oneself. SMART, which stands for 'Self Management and Recovery Training', does not follow a 12-step philosophy, and instead follows a cognitive-behavioural approach. SMART meetings involve interactive discussion rather than storytelling like in AA (Horvath & Velten, 2000), and individuals are taught techniques to direct their own change (Kelly & Yeterian, 2008). Although it has not been as extensively researched as AA, SMART has been shown in the literature to have a positive impact on individuals' lives. An Australian survey of group facilitators and members of SMART found that those using the groups are generally satisfied, and find SMART recovery tools and the overall group experience particularly useful (Kelly et al., 2016). More objective measures of effectiveness have also been explored in the United States, with a reduction in individuals' drinking levels and drug-related consequences after they have attended SMART for six months (Campbell, Hester, Lenberg, & Delaney, 2016). It is important to note that further research is still needed on SMART's impact on individuals in recovery, as Campbell's study did not include a control group, so it is unclear whether the SMART group amplified any natural recovery the individuals were already experiencing.

A pilot study by Li, Feifer and Strohm (2000) found that individuals involved in SMART groups had a more internal locus of control than AA members, indicating SMART members felt that they had more personal control over their life circumstances. Although the reasoning behind these differences is not clear from the pilot, it could indicate that individual differences in locus of control mean individuals could be better suited to groups whose philosophy is in line with their own beliefs and attributions.

Moderation Management is another example of a group that differs significantly to the majority of other mutual aid groups. The group is online-based, and has approximately 500 members, and many others intermittently accessing the group's services. Rather than focusing on abstinence, Moderation Management focuses on the ability to control one's drinking (Kelly & Yeterian, 2008). This emphasis on self-controlled moderation is in direct contrast to groups such as AA and SMART, as for example in AA the disease-model emphasizes that the only way to overcome addiction is to surrender to a higher power and have complete sobriety. As identified through interviews with individuals involved in Moderation Management, the approach is not suitable for everyone in recovery (Klaw & Humphreys, 2000) and it highlights once more the importance of fitting the individual to the group rather than striving for a 'one size fits all' approach.

Alongside these nationally and internationally established groups, in the 2010 Drug Strategy review, the British government encouraged locally-led systems to design their own addiction and recovery-based services to suit their community's needs. From strategies such as this, community-based groups such as Anglesey and Gwynedd Recovery Organisation (AGRO) have arisen. AGRO is an organisation in North Wales that runs a number of weekly recovery groups for individuals in recovery from substance use disorder. AGRO differs from the typical 12-step mutual aid groups, as it is based around social activities rather than fellowship meetings, and members are able to follow whichever addiction philosophy they choose (AGRO, 2016). In line with the inclusive nature of the current addiction-recovery advocacy movement (White, Kelly, & Roth, 2012), it is likely that the number of groups similar to this is on the increase. Thus, future recovery group literature should focus on including these types of groups for a fuller picture of the current recovery network.

The Universal Components of Mutual Aid Groups

Despite the clear differences between mutual aid groups, all groups claim to help individuals in recovery improve their lives. Perhaps it is the elements that these groups have in common, rather than their differences, that are causing a positive impact on the group members' lives (Humphreys, 2004; Kelly & Yeterian, 2008)? For example, although spirituality is often considered a main component of AA (Kurtz, 1979), a systematic review by Kelly, Magill and Stout (2009) indicated that there is little evidence that supports the usefulness of this component. They suggested that the few papers that have explored spirituality have found that spirituality did not directly mediate future treatment outcomes. Kelly at al. suggest that perhaps other mutual aid groups could, in fact, be providing the same useful mechanisms as AA in slightly different ways.

Although there are clear variations in aspects such as spirituality, chosen philosophy and involvement with the wider society (Humphreys, 2004), it is expected that there are some universal components to all mutual aid groups (Kelly & Yeterian, 2008; Moos, 2008), many of which could be common elements of therapeutic groups in general (Yalom, 1995). In his paper, Moos identified probable active ingredients of a successful recovery group. These ingredients were derived from four key theories in addiction that explain how individuals maintain their recovery. First, social control theory postulates that strong bonds with significant others such as family and friends encourage individuals to maintain their recovery, and the active ingredients of 'bonding', 'goal direction' and 'structure' help achieve this. Second, social learning theory emphasizes the importance of 'observation and imitation of norms and role-models' and 'expectations of positive and negative consequences' in recovery groups, as having abstinent-oriented social networks provide individuals with people who they can follow and regard highly. Third, behavioural choice theory explains how being involved in other rewarding pursuits such as social activities can be protective against the

rewarding nature of substance misuse. Groups help achieve this by providing 'involvement in protective activities', and 'effective rewards'. Fourth, the final ingredients, 'identifying high-risk situations', 'building self-efficacy and self-confidence' and 'developing coping skills' are based on the stress and coping theory, where building an individual's skills will help them to avoid using substances as a coping mechanism.

For each of the probable active ingredients listed above, in his paper Moos (2008) provided previous research supporting the presence of each component in AA groups, and explained how the ingredients have helped improve outcomes. For example, individuals who are more involved with group activities such as meetings and sponsoring others are more likely to remain abstinent (Kaskutas et al., 2005), highlighting the importance of the ingredient 'involvement in protective activities'.

Despite the evidence supporting the likelihood of these ingredients in mutual aid groups (Moos, 2008), the conclusions are made through combining findings of several studies. To date, there has been no study conducted directly measuring the presence of all the probable ingredients. Moos identified that determining the strength of each ingredient in groups is one of the next steps researchers should focus on. In addition, the majority of mutual aid group research (including Moos' study) uses participants from the United States involved in Alcoholics Anonymous. Moos suspected that these ingredients would be universal characteristics of mutual aid groups; however, remembering the diversity of mutual aid groups, these ingredients may not be completely representative of mutual aid groups in general (Humphreys, 2004). Groups not affiliated to larger organisations like AA are often too small and unique to have been previously explored extensively in research (Kelly & White, 2012; Kelly & Yeterian, 2008; Humphreys, 2004), so it is difficult to predict how representative these ingredients would be in these community-based groups. The research in Chapter Seven determined whether the same ingredients were apparent in a diverse range of

mutual aid groups, and whether individuals in particular groups valued certain ingredients more than others.

Uncovering the Client's Perspective

In addition, the success of mutual aid groups is often measured on quantified outcomes that measure 'recovery', such as levels of drinking, well-being and recovery capital. Validated measures are often used, such as the Alcohol Timeline Followback to assess self-reported drinking levels over a period of time (Sobell & Sobell, 1992). As previously mentioned, recovery is a multi-faceted concept (Laudet, 2007), so outcome measures have been created to capture this complex experience. For example, the Assessment of Recovery Capital is a 50-item scale used to measure overall levels of recovery capital on 10 sub-scales (Groshkova, Best, & White, 2013). Another measure, the Addiction Recovery Questionnaire, contains 12 'recovery indicators' generated by service users and significant others in their lives, which were then validated by service users, significant others and addiction professionals (Iveson-Brown & Raistrick, 2016). Measures such as these appear ideal for recovery group effectiveness research, as they are both objective and comprehensive; however, this quantified approach can be at the expense of truly exploring an individual's personal and subjective experience of addiction. Humphreys (2004) suggested that using objective measures is more accurate, as when asking an individual in recovery about their group experiences, their passion towards their own chosen group can often tunnel their beliefs into a view that only their group can help others to recover. Previous research involving clients' perspectives of the effectiveness of alcohol treatment has provided new insights into how treatment facilitates recovery (Orford et al., 2006). Therefore, it makes sense to also uncover the client's perspective of group effectiveness in future research, to add support for the presumed active ingredients by exploring first-hand experiences.

Present Research

It is worth nothing that similarities between mutual aid groups and professional treatments can be drawn. For example, Moos' ingredients (e.g., learning coping skills, having a role model) are believed to also be important in professional treatments such as motivational interviewing, 12-step facilitation treatment, cognitive-behavioural treatment and contingency management (Moos, 2007). In his earlier paper, Moos suggested that we need a reliable and valid measure of these ingredients in all stages of recovery, both treatment settings and groups, in order to measure treatment and group effectiveness. However, further research exploring the recovery group ingredients are needed before this measure is designed. It is not clear yet whether individuals consider Moos' (2008) ingredients the most important aspects of their treatment and recovery processes, and which components they value the most. It could be that individual differences in needs determine which ingredients are most important for that person (Moos, 2007); for example, people with a chaotic lifestyle may particularly benefit from the ingredients 'structure' and 'goal direction' in their treatment and groups. Also, although similarities can be drawn between mutual aid groups and professional treatments and the ingredients they implement, the relationship between professional and client in treatment differs from the relationship between group facilitator and group member in mutual aid groups (Humphreys, 2004). This will create two entirely different environments, which should be explored separately in the literature.

The projects in this thesis provide support for the value of mutual aid groups and their important role in maintaining an individual's recovery identity, using a first-hand perspective from individuals in recovery. First, due to the scarcity of previous research, a study was conducted exploring social-based recovery groups such as AGRO in detail, and individuals' experiences within these groups (Chapter Five). It is evident from the literature that there are many positive outcomes associated with mutual aid group involvement (Kelly & White,

2012): yet professionals' understandings of even well-known groups such as AA are limited and often skeptical, which can act as a barrier for individuals in recovery (Donovan et al., 2013; Humphreys, 2004). It is likely there will be similar barriers associated with other groups such as social-based community groups. In fact, these barriers may be greater due to the lack of research conducted in these areas. Kelly and White suggest there is a significant "catch 22" issue, where professionals are not willing to refer their clients to smaller, lesser known groups in their community, which means fewer individuals join and groups remain small. The understanding the project aimed to provide of under-researched groups will be passed onto professionals, and hopefully this will increase professionals' understandings of the group's potential value. Increasing awareness should help more individuals recover, by making individuals more aware of the range of pathways they can follow that may better suit their idiosyncratic needs (Kelly & White, 2012). A qualitative approach explored the members' experiences of these social-based groups, which enabled us to capture detailed accounts of subjective, lived experiences. Interpretative phenomenological analysis, a type of qualitative analysis, was used in order to try and understand the individual's experience of their recovery group (Smith, 2004) and generate rich new insights into this previously under-researched area (Braun & Clarke, 2006).

Second, we aimed to explore the diversity of mutual aid groups in an online survey. This survey tested whether Moos' (2008) ingredients were evident in a multitude of groups. Although Moos identified 10 active ingredients, in our research it was expanded to 12. The ingredient 'observation and imitation of norms and role-models' was split into 'presence of role models' and 'following a sober lifestyle', to identify whether it was specific role models, or the overall norm of sobriety in the group that was most important for individuals. The ingredient of 'giving back to others' was also added, as Moos highlighted the importance of allowing others to give back in mutual aid groups, and how it can increase an individual's

self-worth and sense of purpose. This is known as the "helper principle" (Riessman, 1965), and is apparent in AA groups when an individual acts as someone's sponsor. This second recovery-based project has been written up into two chapters (Chapters Six and Seven). As this project allowed us to collect information from a large number of individuals in recovery, we also asked individuals to complete two recovery capital questionnaires. We used this information to assess the psychometric properties of a new measure of recovery capital (The Recovery Strengths Questionnaire), and the results of this are outlined in Chapter Six. Following this, Chapter Seven explores the important components of addiction recovery groups.

CHAPTER FIVE

Exploring Personal Experiences of Social-based Recovery Groups

Recovery from drug or alcohol dependency is a journey that surpasses formal treatment (Drug Strategy, 2010), and mutual aid groups are often considered an important component of an individual's recovery journey (Best et al., 2010). In these groups, people in recovery from substance misuse reciprocally help one another. This is achieved through providing support and sharing experiences (Humphreys, 2004). The groups play a significant role in the transition from addiction to recovery, and facilitate the emergence of a recovery identity (Bathish et al., 2017).

There is a diverse range of mutual aid groups available within the U.K. (Drug Strategy, 2017; Humphreys, 2004). Recovery research often focuses on the effectiveness of, and involvement in, traditional 12-step groups such as Alcoholics Anonymous (AA; Pagano, White, Kelly, Stout, & Tonigan, 2013) or another well-established mutual aid group, such as SMART Recovery (Campbell, Hester, Lenberg, & Delaney, 2016). These groups have received support in the literature, with group involvement in both SMART and AA associated with greater levels of abstinence (Campbell et al., 2016; Pagano et al., 2013).

The groups previously mentioned are nationally and internationally established. In the 2010 and 2017 Drug Strategy reviews, the U.K. government also encouraged locally-led systems to design their own addiction and recovery-based services to suit their community's needs. From strategies such as this, community-led, social-based groups have evolved. An example of one such group in North Wales, U.K., is the Anglesey and Gwynedd Recovery Organisation (AGRO). AGRO is an organisation in North Wales that runs a number of weekly recovery groups for individuals in recovery from substance addiction. AGRO differs from typical 12-step mutual aid groups in that it is based around social activities rather than

fellowship meetings, and members are able to follow whichever addiction philosophy they choose (AGRO, 2016).

In line with the inclusive nature of the current addiction-recovery advocacy movement (White, Kelly, & Roth, 2012), it is likely that groups similar to AGRO will increase in number. Thus, future recovery group literature needs to focus on including these types of groups for a fuller picture of the current recovery network. At present, these social-based groups have not been scientifically studied.

Although these social-based groups appear to be quite different from the more traditional 12-step group, all mutual aid groups claim to help individuals in recovery improve their lives. Perhaps it is the elements that these groups have in common, rather than their differences, which have a positive impact on group members (Humphreys, 2004; Kelly & Yeterian, 2008). For example, although spirituality is often considered a main component of AA (Kurtz, 1979), Kelly, Magill and Stout's (2009) systematic review indicated that there is little evidence that supports the usefulness of this component. They suggested that the few papers that have explored spirituality have found that spirituality did not directly mediate future treatment outcomes. Kelly et al. suggest that perhaps other mutual aid groups could, in fact, provide the same useful mechanisms as AA in slightly different ways. Alternative mutual aid groups, such as the social-based groups, need to be studied in the same level of detail as 12-step groups to identify whether these contrasting groups have elements in common alongside their differences.

Due to the scarcity of previous research in this area, the present study aimed to qualitatively assess individuals' experiences within social-based groups. Asking participants within these groups directly about their experiences is in line with the current client-centred movement within recovery: this is particularly relevant as research has identified that group

members' views of recovery are often different from staff members' or researchers' views (Maffina, Deane, Lyons, Crowe, & Kelly 2013; Neale et al., 2015).

There has been increased interest in the addiction field in qualitative research (Nichter, Quintero, Nichter, Mock, & Shakib, 2004; Rhodes & Moore, 2001; Shinebourne & Smith, 2009). Qualitative exploration enables researchers to capture detailed accounts of subjective, lived experiences. The current study incorporated interpretative phenomenological analysis, a method of qualitative analysis, in order to try to understand the individuals' experiences in their recovery groups (Smith, 2004) and generate rich new insights into this previously under-researched area (Braun & Clarke, 2006).

In line with qualitative research, the current study had exploratory aims rather than predetermined hypotheses (Smith & Osborn, 2007). The study aimed to qualitatively explore individuals' experiences within these social-based groups. More specifically, the study aimed to gain an in-depth understanding of how these groups impact on a person's recovery and what components of the group are most important in aiding change. The aim was not to critique the success of these groups, but rather to explore the experiences individuals had in the groups.

Method

Methodological Approach

Qualitative data were collected by conducting semi-structured interviews with individuals who had attended the social-based groups. Qualitative data aims to provide rich, in-depth insights into under-researched areas (Anderson, 2010; Snape & Spencer, 2003). This is in contrast with quantitative methods, where the complexity of experience is not always captured (Eatough & Smith, 2006). The use of semi-structured interviews as a data collection tool allowed each participant to guide the interview, introduce novel ideas, and be considered as an expert in social-based recovery groups (Smith & Osborn, 2007).

The methodology used was interpretative phenomenological analysis (IPA), a well-established qualitative approach within psychology (Eatough & Smith, 2017). This approach focuses on lived experiences that are meaningful to the participant, and how they make sense of these experiences (Smith & Osborn, 2007). As a result, IPA is idiographic, phenomenological and hermeneutic, where individuals have their own subjective interpretations of their experience (Larkin & Thompson, 2012). In IPA it is acknowledged that one cannot directly access these interpretations without making our own interpretations as a researcher, resulting in a double hermeneutic (Smith & Osborn, 2007). In the interview process, the researcher attempts to make sense of the participants' trying to make sense of their experiences.

Recovery groups are believed to help facilitate change in individuals (Best et al., 2010), and IPA is useful for exploring change processes (Eatough, Smith, & Shaw, 2008). It was chosen over other approaches because the interpretative nature of IPA recognises the subjectivity of human experience, and that biases often experienced by both the researcher and participant are natural and should be identified and reflected on throughout the interview and analysis (i.e., the double hermeneutic; Eatough & Smith, 2017). IPA also delves deeper than the surface-level descriptions participants provide, using interpretation to uncover latent meanings (Eatough & Smith, 2017; Smith, Flowers, & Larkin, 2009). Unlike IPA, other approaches that are grounded within the text such as thematic analysis are primarily descriptive (Braun & Clarke, 2006).

It is also important to choose an approach that is consistent with the epistemological position and aim of the research question. If the aim were to explore the structure of participants' ways of thinking, a discourse analysis would have been better suited, or if the aim were to generate a theory, grounded theory could have been used (Smith et al., 2009). However, the focus for the current study was the phenomenology and lived experience of a

group of homogenous individuals, which IPA can provide a detailed and nuanced insight into.

Participants

Ten individuals involved in one of three different addiction recovery groups across North Wales were recruited using purposive sampling. The small sample size and non-random sampling technique are both common practice in research of this nature (Snape & Spencer, 2003). Samples should be homogenous and have experiential understanding of the area (Larkin & Thompson, 2012), so the inclusion criteria were an active involvement in a social-based recovery group and abstinence from drugs and/or alcohol for at least one month.

The homogeneity in the sample was that all individuals were recovering from substance use disorders, and attending similar social-based groups. The three groups chosen to recruit participants from all fit the criteria of a social-based recovery group, as their sessions were based around social activities. None of them emphasised a particular pathway to recovery from addiction. Information sheets were provided to the recovery group leaders, and those interested in participating were asked to contact the researcher directly. To protect anonymity of the participants, their names were changed to pseudonyms.

IPA allows us to uncover individual differences within a homogenous sample, which highlights the natural diversity in recovery experiences (Eatough, Smith & Shaw, 2008). As shown in Table 5.1, there were several differences among the participants, including their type of previous addiction and the length of time in a recovery group. It is unlikely that this heterogeneity would have had a significant impact on the homogeneity of the sample, as recovery groups do not distinguish between those who are addicted to drugs and/or alcohol, and are open to individuals at any stage of their recovery to join (Humphreys, 2004).

Table 5.1

Demographic Characteristics of the Participants

Name	Gender	Previous dependency	Time in recovery
Tom	M	Alcohol	1 year 5 months
Peter	M	Both	1 year 7 months
Jason	M	Alcohol	9 years
Ray	M	Both	4 years
Harry	M	Drugs	7 months
Claire	F	Alcohol	1 year 3 months
Luke	M	Alcohol	4 years
Carl	M	Alcohol	3 years
Pauline	F	Drugs	5 years
Zoe	F	Drugs	2 years 6 months

Procedure

The Ethics Committee in the School of Psychology at Bangor University approved the study. After participants had read the information sheet (Appendix L), they were asked to provide both written and verbal consent (Appendix M). The interview occurred in a venue of the participant's choice, which was often where their recovery group was held. This was done to try to ensure that the participant felt at ease during the interview. The interview was recorded for later transcription and analysis. Demographic data were also collected.

Following Smith and Osborn's (2007) recommendation, an interview protocol was used (Appendix N). In alignment with IPA, this was expected to be used flexibly, depending on the direction of the interview, with the double hermeneutic occurring throughout. The questions created were open-ended, and they focused on these areas: memorable moments

within the group, what it means to be a part of the group, and which components were most important. Questions were derived from the study aims, and the researcher made revisions to the protocol after discussions with supervisors, one of whom has expertise specifically in IPA. Probes were used to encourage the participant to expand on points that were considered relevant. The questions were not asked in any particular order.

Participants were informed that the interview would last approximately one hour. In reality, the interview length ranged between 28 minutes and 75 minutes. To ensure that as much information as possible was derived from the interviews, the researcher attempted to maintain a patient, flexible, and non-judgemental attitude, and she used active listening techniques, such as paraphrasing and reflection (Guion, Diehl, & McDonald, 2001). Participants were debriefed once the study was complete (Appendix O).

A pilot interview was conducted to evaluate whether the questions were appropriate for the target population. Both the interviewer and interviewee were satisfied with the pilot interview, and no significant changes were made. Thus, the pilot interview was included along with the other interviews in the analysis.

Data Analysis

The interviews were analysed using Smith and Osborn's (2007) six steps of IPA. These steps are intended to be flexible and iterative (Smith et al., 2009; Wagstaff & Williams, 2014). First, the researcher familiarised herself with the data by transcribing all of the interviews; she then listened again to each interview to check the accuracy of the transcription. The interviews were transcribed verbatim, and as McLellan, MacQueen and Neidig (2003) recommended, any mispronunciations, slang, grammatical errors or nonverbal sounds such as laughing were included. Second, the researcher coded each transcript. These codes could be both inductive and deductive (Eatough, Smith, & Shaw, 2008). The researcher noted any descriptive features of significant interest that were derived from the transcript, and

also possible critical interpretations of how segments could be conceptualised (see Appendix P for an example of a coded transcript). Descriptive, linguistic and conceptual features of the text were coded (e.g., metaphors; Smith et al., 2009). Third, the researcher grouped these codes into overarching, cohesive themes. Fourth, thematic documents were created, whereby the researcher reverted back to the original transcript to identify passages to support each theme and sub-theme (see Appendix Q for an example of a thematic document). The themes were then revised; for example, a theme might be removed if no supporting quotes could be found. Fifth, this process was completed separately for all ten transcripts. Sixth, themes were compared across all ten participants. A thematic table was created (see Appendix R), which indicated how prevalent each theme was across all of the transcripts. From this table, four superordinate themes were created that contained multiple sub-themes. The process of creating themes is intended to examine both similarities and polarities in individuals' experiences (Gray, 2013). The IPA approach is initially inductive and data-driven, but psychological theories can be considered when interpreting the results, as seen in the discussion section (Eatough & Smith, 2006).

Quality Criteria

It is important to perform credibility checks within IPA research, as there is much flexibility within the analysis process (Gray, 2013). The researcher attended an IPA training course prior to data analysis and followed quality criteria that Steinke (2004), Yardley (2000) and Smith (2011) outlined.

Triangulation is a way of assessing credibility, by analysing a question from several perspectives (e.g., multiple methods, data sources, researchers; Farmer, Robinson, Elliott, & Eyles, 2006). For this study, investigator triangulation was employed by discussing the emergent findings within the research team. The supervisors were given full access to the data. One supervisor was a practising clinical psychologist in substance misuse, and he felt

that the emergent findings reflected his experiences in clinical practice. The analysis and proposed themes were also discussed in detail on separate occasions with two other researchers who have expertise in IPA.

Throughout testing the researcher kept a reflective journal. This was to ensure transparency by acknowledging how personal values and previous experiences might affect data analysis (Mays & Pope, 2000; Ortlipp, 2008). For example, prior to testing the researcher attended several social-based recovery group sessions. These visits increased her understanding of the group format and the value of the group for its members, but it also created the researcher's strong interest in exploring these groups further.

The reflective journal was also used as an audit trail, to document any decisions made within the research process. For example, the journal encouraged an iterative process with the interview protocol. After a few interviews, it was decided that the question comparing social-groups to other types of mutual aid groups (e.g., Alcoholics Anonymous) should be asked towards the end of the interview, to allow participants to focus their responses more on the social-based group. This was particularly important for individuals who attended both social-groups and other mutual aid groups, as asking this question earlier in the interview would sometimes result in the interviewee answering the questions with reference to their other group rather than the social group of interest. The reflective journal was also used to bracket off any ideas that emerged during the interview process, in order to try and treat each transcript on an individual basis.

After the initial analysis, the final step of the triangulation process involved discussing a summary of the findings with several participants. This encouraged a more dynamic double hermeneutic, where the participants could respond to the researcher's interpretation of their life experiences. The two participants who responded felt that the themes accurately reflected their recovery group experiences.

Results

Four key themes were evident across the 10 participants: 1) the group's role in the individual's recovery, 2) each individual's personal choice and flexibility in the recovery experience, 3) the group as an inclusive family unit, and 4) active involvement in the recovery group. During the interviews, despite being asked about their personal experiences, the individuals sometimes focused on the experience of the whole group. As a result, some of the emerging themes were based around the group experience. As expected, individuals' experiences in the groups did not differ depending on whether they had been addicted to drugs or alcohol.

Group's Role in Recovery

The importance of the social group for a participant's recovery differed between individuals depending on the length of their recovery. Those who were in early stages of recovery tended to emphasize the group's vital role in their self-change, and attributed part of their success to the influence of the group. These participants highlighted the value of the group, particularly as a source of support, as seen in this extract from Claire.

> *'I don't know where I'd be without, . . . I just wouldn't, . . . cause this has started me on my journey to . . . recovery, this has started me to come out of myself, out of my shell, and doing things that I loved, cause I thought there wasn't a light at the end of the tunnel at one point, but it's a lifeline it really really is and I am so passionate about it'*

From this extract is it is evident that it is overwhelming for Claire to think about how much the recovery group has helped her, and what could have happened without the group. The *light at the end of the tunnel* is a metaphor usually employed to highlight the longevity and unbearable nature of an event, and how the '*light*' at the end makes the insufferable just about sufferable. In this case, it seems that Claire is trying to emphasize her long and difficult

journey through addiction, which seemed never-ending at the time, and how the group as her *'light'* has provided her relief from her addiction. The *'light'* could also have spiritual connotations here, symbolizing Claire experiencing enlightenment through her recovery in the group. Reminiscing the desperation and darkness of the addiction, Claire identified that the group provided her a *'lifeline'*. This implies that she needed rescuing from the confinements of her addiction. This is further emphasized when she talks about breaking *'out of my shell'* of addiction, where she may have felt trapped and unable to be her true self. It is clear the group plays a very important role in Claire's recovery.

For the participants early in recovery like Claire there was a reliance on the group, seeing it as *'a safety net to fall back on if you do feel like you're going to have a wobble'* (Carl). For Carl, this suggests that he saw the group (rather than himself) as responsible for preventing his fall back into relapse. Carl recognised the instability of his recovery, with the *'wobble'* indicating he was on an edge, pivoting between recovery and addiction. In this respect, the group seemed to be preventing the fall.

Participants who had experienced longevity in their recovery had different views, and identified that the group was no longer a vital influence for their recovery. For these individuals, the group played a less significant role in their lives. For example, as Ray stated: *'You're changing your life really, and your life is bigger than just a group'*. This marginalization of the group's importance and emphasis on the bigger picture suggests Ray feels personal ownership over his change. This can be directly compared to other participants like Tom, who believed that *'the change the difference in me, in 11,12 months wouldn't have happened without [recovery group]'*, attributing his success entirely to the recovery group.

However, despite Ray marginalizing the group's role in his recovery, there was an element of uncertainty in some of his comments about the role of the group. *'Do I need to immerse myself in it 24-7, no I don't, no I don't, so you know like I said it's take it or leave*

it'. Although Ray was explicitly stating his independence from the group, he repeated this *'do I need it'* question several times throughout the interview, and in the extract above there was repetition of *'no I don't'*. It seems that Ray is trying to cement the idea of being independent and non-reliant on the group. However, it is not clear whether he is trying to convince himself or the researcher here.

All members, even those who no longer saw the group as vital, identified the importance of the group's role in providing alternative activities to substance misuse. Examples of activities that individuals were involved in were walks, weekends away at a cottage, crafts and cooking. Substance misuse had taken up a significant amount of the individual's time, and Pauline suggested that *'without the stuff . . . that goes on in [recovery group], . . . I'd probably get very bored'*. Harry and Luke both referred to the *'buzz'* of these activities, which provided a replacement to the 'buzz' of their previous substance misuse. From these extracts it seems that the group can act as a substitute for what the substance provided, whether this was a *'buzz'*, a coping mechanism or to prevent boredom. The activities gave the individuals something new to do, and as Zoe highlighted '*some people have to go out and they have to have the alcohol to have a good time, they have to take drugs to have a good time, we don't'*. Zoe is experiencing a new identity, associating herself with the joint sobriety of the group (*'we'),* rather than the *'some people'*, which could refer to the social group she used to be a part of in her using days. It seems that participating in these alternative activities within the group has helped shape Zoe's new identity as someone in recovery.

The activities provided a more relaxed environment to talk to one another. Whilst on walks with the group, Luke states *'people would just open up and share experiences about themselves without even asking a question, which is . . . quite powerful . . . the fresh air and the way it helps people'*. Often the participants talk about how the members help one another

recover. Yet it seems in this case it is the activity itself, walking in the outdoors, that is influencing the group dynamics and having a positive effect on the members' ability to talk openly.

Personal Choice and Flexibility in the Recovery Experience

The interviews suggest that there is diversity in recovery experiences. This highlights the importance of personal choice in recovery, and the ability to flexibly use recovery groups to suit one's needs. This flexibility was considered important both within the group, and in the wider recovery network. For example, within the group the freedom to come and go was a core feature, as highlighted by Jason.

> *'If you go out there and fly your kite and it dumps, we're still here the week after, if you go out there and fly your kite and we never see you again, we've all got our fingers crossed that you've gone somewhere really great.'*

This metaphor of flying a kite seems to reflect the highs (linking to the other metaphor "as high as a kite") and lows (*'when it dumps')* of the addiction journey, and how the experience can often be unpredictable. The freedom to go off and *'fly your kite'* is evident, and here we see a lack of commitment expected from the group. In addition, Jason seemed to be referring to the whole group's experience here (*'we')*, and this idea of a united group supporting each-others' journeys into recovery is discussed further in the next theme.

The freedom to discuss whatever topic they wanted was also evident from the majority of participants. For example as Peter states, *'we chat about whatever we want to chat about, something bothering us we chat about that, don't necessarily always talk about . . . our own problems, we just get together'*. Peter and the other members enjoy this freedom and unstructured nature to the group. It appears that the social aspect of the recovery group through simply 'getting together' can be a more important function of the group than the actual content discussed.

Some participants chose to attend multiple groups alongside the social group. Luke spoke about the multiple recovery groups he was now involved in: *'I think it gave me more confidence as well . . . because I've ended up going off with other groups and there's been a knock on effect'*. The social group acted as a catalyst for Luke attending other groups, increasing his confidence and widening his recovery network as a result. This indicates that something important is occurring within these social groups for Luke to be able to develop a skill, which he considers important for expanding his recovery.

Pauline, Luke, Harry, Claire, Carl and Zoe were also involved in the more traditional recovery groups, such as Alcoholics Anonymous and Narcotics Anonymous. Pauline provided reasoning for attending both her social group and Narcotics Anonymous.

> *'You put your eggs in more than one basket, so if I was to put all my eggs in the N.A. basket and . . . I had an argument with someone there, my . . . eggs would fall out and smash so it's good to run alongside of other groups.'*

Eggs can easily break, and at first it seems that Pauline sees the recovery groups as fragile and unstable. However the groups she is discussing have existed for a long time, and may be prone to a few cracks but are unlikely to completely break. This, alongside Pauline stating her arguing may cause her *'smash'* back into addiction, suggests that she is using the eggs here to describe her own recovery efforts. It appears Pauline sees her personal recovery as something that is fragile. As a result, she advocated the attendance of both social based and 12-step groups, with each group acting as a safety net for the other in case she falls out of the basket. These interpretations suggest some insecurity in Pauline that is soothed through attending the multiple groups.

Harry also supported the idea of attending multiple groups, stating that *'the way I look at it is the more tools you have in your box, the more likely you're going to stay on the . . . right path'*. This differs from Pauline's explanation, as rather than using multiple groups to

mask fragility, it seems that Harry wants to fix the fragility left from his addiction. Harry feels broken because of his addiction, and is using multiple recovery groups as tools to build himself back together again. Regardless of their purpose, both examples highlight the ability to flexibly use groups within their wider recovery network, alongside the social-based groups, and the importance of distributing their resources.

For those participants who only attended the social groups, they identified reasons why they chose not to attend more typical recovery groups such as AA. For example, Tom did not attend AA as he struggled with the idea of powerlessness. However, these participants often still recognised why others may chose these pathways, and how others' journeys may differ from their own. Continuing with Tom as an example, he stated '*I think my personal view is that I'm not discounting AA, but everybody's journey is different . . . and you have to find what's right for you'*. Tom was not alone in his open-minded views. From all the participants, there was a clear recognition and acceptance that everyone's experiences differed from their own. It was not clear to the researcher what differed between the group of individuals who attended multiple mutual aid groups and the group who only attended their social group, but for the individuals themselves, their reasoning was outlined, clear and personal to their unique experiences.

Several participants discussed personal ownership for their recovery. It was felt that although the group played a significant role in their recovery, the only person who could choose their pathway and make the final decision to remain abstinent is oneself. As Carl suggested, *'I have to be the change I want to see in the world'*. This statement mirrors a famous quote of Gandhi, meaning that if someone wants to change a situation, they need to first change themselves. Carl is borrowing vocabulary from sources that are likely outside the group here, showing that his recovery journey is not entirely tied to the groups he is in.

Group as an Inclusive, Family Unit

It is worth noting that nearly all the experiences recalled by the participants within their recovery groups were extremely positive. All the individuals identified how their group had been welcoming for them at all stages of their recovery. Harry highlighted this in the extract below.

> *'The great thing about [recovery group] is whether you're on the sort of outside, as in your still dabbling drinking drugs or whatever . . . if they can see potential in you, see something you can't see in yourself, it'll prise that out.'*

In this case it could be considered that recovery groups are like a magnet at the core of a circle, prising the individuals who are stuck on the edge between recovery and addiction to come towards the centre. These welcoming arms experienced by the participants when they joined were extended to others, as *'even if someone comes along that we don't know they're welcome with open arms' (Tom).* Tom could have borrowed this phrase from the group meetings, however as all the participants interviewed stated they felt welcome, it is likely to be true for most newcomers.

Inclusion and openness were other group qualities continuously identified, with Claire noting that *'you don't have to hide behind a mask, you can tell them how you feel'*. The idea of using a mask to hide her true identity suggests Claire felt shame in the outside world, and could not expose her true self to others. In the recovery group she felt she could be herself, an individual recovering from addiction, and be open and honest with her feelings without the worry of being judged.

Regardless of gender, previous dependency or age, all participants felt included within the group. For example, having health problems meant that Tom could not get involved in some of the walking activities, but he spoke in detail about the fact that despite these setbacks he still felt included and welcome to participate in the weekly group meetings.

It was felt by most participants that one of the strengths of the groups was the community of *'like-minded'* people. As suggested by Zoe, *'everybody that's in [recovery group] have got the same disease as what I've got, what the next colleagues got, because we all understand one another . . . we're better than professionals'.* This comparison to professionals is interesting, as the word 'professional' implies somebody with a high level of acquired knowledge in their chosen area. However, this is not what Zoe considers most important, and she values personal experience more than a professional's learnt expertise. It is also interesting that she refers to other group members as *'colleagues'*. This may be Zoe trying to professionalize the group's lived experience so that it mimics the status of a professional's knowledge, in order to show the value it provides. The extract could also be a testament to how lonely it is to have an addiction outside of the groups, fighting a solitary battle with the *'disease'*.

The development of strong bonds and friendships within the groups was evident from participants' accounts. Luke commented on the value he placed on the group members: *'I feel like I got to know more genuine people, more down to earth honest people if you like, but . . . some people they'd say I'm mad saying a comment like that, but it's not'.* This comparison shows that whereas *'some people'* (perhaps the rest of society) often believe in stereotypes associated with individuals in addiction, Luke's experience of the like-minded individuals in the group is far from those stereotypes. In fact, Luke sees the group members as having more genuine qualities than individuals in his past.

Pauline also spoke about the genuineness of individuals in the group: '*I feel safe because the people in there don't mean me no harm, they don't want nothing off me, they don't want me to use, they want the best for me, they love me',* and here we can once again see the group members not adhering to the societal expectations for individuals with an addiction. The fact that Pauline feels *'safe'* now indicates this may not have always been the

case, and makes us question whether her addiction was fueled by people in her past requiring too much from her and/or harming her. *'They love me'* highlights the strong bonds that have developed in these social-based groups. However, for some individuals these bonds were even deeper, with Ray, Pauline, Claire and Harry identifying that their recovery group was like their *'family'*. Ray calls the group his *'great big dysfunctional family'*. This use of morbid humor indicates that although the group is not perfect, and that things do not always work out the way they are expected to, their strong bonds with one another are what matter the most.

All participants often used the pronoun "we" when discussing their personal involvement, indicating that their experiences were united and that they shared a social identity. The group as a close unit often had shared experiences, and wanted to express them as that, rather than personalizing situations. This highlights the importance of the collective within the group. Harry expanded on this idea of a collective in the following extract when talking about group activities.

'It gives you a sense of achievement . . . for yourself but also for the collective as well, because . . . it's like what they say in the army isn't it, you don't . . . just do it for yourself you do it for the man next to you.'

This comparison to the army could reflect Harry's perception of recovery groups, seeing them as somewhere where individuals come together to jointly tackle a difficult challenge they would struggle to do alone. It seems *'the man next to you'* is considered just as important as yourself.

Active Involvement in the Recovery Group

All the participants felt that they were actively involved in their recovery group, with the majority of participants undertaking an organisational role. For example, individuals became board members, or helped organise events in the groups such as walks or craft

groups. Levels of commitment were extremely high, with Claire stating *'it doesn't matter what's on I'm involved',* and '*I know I'm not working for them or anything but I feel like I've got a job [laughs]'*. The comparison to a job shows Claire's commitment and willingness to spend time on the group. As stated in a previous theme the group provides something to do and prevents boredom, and their active involvement likely ties into this.

Harry described the social-group as a *'member-led activity-based organisation'*. Even for those who did not have Claire's level of 'job'-like commitment to the group, all participants were actively involved in decision making for what the group should do next. Carl described it as *'a blank sheet of paper, if we've got any ideas . . . we put them forward and it's getable'*. Referring to the group as a *'blank sheet'* highlights the flexibility within the group, and the influence Carl feels he has on the group's decisions. The group is a product of its members, rather than members following any predefined group structure.

The majority of participants gave back to the group by providing support to others. In the following extract, Jason describes his reasoning for giving back to the group: *'Coming here . . . watching people growing, their journeys, is kind of, it's partly a reminder, partly reward, I get the reward feeling . . . from assisting another person's journey in some . . . small way'*. His reasoning for giving back is twofold, not only does he enjoy assisting others grow, but it acts as a reminder of where he has come from. Jason is eight years into his recovery, and seeing individuals at the beginning of their journeys reminds him of how far he has come. These comparisons may help him maintain his own recovery, acting as an example of what recovery can look like. It appears that these factors give Jason a sense of purpose within the group.

In the following extract, Peter spoke about the joy he received from giving back to the group that helped him. Experiencing back pain, Peter could not go on the group walk, but offered to pick them all up in the minibus when they were finished.

'Seeing them at the end of the day coming down and . . . they've had a great day and . . . they're all buzzing . . . and that's I mean that does it for me more than, I mean I enjoy a walk don't get me wrong but I enjoyed it more just to see their faces and to see that they'd had a good day, . . . that's what really does it for me.'

The crux of Peter's enjoyment was not gained through participation in the activities, but seeing others enjoy doing so, and helping out. It appears that this made him feel useful, which is something he may not have felt previously within his addiction.

There is a simplicity seen in most of the participants' desires to help, for example, as Ray suggests, *'you know when people do fall off you help them come back'*. It is not seen as something they have to do, but something they want to do. Pauline reasons '*I'm freely giving away what I was given, . . . also for me I've got a big burning desire to help people in recovery'*. Her help is *'free'*, there is no expectation of something concrete in return, just a passion fueling her to help others along their recovery journey. However, it is worth questioning whether this help is really *'free'*, as it is likely that Pauline is gaining newfound purpose from giving back, allowing her to identify as somebody who helps rather than somebody who drinks. This newfound purpose through giving back could be fueling her *'big burning desire'* for recovery.

Several participants also spoke about giving back to the community. For example, Zoe spoke about how the group was involved in cleaning up the local town, and how she was *'proud to be part of that team, to give back to the community'*. The phrase *'give back'* suggests Zoe felt that she had previously taken something away from the community in her addiction, and she wanted to return the balance by helping the community out.

Participants' active involvements meant that they sometimes shared the struggles of the group, particularly if the group was having difficulties obtaining funding. Luke spoke

about his frustration about the matter, and how society's lack of understanding of individuals in recovery groups stopped them receiving the money they needed.

> *'You know I'd love to get an MP just for a day to see here we are let me come and take you meet a few people . . . from different groups, and I think then maybe . . . they'd think actually do you know, something works in this'*

It may not be clear exactly what makes these groups *'work'*, but that *'something'* is exposed through engaging with the group members and hearing their experiences.

Discussion

Moos (2008) identified active ingredients in a successful 12-step recovery group, which were derived from four key theories on addiction. They are *bonding*, *goal direction*, *structure*, *observation and imitation of norms and role models*, *expectations of positive and negative consequences*, *involvement in alternative activities*, *effective rewards*, *identifying high-risk situations*, *building self-efficacy and self-confidence*, and *developing coping skills*. Here we will explore whether the same components are evident in social-based groups.

Group's role in recovery

From the results it was evident that the group played a different role in an individual's recovery depending on the amount of time they had been in recovery for. Participants in early stages of recovery such as Claire seemed to rely heavily on the group as a source of support. Laudet, Morgen and White (2006) identified the importance of social and recovery-specific support in recovery, as it buffers stress levels and helps increase quality of life. Some individuals may not receive social support elsewhere in their lives, so receiving it from the group becomes extremely important.

The current study also showed that participants like Ray who experienced longevity in their recovery depended on the group less than those in early recovery. Interestingly, the individuals involved in social groups in the current study displayed a similar trajectory of

group dependency to those in 12-step groups. Laudet, Savage and Mahmood (2002) identified a negative relationship between length in recovery and attendance to AA groups, and suggested this could be due to internalisation of the group's values, meaning they are less dependent on group attendance. It has also been found that recovery-specific support within AA declines over time, as the focus shifts from abstinence to returning to a *'normal'* life (Laudet et al., 2006).

The participants in the current study identified that regardless of whether the group was a vital aspect of their recovery, the provision of alternative activities was extremely important for them. This suggests that Moos' (2008) component of rewarding activities is a key element of social-based groups. However the type of activities provided in the social groups differed to those provided in 12-step groups. Moos identified that rewarding activities in 12-step groups include meeting attendance and sponsoring, whereas for the social-based groups the activities involved doing things such as crafts, or going for a woodland walk. Research with the general population has found engaging in outdoor activities can have a positive effect on an individual's mental and physical health (Pretty, Peacock, Hine, Sellens, South, & Griffin, 2007), but it seemed from the current study that there may be additional benefits for those recovering from addiction. According to the individuals involved in this study, the activities prevented boredom, gave them more relaxed opportunities to open up to other like-minded individuals, and provided a *'buzz'* to replace their substance use. In future research, the added benefits to this unique aspect of social-based groups should be explored in more detail.

Personal choice and flexibility in recovery experience

Flexibility was highlighted as a key component of the social-based groups. This was not identified as a key ingredient by Moos (2008), as 12-step groups primarily focus on the opposite – having a clear structure. AA meetings start and end with the same rituals, and

always follow a story-telling focus (Humphreys, 2004). This clear difference suggests that personal preferences will determine what components are most important for individuals, and as a result which groups they choose to attend.

This flexibility was also evident when over half of the participants in the current study stated that they used multiple groups alongside the social group to widen their recovery network. This was an interesting finding, as although the individuals in this study provided reasons why they attended multiple groups (e.g., Harry's metaphor about having a toolbox), to our knowledge there is no previous research on the benefits of doing so. This lack of research could be because groups that have been previously researched such as SMART and 12-step have different values, structures and pathways that at times can be in opposition to one another (Humphreys, 2004). However the social-based groups in this study do not support one particular pathway to addiction, therefore it is likely that they would produce minimal conflict when attending alongside other groups. None of the participants in the current study spoke about any struggles of attending several groups, and it would be interesting to explore these potential benefits of attending multiple groups in future research.

Hoffman (2003) suggested researchers often focus on the ideal recovery career, which in the case of AA is attending and remaining committed to the one group. In reality there is a range of recovery careers that people can pursue. An interesting aspect of the current study was that despite feeling very passionate about the groups they were involved in, all individuals, including those just involved in the social group, were eager to acknowledge that other's recovery pathways may be different to their own. It has been previously suggested that research exploring the benefits of recovery groups subjectively through asking participants may not be as accurate as using objective measures, due to group members having tunnelled views about their approach being 'the only way' (Humphreys, 2004).

However this is clearly not the case for the individuals in the current study, who recognised their experiences were personal and not always generalisable to others.

Group as an inclusive, family unit

It is no surprise that the participants considered bonding with like-minded individuals an important aspect of the social groups. Individuals often favour help from like-minded others also in recovery (Humphreys, 2004), because over time they have developed a social identity with values and beliefs that match those within their recovery group (Best et al., 2016; Frings & Albery, 2015). Moos (2008) discussed the importance of role models within a recovery group, and the current study has highlighted that the role models' like-mindedness and similar experiences to the individual are what allows them to effectively fill this role. This may be implied by Moos' literature review, but it is interesting to explicitly see that the like-mindedness aspect of the role model is what is considered most important.

Bonding, one of Moos' (2008) components, was considered by the participants as an important aspect of the social-groups. This was evidenced by the development of friendships, and Ray's, Pauline's, Claire's and Harry's references to the group as a family. However, these deeper bonds that Moos referred to are something that develop over time. The participants in the current study also discussed factors that helped develop these strong bonds, such as having a welcoming and inclusive environment. It is crucial that groups also consider these components that can have a large influence when somebody first joins a group.

Active involvement in the recovery group

Within 12-step groups, giving back is often achieved through being somebody's sponsor (Humphreys, 2004). Despite not being identified as one of Moos' (2008) components, giving back was highlighted by Moos as a rewarding alternative activity. Known as the 'helper principle', giving back can increase an individual's self-worth and

purpose (Riessman, 1965). It can improve an individual's social identity, helping them become re-accepted as a respectable member of mainstream society (Koski-Jannes, 2002).

The participants within the social groups considered giving back a key aspect of the group. However for the individuals interviewed, the focus was on helping the group as a whole, rather than focusing on helping a particular individual. Individuals were able to provide support to any member within the group, and were encouraged to get involved in the organisational side. This clearly differs to the more focused process of sponsoring that is followed within 12-step groups, where an individual with significant recovery progress is given the specific role of helping another individual progress through the steps (Humphreys, 2004).

Within Moos' (2008) review, it was considered that helping others and giving back was part of the component 'gaining rewards'. Yet the individuals in the current study identified that there was a number of reasons why they gave back, and not all of these were associated with rewards. This suggests that 'giving back', particularly for social-based groups, should be considered a component of its own.

General Discussion

These findings suggest that a number of Moos' (2008) components (e.g., bonding and support) are not unique to 12-step groups. It also appeared that other components, such as providing alternative activities, were important for both types of groups, but the actual content of these activities differed significantly. There were some differences identified between 12-step and social groups. For example, whereas structure is considered to be a core component of 12-step groups, the opposite (flexibility) was important in social-groups. This is significant, as it highlights that not everyone in recovery wants the same things (Drug Strategy, 2010). Groups such as AA and NA do not suit everyone, and social-groups provide an alternative for those individuals, or for individuals who wish to attend multiple groups.

Although all mutual aid groups have the aim of helping individuals through recovery (Humphreys, 2004), it seems they may focus on different components to achieve this.

The current study's value lies in its contribution to a previously under-researched area, providing us with an in-depth insight into the experiences of individuals in these emerging social-based groups. The aim of the study was not to try to understand the structure of these recovery groups, but individuals' experiences within them and what they consider important. This approach is particularly valuable for applied areas of research such as this (Eatough & Smith, 2017).

It is evident from the previous literature that there are many positive outcomes associated with mutual aid group involvement (Kelly & White, 2012), and the current study has shown social-based groups may provide similar benefits. Although they will not suit everyone, groups such as these can help prevent individuals from relapsing, help individuals develop a recovery identity and provide a cost-effective alternative to multiple admissions into formal treatment. Yet professionals' understandings of even well-known groups such as AA are limited and often skeptical, which can act as a barrier for individuals in recovery (Donovan, Ingalsbe, Benbow, & Daley, 2013; Humphreys, 2004). It is likely there will be similar barriers associated with other groups such as social-based community groups. In fact, these barriers may be greater due to the lack of research conducted in these areas. An example highlighted in the current study was when Luke acknowledged his group's struggle for funding. Kelly and White suggest there is a significant "catch 22" issue, where professionals are not willing to refer their clients to smaller, lesser known groups in their community, meaning less individuals join and groups remain small. The understanding this study has provided of under-researched social-based groups can be passed onto professionals, and hopefully this will increase their understanding of their potential value these groups have to offer. Increasing awareness should help more individuals recover, by making them more

aware of the range of pathways they can follow that may better suit their idiosyncratic needs (Kelly & White, 2012). As the individuals in the current study suggested, all recovery experiences differ, and professionals should encourage individuals to choose groups that focus on components most important to them in their recovery.

The individuals who participated in the study were all actively engaged in their groups, and it is likely that their positive experiences of social-based recovery groups may not reflect everyone's experiences, particularly people who may have left the group. The idiographic nature of IPA means that it is inappropriate to make any grand generalisations from the results of this study. However, generalisation was not the aim, and as suggested by Smith (2004), "the very detail of the individual also brings us closer to significant aspects of a shared humanity" (p. 43). The rich, detailed stories produced from this study provide an insight into the value of these social-based groups that no quantitative paper could ever reproduce.

Whereas the current chapter focused specifically on exploring in-depth one type of mutual aid groups (i.e., social-based groups), the next two chapters look at mutual aid group experiences more generally, recruiting participants from a diverse range of groups across the U.K.

CHAPTER SIX

The Recovery Strengths Questionnaire (RSQ) for Alcohol and Drug Use Disorders

Traditional definitions of addiction recovery often focus on the individual abstaining from substances (Laudet & White, 2008; Maffina, Deane, Lyons, Crowe, & Kelly, 2013). However, research has shown that service users perceive recovery as involving more than just abstinence (Maffina et al., 2013), and it is recognised that many other internal and external factors can have a significant impact on an individual's recovery journey (White & Cloud, 2008). These additional factors are captured by the term 'recovery capital', which is an overarching concept used to describe the multiple resources people use to aid their recovery from substance addiction (Granfield & Cloud, 1999). Examples of recovery capital include physical health, social support from family and friends, and developing coping skills (Groshkova, Best, & White, 2013). Having a wide range of resources (i.e., a large recovery capital) is believed to be one of the best predictors of stable recovery (Best et al., 2010).

Identifying resources that help initiate and maintain an individual's recovery has important clinical implications. If support services were able to identify the areas where an individual may have limited resources, they could then help the individual develop resources in this area. To further explore the application of this concept in clinical settings and in research, scientific measures of recovery capital are needed. Groshkova et al. (2013) were the first to establish a recovery capital measure. The "Assessment of Recovery Capital" (ARC; Groshkova et al., 2013) contains 50 items that aim to capture ten domains of recovery capital. This measure showed concurrent validity with quality of life measures, and could be used to help predict 'stable recovery' (defined in their paper as over five years).

Vilsaint et al. (2017) identified that a criticism of the ARC was the length of the scale, which could be off-putting for staff in busy clinical settings. To increase ease of use, they created the "Brief Assessment of Recovery Capital" using scale reduction (BARC; Vilsaint et

al., 2017). This ten-item measure showed high concurrent validity with the original ARC measure, and was able to predict 'sustained remission' (defined as over 12 months in sustained recovery). Unlike the original measure, which uses a binary scale of 'agree/not agree', the BARC uses a six-point Likert scale. This change was made to increase sensitivity of the scale, and allow for finer discriminations (Vilsaint et al., 2017). However, it is questionable as to whether greater scale granularity (i.e., number of response categories) is more beneficial. One limitation identified with the BARC is the tendency for a ceiling effect (Vilsaint et al., 2017), and an increase in response categories could increase score variance and produce more precise data (Pearse, 2011).

Cummins and Galone (2000) argued that when measuring subjective quality of life, a 10-point, end-defined scale would be best for increasing measurement sensitivity without having an impact on scale reliability. This is because 6-point Likert scales similar to the one used in the BARC scale might not be sensitive enough to detect small, meaningful differences when measuring trait variables such as quality of life and recovery capital. They acknowledged that appropriate naming could be difficult when adding additional response categories due to the subjectivity of labels used; however, using an end-defined scale instead of the traditional Likert scale prevents this issue of subjectivity, and has been found to have no significant impact on the data (Cummins & Galone, 2000).

Given the limitations described above, it is reasonable to explore the development of alternative measures of recovery capital. The current study aimed to validate an alternative measure of recovery capital, which draws on and expands upon current measures such as the ARC and BARC. The "Recovery Strengths Questionnaire" (RSQ) is a 15-item self-report questionnaire, which uses 10-point, end-defined scales to assess satisfaction in five dimensions of recovery capital (social strengths, physical strengths, activity strengths, personal strengths and attitudinal strengths). This questionnaire was developed from the

previous measures, the recovery capital literature, and through clinical experience of working with those in recovery. The RSQ's differential focus on alternative areas of recovery capital, particularly attitudinal strengths such as having a positive attitude and high self-worth, may produce novel insights into what resources are important for individuals in recovery.

There has been debate surrounding the multiple domains of recovery capital. White and Cloud (2008) described five elements (social, human, physical, community and cultural capital), Groshkova et al. (2013) identified ten domains (substance use and sobriety, global psychological health, global physical health, citizenship and community involvement, social support, meaningful activities, housing and safety, risk-taking, coping and life functioning, and recovery experience), and Mawson, Best, Beckwith, Dingle, and Lubman (2015) used two domains (personal and social capital). In the current study, five domains of recovery capital were used. Despite the idea that recovery capital is built up from multiple domains, principal components analysis of previous measures of recovery capital (i.e., the ARC and BARC) has found the two measures both represent one single domain of recovery capital (Arndt, Sahker, & Hedden, 2017; Groshkova et al., 2013; Vilsaint et al., 2017). This could be due to recovery capital variables often being highly correlated.

This study aimed to determine whether the RSQ as an alternative measure of recovery capital would also measure a single component, or whether the finer discriminations produced by the 10-point scale would reveal multiple recovery capital domains. Finding a measure that assesses multiple domains of recovery capital may have valuable clinical applications (Arndt et al., 2017), allowing clinicians to assess which aspects of recovery capital have the greatest impact on individual's recovery initiation and maintenance.

Our study also aimed to determine whether recovery capital was positively correlated with time spent in recovery. Previous literature using the ARC has found that recovery capital scores are higher for those in long-term recovery (Groshkova et al., 2013) and we predicted

that the RSQ would show similar results. However, we also wanted to measure whether recovery capital was higher in individuals attending a recovery group. Humphreys (2004) argued that individuals often do not recover in isolation, with involvement in mutual aid groups very common for people in recovery. It has been suggested that involvement in mutual aid groups helps develop aspects of recovery capital, particularly social capital through support from like-minded peers (Best et al., 2009). We predicted that length of time in recovery group would be associated with higher recovery capital scores on the RSQ, and would be even more important than the length of time in recovery in general.

Method

Participants

The data for this study were collected as part of a larger study exploring the important components of addiction recovery groups (see Appendix S for the full survey). A total of 151 participants were recruited from 30 different recovery groups across the U.K. These groups were primarily based in North Wales, Bristol or Cardiff. The mean age of participants was 42.49 years (*SD* = 11.49, range: 20-72). The majority of the participants were white British (97%), with 47 (31%) female and 99 (66%) male. The remaining five individuals did not disclose their gender. Fifty-one (34%) of the participants indicated that they used alcohol problematically, 31 (20%) indicated that they used drugs, and 68 (46%) used both alcohol and drugs. A total of 48 (32%) participants cited their recovery was based on a 12-step tradition.

To participate, individuals had to be a regular attendee of an addiction recovery group and previously had problematic drug or alcohol use. At the time of testing, the participant needed to be abstinent from substances for at least a month. The sample included people who were in various stages of their recovery, with the participants having been involved in recovery groups for an average of 26.86 months (*SD* = 56.60, range: 1-462) and being in

recovery for an average of 32.16 months (*SD* = 61.24, range: 1-462). Participants self-reported these variables, but it was generally considered that 'recovery' would mean abstinence from their substance of choice, and 'recovery group involvement' would involve regular attendance at their chosen group.

Participants were recruited in a four ways. The first was by social media posts in recovery group forums (e.g., Facebook, Twitter). The second was by contacting recovery group leaders and asking them to pass on details of the study to their members. The third was via posters and flyers placed at recovery-related events and in buildings hosting substance misuse services or recovery groups. The final way was by directly attending a number of recovery groups and asking members directly if they wished to stay behind after their group to take part in the study. Payment in the form of a £5 voucher was provided as an incentive for all participants to take part.

Measures

As part of a larger survey, participants were asked to complete two measures of recovery capital: the ARC and the RSQ. In the ARC questionnaire, participants were asked to place a tick next to the statements that they agreed with. Previous validation of this scale has shown the scale has good psychometric properties (Groshkova et al., 2013).

The RSQ (Hogan, 2016) is a 15-item self-report questionnaire created for this study. It assesses five dimensions of recovery capital (social strengths, physical strengths, activity strengths, personal strengths and attitudinal strengths). This questionnaire was developed based on the recovery capital literature, and through clinical experience working with people in recovery.

A demographic questionnaire also asked participants for information about their gender, date of birth, previous substance of choice, recovery group, length of time in recovery and length of time involved in their chosen recovery group.

Procedure

The participants completed the questionnaire online using a website link, or using paper copies provided by the researcher. This meant that some participants completed the questionnaire after their recovery group session; some took paper versions home and returned them to the researcher by post; and some completed the study online. Participants were asked to read the information sheet, provide consent, and then complete the survey. Depending on the participant, the survey took between 15 and 30 minutes to complete. The individual was then provided debriefing information, and contact details if they wished to ask the researcher any questions.

Results

The RSQ contained 15 items, which had a high level of internal consistency (Cronbach's $\alpha = .93$). The maximum score possible on this scale was 150, and participants had a mean score of 104.47 ($SD = 25.14$). For the ARC, participants could have a maximum score of 50, and the mean score was 35.69 ($SD = 11.83$).

Concurrent Validity

Correlating the overall scores of the RSQ and ARC provided an assessment of the concurrent validity for both measures. The distributions for both scales were non-normal and negatively skewed. As a result, the data were reflected and a square root transformation was applied. The data were then reflected back prior to analysis to change the transformed variables back to their original order (Duffy & Jacobsen, 2005). Results indicated a significant, strong, positive correlation between the two scales $r\ (135) = .71$, $p < .001$.

Predictive Validity

Pearson correlations were used to determine whether length of time attending a recovery group and overall time in recovery were associated with higher scores on the RSQ and ARC. The transformed data were used for the RSQ and ARC scores, and log 10

transformations were used for the time in recovery and group data, as both variables were non-normal and positively skewed. Results, which are displayed in Table 6.1, show that there were weak positive correlations between scores on both recovery capital measures (ARC and RSQ) and the length of time an individual had been involved in both recovery generally and in their particular recovery group.

Table 6.1

Pearson Correlations Exploring the Relationships Between Recovery Capital Measures, Time in Overall Recovery and Time in Recovery Group.

	Time in recovery	Time in recovery group
ARC	.147*	.156*
RSQ	.167*	.149*

Note. *$p < .05$

Sensitivity and Specificity

Receiver operating characteristic (ROC) curves were used to determine the specificity (negative outcomes being correctly identified) and sensitivity (positive outcomes being correctly identified) of the RSQ as a predictor of early or late recovery. This approach has previously been used to assess the psychometric properties of the ARC (Groshkova et al., 2013), and the cut-off we used to define early recovery was six months. This cut-off was chosen from Laudet and White's (2008) recovery benchmarks, which they established by reviewing the literature and conducting focus groups with people in recovery. The Drug Strategy (2017), a document created by the government outlining strategies to reduce illicit drug use and increase the number of individuals in recovery, used similar recovery benchmarks. For the outcome variable of early versus late recovery, both length of time in recovery and length of time in that particular recovery group were used.

When length of time in recovery was used as the outcome variable, the estimated ROC curve indicated that the RSQ was a significantly better predictor of recovery stage than chance, AUC = .61, 95% CI [0.51, 0.71], p = .042 (see Figure 6.1). Youden indices were then used to determine the point for which sensitivity and specificity were maximal. From this, the optimal cut-off for predicting late recovery was an RSQ score of 106.5 (SN = 60%, SP = 64%, J = 0.25).

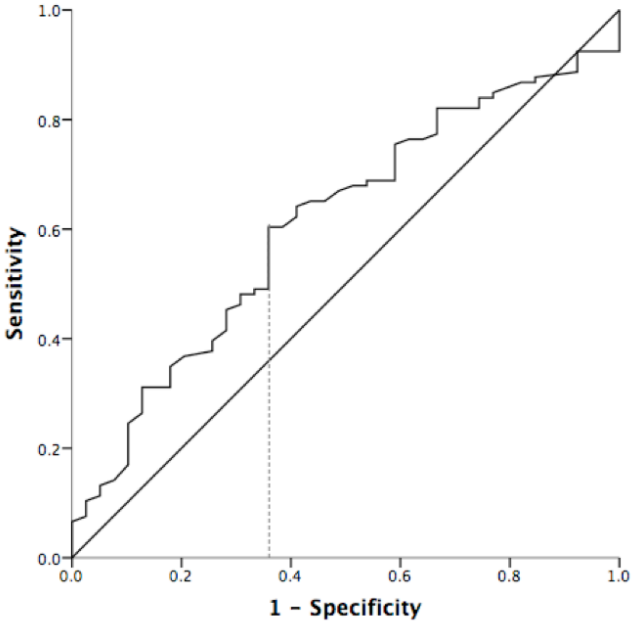

Figure 6.1. Receiver operating characteristic (ROC) curve of total RSQ score and recovery stage (measured by length of time in recovery). Dotted line shows optimal cut-off.

When length of time in recovery group was used, the estimated ROC curve indicated that once again the RSQ was a significantly better predictor of recovery stage than chance, AUC = .62, 95% CI [0.52, 0.71], p = .026 (see Figure 6.2). Youden indices identified that the optimal cut-off for predicting late recovery was an RSQ score of 101.5 (SN = 66%, SP = 54%, J = 0.20). Together, these results indicate that the RSQ can be used to predict whether someone is in early or late recovery, with the scores 101.5 (for the outcome variable length of time in recovery group) and 106.5 (for the outcome variable length of time in recovery) being

the optimal cut-off values (in terms of specificity and sensitivity) for predicting recovery stage.

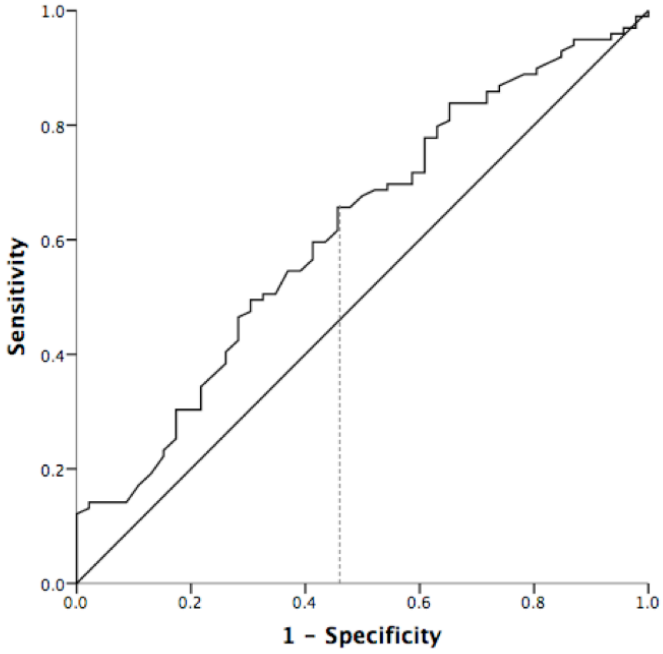

Figure 6.2. Receiver operating characteristic (ROC) curve of total RSQ score and recovery stage (measured by length of time in recovery group). Dotted line shows optimal cut-off.

Factor Structure

A principal components analysis (PCA) was conducted to determine the underlying factor structure of the RSQ, which contained 15 questions. Prior to analysis, square root transformations were applied to the variables to make them normally distributed. This corrected the distribution; however, the same patterns of results (i.e., how many factors were made and how the items clustered on these factors) were produced in both the transformed and non-transformed data analysis. To preserve simplicity, the non-transformed data will be discussed below.

Visual inspection determined none of the variables in the correlation matrix were unrelated ($r < .3$) and there were no indications of multicollinearity ($r > .8$). The overall Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.92, which is classified as 'marvellous' according to Kaiser (1974), and all individual KMO values were > .85.

Bartlett's Test of sphericity (x^2 (105) = 1379.46, $p < .001$) indicated that factors could be made from the dataset.

Initial analysis indicated that there were two components that had eigenvalues greater than one, which explained 52% and 9% of the total variance. A scree plot also showed an inflexion that supported a two-component solution. As a result, both components were retained, and this final solution explained 61% of the total variance. Table 6.2 shows the factor loadings after oblique rotation (direct oblimin). This solution was used instead of varimax as it was anticipated that the factors would be related to one another (as they were all measuring the overall construct of recovery capital). Stevens (2002) suggested for a sample size of 100, loadings should be greater than 0.512, and for 200 it should be greater than 0.364. As our sample size was in-between, 0.438 was used as the cut-off, and only loadings higher than this number are shown in the table. The items that cluster on each component suggest that Factor One represented 'externally generated recovery strengths' (i.e., recovery capital influences outside of a recovery group), and Factor Two represented 'internally generated recovery strengths' (i.e., influences from within a recovery group).

For further analysis, the two variables with cross-loadings (self worth and positive attitude) were placed into the component that they loaded highest. As a result, Factor One (externally generated strengths) contained seven items, and factor two (internally generated strengths) contained eight items. Both subscales had high internal reliability (for Factor One, Cronbach's $\alpha = .86$; for Factor Two, Cronbach's $\alpha = .90$).

Table 6.2

Rotated Pattern Matrix for Principal Components Analysis with Oblimin Rotation of the Recovery Capital Questionnaire

Items	Rotated Factor Loadings	
	External strengths	Internal strengths
Family	.798	
Finances	.790	
Accommodation	.677	
Partner	.672	
Physical Health	.639	
Mental Well-being	.590	
Positive Attitude	.505	-.495
Actively Learning		-.857
Attend Recovery		-.814
Meaningful Activity		-.762
Bounce Back		-.597
Knowledge and Skills		-.532
Values and Spirituality		-.522
Self Worth	.459	-.496
Social Networks		-.467

Note. Only factor loadings > .438 are shown.

Predictive Validity of the Subscales

Pearson correlations were run to determine whether time in recovery group and overall time in recovery were associated with higher scores on the external strengths subscale or internal strengths subscale. Log 10 transformations were used for the time in recovery and

group data, as both variables were non-normal and positively skewed. The data from both internal and external subscales were reflected and transformed using square root, due to negatively skewed distributions. The subscale data were then reflected back prior to analysis to change the transformed variables to their original order (Duffy & Jacobsen, 2005).

Results displayed in Table 6.3 show that it is only the subscale that measures internally generated strengths (i.e., recovery capital elements that are developed within recovery groups) that have a significant positive correlation with length of time in recovery group (p = .009) and overall time in recovery (p = .021).

Table 6.3

Pearson Correlations Exploring the Relationships Between Subscales of the Recovery Capital Questionnaire, Time in Overall Recovery and Time in Recovery Group.

	Time in Recovery	Time in Recovery Group
External Strengths	.116	.109
Internal Strengths	.200*	.171*

Note. *p < .05

Two linear regressions determined whether the subscale 'internally generated influences' could predict time in recovery and time in recovery group. For both regressions the transformed data were used. Visual inspection indicated linear relationships between the variables, and the assumptions of homoscedasticity and normality of residuals were met.

Scores on the 'internally generated influences' subscale significantly predicted length of time in recovery, $F(1,139) = 5.81$, $p = .017$, $R^2 = .04$, and length of time in recovery group $F(1,140) = 4.24$, $p = .041$, $R^2 = .03$.

Discussion

This project aimed to determine whether the RSQ could be used as an alternative measure of recovery capital to the ARC. The goal was to create a measure that might be

easier to complete and more sensitive than previous measures. Participants were asked to complete both the ARC and the RSQ, and despite the ARC being presented first, more participants completed the RSQ (n = 145) than the ARC (n = 137). The results suggested that the RSQ is psychometrically sound, with high internal consistency and good concurrent validity with previous measures of recovery capital (i.e., the ARC).

Similar to the ARC, the RSQ showed good predictive validity, with positive correlations between RSQ scores and length of time in recovery. The RSQ could also be used to discriminate those in early and late recovery (beyond six months). Individuals in late recovery had higher scores on the RSQ scale than those in early recovery. An ROC curve showed that six months or more in recovery was associated with a score of 107, and six months or more in a recovery group was associated with a score of 102. The predictive and discriminative validity of the RSQ has useful clinical applications. As suggested by Groshkova et al. (2013), recovery capital scales such as the RSQ could be used to assess individuals' recovery strengths, and assess the effectiveness of resources that aim to build recovery capital (e.g., recovery groups, therapeutic interventions, rehabilitation programmes).

The current study additionally found that recovery capital (assessed by both RSQ and ARC measures) was positively correlated with the length of time spent in recovery groups. This highlights the important impact that recovery group involvement could have on an individual's resources. Best et al. (2009) suggested that recovery group involvement can increase an individual's recovery resources, and it would be interesting for future studies to compare the recovery capital of individuals who attend groups with those who do not. It would also be useful to measure an individual's recovery capital before they joined a group, and then again once they had been in the group for a length of time. In this study the sample comprised individuals who regularly attended groups. Previous research exploring natural recovery has suggested that the recovery profile of individuals who recover without

traditional or mutual aid group support will differ in the type of recovery capital resources they use (Cloud & Granfield, 2001).

Previous recovery capital measures have identified one single domain of recovery capital (Arndt et al., 2017; Groshkova et al., 2013; Vilsaint et al., 2017). Conducting a principle components analysis with the RSQ data identified two components, which were named 'internally generated recovery strengths' and 'externally generated recovery strengths'. Internal strengths included resources that participants were more likely to develop within their recovery group (i.e., 'meaningful activities' and 'actively learning'). External strengths are aspects of an individual's life that are not likely to be influenced by the recovery group (i.e., 'family' and 'finances') and are more stable resources that may be more difficult to develop. For example, it would be easier for an individual to get involved in meaningful activities than improve a broken relationship with family members. Both scales had a high internal consistency; however, it was the 'internally generated strengths' scale that could significantly predict time in recovery and recovery groups. These findings suggest that recovery capital might not be a single dimension, as previously thought. Furthermore, the resources developed through involvement in recovery groups may have a greater impact on sustained recovery than external resources, which may be more resistant to change. This supports the importance of recovery groups in developing recovery capital. A recommendation is that future research should explore these two dimensions and their influence on an individual's recovery journey across time. The RSQ layout has been updated as a result of these findings (see Appendix T). The original RSQ split the 15 items into five dimensions of recovery capital, whereas the updated version has divided the 15 items into two dimensions (external and internal strengths).

A limitation of this study is the use of self-report methods for the length of time in recovery: verification of individual's time in recovery from a collateral may be useful in

future studies. However, there was little reason for individuals to be dishonest about their recovery time, as the data were anonymous.

The measure developed for this study provides an alternative to previous recovery capital measures. The RSQ is shown to be psychometrically sound, easy to complete, and has revealed two dimensions of recovery capital that may have different influences on an individual's recovery journey. The results indicate that recovery groups could have an impact on strengthening an individual's recovery resources, and the RSQ could be a useful tool for clinicians and researchers to use when assessing group effectiveness, and an individual's progress in recovery.

CHAPTER SEVEN

What are the Main Components of Substance-Related Addiction Recovery Groups?

Many individuals recovering from substance misuse attend recovery groups (Humphreys, 2004). These recovery groups provide mutual aid (i.e., group members are all in recovery and reciprocally help one-another to progress and remain abstinent). Groups are free to join, run by peers rather than professionals, and often involve members sharing experiences with one another (Humphreys, 2004).

One of the most well-known (and worldwide) mutual aid groups is Alcoholics Anonymous (AA). Members follow a 12-step philosophy, and abide by 12-steps towards recovery and 12 traditions within the group (Donovan, Ingalsbe, Benbow, & Daley, 2013; Wilson, 1953). The effectiveness of these groups has been extensively studied. A review by Kaskutas (2009) suggested that a consistent relationship has been found across studies of AA attendance and abstinence, with committed attendance resulting in sustained abstinence. Research on other groups that also follow 12-step philosophies, such as Narcotics Anonymous, has found similar positive relationships between group attendance and abstinence (Gossop, Stewart, & Marsden, 2008).

What is it about these 12-step groups that make them effective? A literature review by Moos (2008) identified probable active components of a successful 12-step group. These were derived from four key theories of addiction that explain how individuals maintain their recovery. Social control theory postulates that strong bonds with significant others such as family and friends encourage individuals to maintain their recovery, and the active ingredients of ‘bonding’, ‘goal direction’ and ‘structure’ help achieve this. Social learning theory emphasizes the importance of ‘observation and imitation of norms and role-models’ and ‘expectations of positive and negative consequences’ in recovery groups, as having abstinent-oriented social networks provide individuals with people who they can follow and

admire. Behavioural-choice theory explains how being involved in other rewarding pursuits, such as social activities can be protective against the rewarding nature of substance misuse. Groups help achieve this by providing 'involvement in protective activities', and 'effective rewards'. The final ingredients are 'identifying high-risk situations', 'building self-efficacy and self-confidence' and 'developing coping skills', and these are based on stress and coping theory, which states that building an individual's skills will help the person to avoid using substances as a coping mechanism. A summary of these components is provided in Table 7.1.

Table 7.1

Moos' (2008) Important Components of a 12-step Recovery Group Based on Four Key Theories in Addiction.

Theory	Related Components
Social Control	Bonding and support
	Goal direction
	Structure to follow
Social Learning	Observing and imitating norms and role-models
	Expectations of positive and negative consequences
Behavioural Choice	Involvement in protective activities
	Effective rewards
Stress and Coping	Identifying high-risk situations
	Building self-efficacy and self-confidence
	Developing coping skills

The components in Moos' (2008) study were derived from findings in previous literature, and to date they have not been empirically tested. Moos suggested that determining the strength of each component in groups should be one of the next steps researchers should

focus on. It could be argued that these components should be measured objectively. Humphreys (2004) reasoned that if one asks individuals in recovery about the group they are involved in, their passion for their own group could channel their beliefs into a view that only their group has the ability to help others recover. However, the findings reported in Chapter Five of this thesis suggest that this is not the case, and that individuals recognise that others' recovery journeys are often different to their own experiences. Research that explores service users' subjective perspectives often provides new insights that objective measures would not capture (Laudet, 2007; Orford et al., 2006); thus, it is important for this study to uncover the service users' perspectives of how their groups facilitate their recovery. This could provide support for Moos' presumed active components, and may uncover additional aspects of the groups that Moos did not consider.

Moos' (2008) components are based primarily on research using participants in the United States who were involved in AA. There are many other recovery groups within the U.K. that do not follow a 12-step approach, such as SMART and community-based groups (as discussed in Chapter Five). Moos suspected that these components would be universal characteristics of recovery groups. However, recovery groups are diverse (Humphreys, 2004), and the components may not be completely representative of recovery groups in general. Groups that are not affiliated with larger organisations like AA are often too small and unique to have been previously explored extensively in research (Humphreys, 2004; Kelly & White, 2012; Kelly & Yeterian, 2008;), so it is difficult to predict how representative the components would be in these groups. It would be important to determine whether the same components cited by Moos will also be apparent in a diverse range of groups, and whether individuals in particular groups value certain components more than others.

Components may also become more or less important over time. Our previous research exploring social-based recovery groups (see Chapter Five) suggested that the

group's role in an individual's recovery differed depending on what stage of recovery they were in. Individuals in later stages of recovery reported relying less on the group as a source of support. This could be due to an increase in recovery-based strengths (i.e., recovery capital) that develops over-time (Groshkova, Best, & White, 2013).

The current study aimed to identify the benefits of addiction recovery groups, using a first-hand perspective from individuals in recovery. The presence and importance of Moos' (2008) components were explored both quantitatively and qualitatively in a diverse range of recovery groups. Although Moos identified 10 active components, in this study it was expanded to 12. The ingredient 'observation and imitation of norms and role-models' was split into 'presence of role models' and 'following a sober lifestyle' in order to identify whether it is specific role models, or the overall norm of sobriety in the group that was most important for an individual's social learning. The ingredient 'giving back to others' was also added, as Moos highlighted the importance of allowing others to give back in addiction recovery groups. 'Giving back' aligns with several of the previously outlined theories, as it can be a rewarding activity (i.e., behavioural choice theory) that can increase an individual's self-worth and sense of purpose (i.e., stress and coping theory). This ingredient is otherwise known as the "helper principle" (Riessman, 1965), and is apparent in AA groups when an individual acts as someone's sponsor.

The current study aimed to measure the importance and availability of Moos' (2008) components, whether there were differences between 12-step and other recovery groups, and whether these ratings changed depending on an individual's length of time in recovery. Individuals were also asked to provide narratives about their recovery group, and this was analysed separately to the quantitative ratings to determine whether individuals identified other important components beyond what Moos suggested. Triangulation of the qualitative

and quantitative results would provide a comprehensive overview of the recovery group experience.

Method

Participants

The data for this study were collected as part of a larger study that identified the important components of addiction recovery groups (see Appendix T for the full survey). A total of 151 participants were recruited from 30 different recovery groups across the U.K. These groups were primarily based in North Wales, Bristol or Cardiff. The mean age of participants was 42.49 years (*SD* = 11.49, range: 20-72). The majority of participants were white British (97%), with 47 (31%) female and 99 (66%) male. The remaining five individuals did not disclose their gender. Fifty-one (34%) of the participants indicated that they used alcohol problematically, 31 (20%) indicated that they used drugs, and 68 (46%) used both alcohol and drugs. A total of 48 (32%) participants stated their recovery was based on a 12-step tradition.

To participate, individuals had to be a regular attendee of an addiction recovery group and previously had problematic drug or alcohol use. At the time of testing, the participant needed to be abstinent from substances for at least a month. The sample included people who were in various stages of their recovery, with the participants having been involved in recovery groups for an average of 26.86 months (*SD* = 56.60, range: 1-462) and being in recovery for an average of 32.16 months (*SD* = 61.24, range: 1-462). Participants self-reported these variables, but it was generally considered that ‘recovery’ would mean abstinence from their substance of choice, and ‘recovery group involvement’ would involve regular attendance at their chosen group.

Participants were recruited in a four ways. The first was by social media posts in recovery group forums (e.g., Facebook, Twitter). The second was by contacting recovery

group leaders and asking them to pass on details of the study to their members. The third was via posters and flyers placed at recovery-related events and in buildings hosting substance misuse services of recovery groups. The final way was by directly attending a number of recovery groups and asking members directly if they wished to stay behind after their group to take part in the study. Payment in the form of a £5 voucher was provided as an incentive for all participants to take part.

Design

A mixed-methods design was used. The aim of collecting both qualitative and quantitative data was to synthesise the findings from the two approaches to gain a broader understanding of a complex area (Creswell, 2013). For the current study, a concurrent triangulation strategy was used. This approach is well validated (Creswell, 2013) and involves collecting the qualitative and quantitative data simultaneously and weighting them equally important to one another. The data were analysed separately, and then the results 'mixed' at the interpretation stage in the discussion. Figure 7.1 visually demonstrates the chosen strategy. The qualitative data were analysed prior to the quantitative data analysis, to try and ensure that the quantitative findings would not influence the subjective coding process.

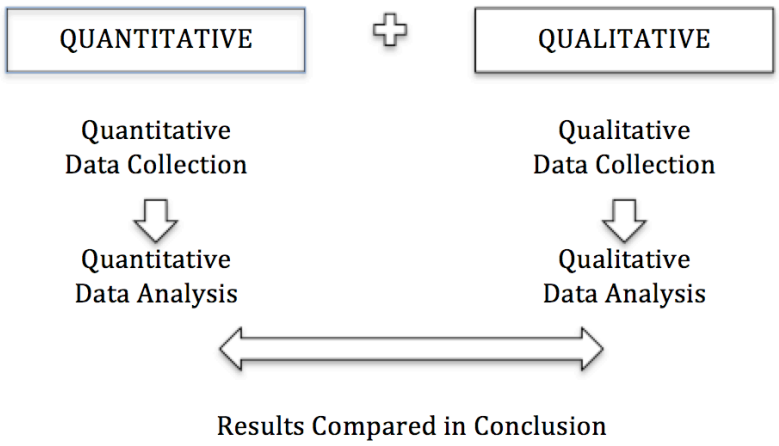

Figure 7.1. Diagram showing the concurrent triangulation design used.

For the qualitative data, thematic analysis was used to analyse the stories shared by participants. Thematic analysis involves discovering and analysing themes within a dataset, and is more flexible than other qualitative methods, such as interpretative phenomenological analysis (IPA). This is because thematic analysis is unlike IPA in that it can be used irrespective of the epistemological position (Braun & Clarke, 2006). An inductive, data-driven approach was used to determine the themes.

Measures

Sensemaker software was used to collect the data. This is an exploratory tool that has previously been used to try and understand complex systems within organisations (Browning & Boudès, 2005; Snowden, 2010). Questions are used to encourage participants to provide a narrative about lived experiences. The participants are then expected to self-signify this experience by answering a set of questions relating to the experience they shared (Snowden, 2010). The feasibility of using this tool with the current sample will be commented on in this study.

The survey was created during brainstorming sessions with the researchers and a Sensemaker consultant. It was then piloted in a focus group with six individuals in a local recovery group in which they provided feedback on ease of use. Three more individuals from another local group tested the online version, and a number of changes were made based on the pilot recommendations.

The Sensemaker programme asked participants to provide a short narrative. Participants had a choice of two open-ended questions, which were created during brainstorming sessions, and aimed to get participants to tell a story about their group. These questions were “If a friend was thinking of joining your recovery group, what story would you share about it?” and “Think about a recent experience you have had at recovery group that was helpful. What happened?” This was followed by a number of questions regarding the

story (e.g., How do you feel about your story?) and four triads. The aim of the questions and triads were to quantify the narrative on a number of dimensions. The triads were created from Moos' components, with one triad for each key theory. Each corner of the triangle represented a different component, and participants were asked to mark on the triad the position that best described their story. A triad approach was used to encourage individuals to think more dynamically about the importance of three related components, and to reflect on the story they shared.

Participants were then asked to think more generally about their recovery group, and rate how (a) important and (b) offered each of the components were along a continuous rating scale. This was used instead of a Likert scale to detect finer discriminations in participants' answers (Pearse, 2011). A demographic questionnaire was also provided in which participants were asked to indicate their gender, ethnicity, date of birth, previous substance of choice, recovery group, length of time in recovery and length of time involved in their chosen recovery group.

Finally, participants completed two questionnaires measuring their recovery resources (i.e., recovery capital): the Assessment of Recovery Capital (Groshkova et al., 2013) and the Recovery Strengths Questionnaire (Hogan, 2016). The results from these questionnaires were analysed and the results reported in the previous chapter.

Procedure

The participants completed the questionnaire online using a website link, or using paper copies provided by the researcher. This meant that some participants completed the questionnaire after their recovery group session; some took paper versions home and returned them to the researcher by post; and some completed the study online. Participants were asked to read the information sheet, provide consent, and then complete the survey. Depending on the participant, the survey took between 15 and 30 minutes to complete. The participant was

then provided debriefing information and contact details if they wished to ask the researcher any questions.

Data Analysis

Analysis of the quantitative data involved using inferential statistics such as ANOVAs and correlational analysis. To ensure that the data met the required assumptions, some data transformations were made to improve normality.

For the qualitative analysis, Braun and Clarke's (2006) six-step thematic analysis was used. First, the framework began with the researcher familiarising herself with the data by reading through the narratives. Second, initial codes were generated from the stories (See Appendix U). Third, themes were created by combining the codes derived in Stage Two. Mind-maps and theme documents were created, which included multiple data extracts for each theme. Fourth, the researcher reviewed the codes within each theme, and discussed any discrepancies thoroughly with supervisors. This stage also involved re-reading all the narratives to ensure no data had been omitted and that the themes accurately represented the dataset. The fifth stage involved naming, describing, and defining themes, and the final, sixth stage involved writing up the results, using data extracts to highlight the rich story for each theme. The researcher could move flexibly between the stages in both directions (Braun & Clarke, 2006).

Results

Qualitative Analysis

Participants ($N = 151$) were provided a choice of two questions, and were asked to answer one of them. The first question: "If a friend was thinking of joining your recovery group, what story would you share about it?" was answered by 72% of participants. The second question, "Think about a recent experience you have had at recovery group that was helpful. What happened?" was answered by the remaining 28%. Participants mostly rated

their stories strongly positive (57%) or positive (33%), with 9% of stories rated as neutral, and the remaining 1% negative or strongly negative.

Qualitative data analysis of the stories using thematic analysis identified five key themes that were evident across the 151 stories shared. Themes included: perspective taking, being connected to others, developing skills, the value of group activities, and a change in self. Longer stories often mentioned several themes, whereas shorter stories mentioned fewer. These themes were apparent in stories that were shared both about 12-step and about non-12-step groups. Thus, the two types of groups were not compared at this stage in the analysis.

Perspective taking. The participants often mentioned that within their groups they had the opportunity to share stories about their addiction. This could involve problem solving, where participants brought a related issue to the group and worked through it with other members. Problem solving often helped the participants gain new perspective on a difficult situation.

> *'To be able to share thoughts with peers at the time and get some perspective is very important as we don't always recognise the little things as leading up to big problems until it's too late.'*

Discussing the issue prevented unnecessary escalation. Another participant spoke about how hearing feedback from others was *'humbling and gave me strength in my own problem'* and '*helped me delve into bigger demons I was carrying around without realising'*. It seems that the involvement of other members provided new depths and perspectives to individual's stories, which surpassed what the individual could achieve alone.

Identifying and working through problems requires a level of self-awareness, and several participants identified they had developed this through being in the recovery group. This self-awareness and consideration of other group member's viewpoints allowed

participants to develop a new perspective on their own addiction, as seen in the story shared below.

> *'When I went along to the group I met a few other people who were the same as me except they seemed okay. They had hope and talked about the future in a positive way I found my hope that I could also do it and make my future a positive one. As I kept going I learned more about addiction and what I could do about it. I learned more about myself and gained some self-awareness of how I can grow and change.'*

Perspective taking was also apparent when participants highlighted the value of other's stories, and how these stories could often be related back to their own experiences. This was a positive experience for these participants, as *'it's refreshing to know that you are not the only one with a head that thinks the way my head thinks'*. Hearing how other individuals experience similar difficulties and managed to overcome them was described by one participant as an *'empowering'*, positive experience.

> *'Listening to others experiences were more often than not like listening to someone telling my story . . .. Hearing how others had overcame their challenges learnt new ways to think about situations they found themselves in was so empowering.'*

Being connected to others. Participants' stories about their recovery groups often described the vital role of other members. One of the participants suggested if a friend was thinking of joining his group, '*I would tell them straight, recovery does not happen in isolation.'* This idea of a united recovery journey and *'the overwhelming feeling that you are not alone'* seems to hold significant importance in many individuals' experiences.

Participants identified the strong bonds that existed between group members, with friendships developing from this. There was a sense of stability to these friendships, highlighted by one of the participants when they shared *'I can honestly say that I have met some amazing people and built relationships with people that are truly special and I know*

now that I have got some true lifelong friends'. It appears that friendships made within the group can be enduring, extending beyond group sessions into daily life.

Something that helped these strong connections develop was the 'like-mindedness' of group members to the participant. This helped the participant feel that they were not alone in their recovery journey. The members were not going to judge them for their past or present actions, creating a feeling of safety. This is highlighted in the story shared below.

> *'Group is a great way to connect with like-minded people. It's not a place of judgement, you feel relaxed and comfortable and with people from the same situation. Without this support and connection, I think I would not be here to tell the story.'*

The connections participants made with other group members were reciprocal in nature. Some participants discussed receiving support from the group, and some stated that they provided the support to other members. This support was often available beyond group hours. Participants were sometimes involved in both giving and receiving support, with one of the participants sharing that '*Being able to feel vulnerable around others, likewise being there for others when they're feeling vulnerable, are both liberating things'*.

Developing skills. Regardless of whether the group provided a structured programme for participants, the majority of participants identified skills they had learnt directly, or as a by-product of the group. An interesting story shared by one participant revealed that he did not actually recognise and appreciate the skills he had learnt until he temporarily quit the group.

> *'I never realised how much of the group work I took in until I decided to quit and then noticed I was using the tools that they gave me without even noticing I was doing it: avoiding my triggers, finding hobbies, setting myself goals, being self-aware of high pressure situations.'*

Participants mentioned how the groups allowed them to learn about their addiction, for example by '*looking into your behaviours as an addict and how we can overcome thoughts and feelings we are now discovering in recovery that we had been masking with which ever substance we had been using'*. Individuals identified that their coping skills had improved, learning *'how to cope and deal with issues affecting us in everyday life without turning to substances'*. Replacing substances with more effective, alternative coping techniques helped participants deal with difficult situations outside the group where they may have previously relapsed.

In some stories, participants identified that their confidence had increased within the group. This confidence, in addition to knowledge acquired from the group, allowed some individuals to branch out to other services or recovery groups, for example learning '*about other mutual aid groups that go on in the wider community and it complements the services and access*'.

The skills individuals developed from the group were considered transferable and important for maintaining permanent change. This is highlighted in the following extract, when an individual shared that the '*The tools I was given in these groups to help me on my way to sobriety will be with me for the rest of my life'*.

The value of group activities. Many non-12-step groups provide informal alternative activities for participants to get involved in, such as walking, singing in choirs and crafts. These activities helped participants develop new hobbies and areas of interest, or '*taking up past interests which had recently fell by the way side'* as a result of their addiction.

The activities provided positive experiences for the individuals. A story shared about being involved in a recovery choir highlighted the impact the activity had on the group dynamic and the mood of the members.

'Overall the experience itself of singing in a group like that was pretty powerful and occasionally quite remarkably beautiful. I didn't anticipate that at all. It was a pretty profound experience being there doing the singing itself and at the end of it we'd all be pretty much elated or at very least in good spirits energised . . . and that good feeling lasted for a good long time afterwards too I'd continue to feel blissed out for the rest of the day at the very least.'

Some activities provided the participants with a great sense of achievement. This included groups making films about recovery experiences, and taking part in charity walks. For example, one participant discussed an 84-mile walk along Hadrian's Wall that the group had recently completed, and the positive impact it had on him.

'It was a great experience and a big achievement. Fifteen people who have all had a problem with drink and drug problems making strong bonds teamwork a goal and life experience. Probably the best thing I've done in recovery and which I'll never forget.'

Speaking more generally and also considering 12-step groups, the group meetings themselves provided somewhere to regularly attend, consuming time that may have previously been used for substance misuse. As one participant stated, '*The recovery groups they help me get out the addiction instead of sitting at home doing nothing and getting drunk'*. The activities and meetings provided purpose, providing *'a reason to get dressed and get out of the house . . . it got me involved in activities, for me something that had been lost in my addiction.'*

A change in self. The previous themes highlight the important components identified in the individuals' stories about their recovery groups. These components allow the individuals to make positive changes in their life, and progress from addiction into recovery.

There is a sense of hitting rock bottom in addiction, with one participant sharing that before joining the group they were *'at a lowest point of my life with no hope or any*

foreseeable chance of getting out of a deep pit of demoralisation'. Participants readily discussed the despair and darkness of their addictions in their stories, alongside feelings of hopelessness. For the participants, this all changed once they became involved in the recovery group, as seen in the extract below.

> *'My life was totally unmanageable and I was slowly dying inside. From a place of abject hopelessness in my addiction I attended my first meeting and instantly I was given the gift of hope. Suddenly there was light from darkness.'*

The recovery groups provided the light and hope many individuals needed to be able to change. Many participants attributed their recovery entirely to their involvement in the recovery group, stating that the group *'saved my life'*.

The change in self because of the group allowed participants to have a new *'lease of life'*, improving their lives and regaining what they had lost. This is evident in the story shared below, where one participant outlines the ways in which she has regained a life worth living.

> *'I have got my life back, I have a home again, I have built bridges with my family. My relationship with my children is fantastic, life throws obstacles at me but I deal with them today without reaching for the bottle . . .. Today I have a life beyond my wildest dream thanks to [recovery group].'*

Triads

Participants were asked to rate their stories on four triads. The distribution of participants' ratings on each triad is shown in Figure 7.2. No statistical analysis on these triads could be performed due to limits in the Sensemaker software (Emerging Options, 2011); however, visual inspection of the triads supported qualitative findings from the stories. Participants were asked to mark the position on each triad that they felt best represented the story they shared about their group.

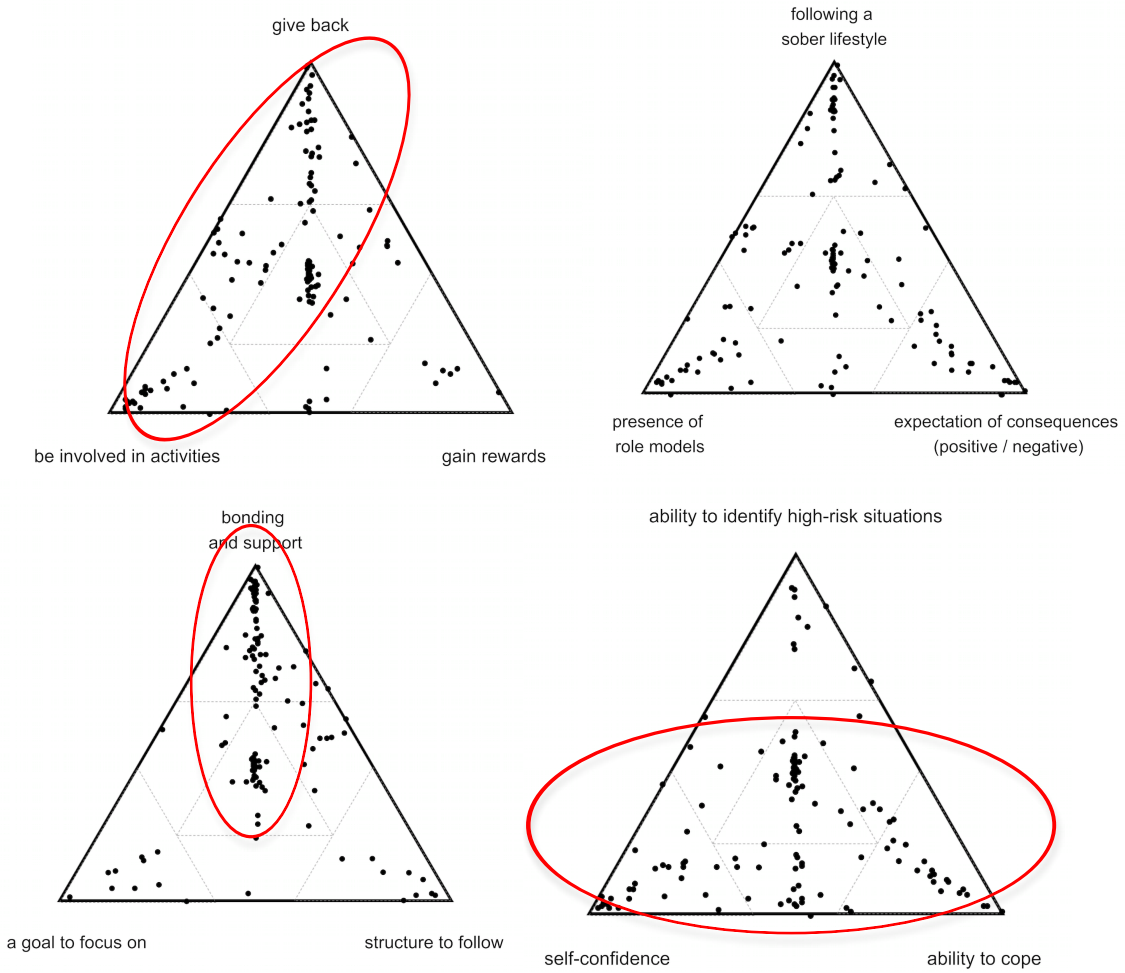

Figure 7.2. Participants' ratings for the four triads. Each dot represents the position a participant felt best signified his or her story. The circles highlight where the stories cluster.

The top left triad in Figure 7.2 represents behavioural choice theory, and there are clusters of stories positioned around the components 'giving back' and 'being involved in activities'. The top right triad represents social learning theory, and the stories are spread throughout the triad. This indicates that the three components are discussed reasonably equally within the stories. The bottom left triad represents social control theory, and it appears that the majority of stories focused on 'bonding and support', either alongside or independently from the other two components. Finally, the bottom right triad represents stress and coping theory, and the clusters of stories are positioned mainly around the components 'increasing self confidence' and 'increasing coping skills'. All of these

components that the stories are clustered around are mentioned in the narratives, and as we see in the next section are rated some of the most highly offered and important on the quantitative scales.

Rating the Components

Importance. Participants then considered their recovery groups more generally, and they rated how important each of the 12 components were to them. Figure 7.3 shows the mean importance scores for all 12 components.

It seemed that participants considered all components reasonably important to them, as shown by the relatively high scores. The component considered most important was the group's ability to improve self-confidence (M = 90.13, SD = 11.97), and the least important component being the provision of rewards (M = 75.56, SD = 27.94).

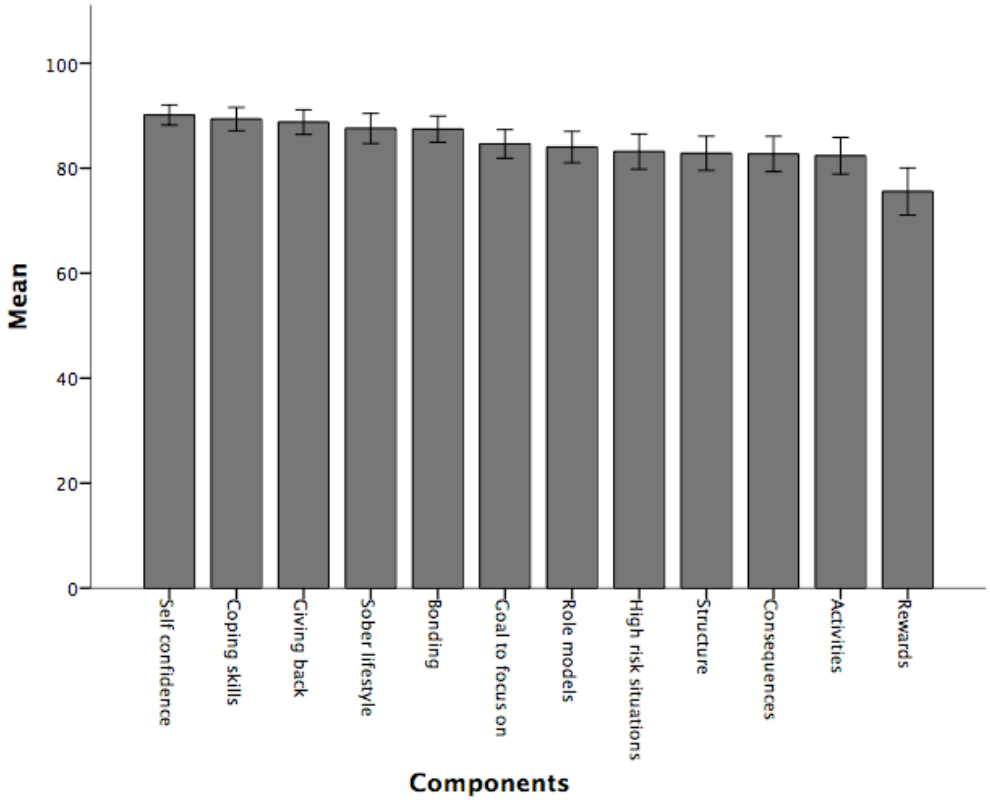

Figure 7.3. A bar graph showing mean 'importance' scores for all 12 components. Error bars represent 95% confidence intervals.

A one-way repeated-measures ANOVA assessed whether there were any significant differences in importance between components. The data were negatively skewed due to the majority of components being rated as highly important (resulting in high scores). However, one-way ANOVAs are robust against non-normal data (Schmider, Ziegler, Danay, Beyer, & Bühner, 2010), so at this point no transformations were used.

Mauchly's test of sphericity indicated that the assumption of sphericity had been violated, $\chi^2(65) = 383.02$, $p < .001$; therefore, a Greenhouse-Geisser correction was applied. A significant difference was found between the components $F(7.22, 1082.88) = 10.95$, $p < .001$, partial $\eta^2 = .068$. Post hoc analysis with a Bonferroni adjustment revealed a number of significant differences between the mean importance ratings of the components. Table 7.2 shows the mean difference between the importance ratings, with the components listed in order of 'importance'. Results indicated that there was no significant difference ($p = 1.00$) between the importance ratings of the top five components, and that receiving rewards is rated significantly ($p < .05$) less important than eight of the other 11 components.

Offered. Participants also rated how much each component was offered to them in their group. Figure 7.4 shows the mean 'offered' scores for all 12 components.

Participants reported that all of the components were typically offered in their group, as shown by the high scores. The component considered most offered was the group's ability to improve self-confidence ($M = 87.59$, $SD = 14.82$), and the least offered component being the provision of rewards ($M = 78.08$, $SD = 25.37$).

A one-way repeated-measures ANOVA was conducted to determine whether there were any significant differences in whether these components were offered in groups. Once again, the data were negatively skewed due to most components being offered by groups, but no transformations were used due to the robustness of the test chosen.

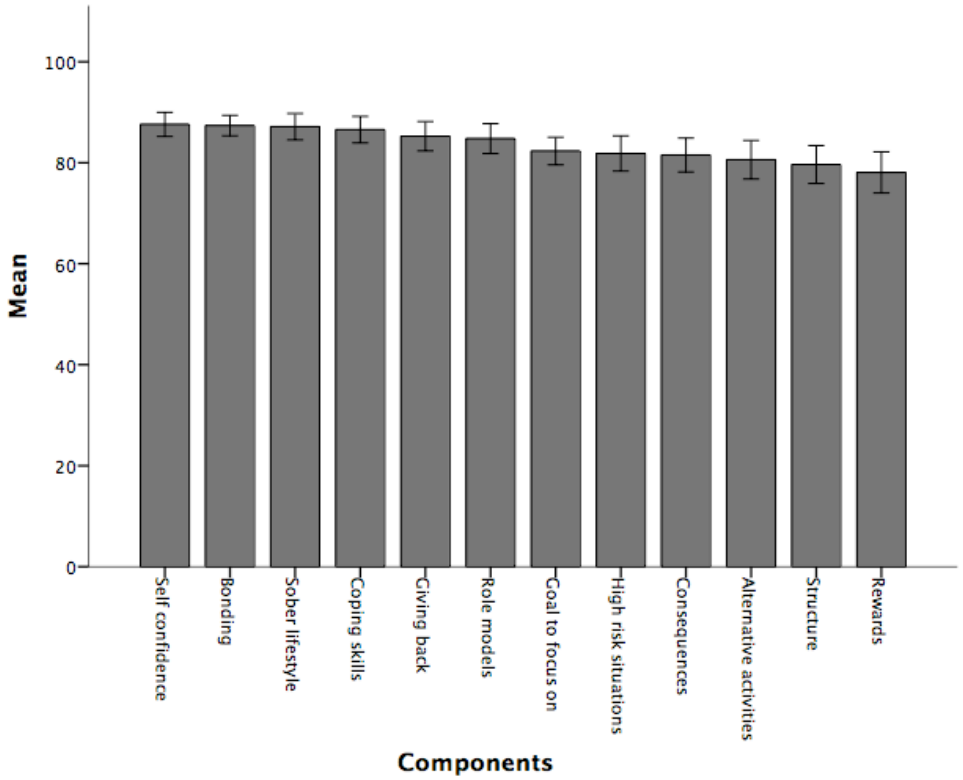

Figure 7.4. A bar graph showing mean 'offered' scores for all 12 components. Error bars represent 95% confidence intervals.

Mauchly's test of sphericity indicated that the assumption of sphericity had been violated, $\chi^2(65) = 395.91$, $p < .001$, therefore a Greenhouse-Geisser correction was applied. A significant difference was found between the components $F(7.32, 1097.55) = 6.71$, $p < .001$, partial $\eta^2 = .043$. Post hoc analysis with a Bonferroni adjustment revealed a number of significant differences between how offered the components are. Table 7.3 shows the mean differences between how offered the components are in the groups, with the components listed in order of how 'offered' they are. Results indicated that there is no significant difference ($p = 1.00$) between the offered ratings of the top six components, and that receiving rewards is rated significantly ($p < .05$) less offered than five of the other 11 components.

Table 7.2.

Pairwise Comparisons (using Bonferroni Adjustment), Showing the Mean Difference Between the Importance Ratings for all 12 Components.

Components	*1.*	*2.*	*3.*	*4.*	*5.*	*6.*	*7.*	*8.*	*9.*	*10.*	*11.*
1. Developing self-confidence											
2. Developing coping skills	-0.78										
3. Giving back	-1.35	-0.58									
4. Sober lifestyle	-2.55	-1.78	-1.20								
5. Bonding and support	-2.69	-1.91	-1.34	-0.14							
6. Goal to focus on	-5.51*	-4.73*	-4.15	-2.96	-2.82						
7. Available role-models	-6.09**	5.32*	-1.46	-3.54	-3.40	-0.59					
8. Identify high-risk situations	-6.97**	-6.19*	-5.62	-4.42	-4.28	-1.46	-0.88				
9. Structure to follow	-7.30*	-6.53*	-5.95*	-4.75	-4.61	-1.79	-1.21	-0.33			
10. Reminder of consequences	-7.42**	-6.64*	-6.07*	-4.87	-4.73	-1.91	-1.33	-0.45	-0.12		
11. Alternative activities	-7.76**	-6.99*	-6.41*	-5.21	-5.07	-2.26	-1.67	-0.79	-0.46	-0.34	
12. Gaining rewards	-14.57**	-13.79**	-13.22**	-12.02**	-11.88**	-9.06**	-8.48*	-7.60	-7.27*	-7.15	-6.81

Note. Components are listed in order of mean ratings of importance (most important first). *$p < .05$, **$p < .001$

Table 7.3.

Pairwise Comparisons (using Bonferroni Adjustment), Showing the Mean Difference Between the Offered Ratings for all 12 Components

Components	*1.*	*2.*	*3.*	*4.*	*5.*	*6.*	*7.*	*8.*	*9.*	*10.*	*11.*
1. Developing self-confidence											
2. Bonding and support	-0.23										
3. Sober lifestyle	-0.45	-0.22									
4. Developing coping skills	-1.04	-0.81	-0.59								
5. Giving back	-2.34	-2.10	-1.88	-1.30							
6. Available role-models	-2.82	-2.59	-2.37	-1.78	-0.48						
7. Goal to focus on	-5.28*	-7.71*	-4.83*	-4.24	-2.94	-2.46					
8. Identify high-risk situations	-5.76	-5.53	-5.31	-4.72	-3.42	-2.94	-0.48				
9. Reminder of consequences	-6.06*	-5.83*	-5.61*	-5.02	-3.72	-3.24	-0.78	-0.30			
10. Alternative activities	-7.00*	-6.76	-6.54	-5.96	-4.66	-4.18	-1.72	-1.24	-0.94		
11. Structure to follow	-7.95*	-7.71*	-7.49*	-6.91*	-5.61	-5.13	-2.67	-2.19	-1.89	-0.95	
12. Gaining rewards	-9.51**	-9.28*	-9.06*	-8.47*	-7.18*	-6.69	-4.23	-3.75	-3.45	-2.52	-1.57

Note. Components are listed in order of mean offered ratings (most offered first). *$p < .05$, **$p < .001$

Difference between offered and importance scores. Paired-samples t-tests were used to determine whether there were any significant differences between the offered and importance ratings for each component (see Table 7.4).

Table 7.4.

Paired-Sample t-Tests Showing Differences Between 'Offered' and 'Importance' Ratings for Each Component.

Components	Mean Difference	t	Significance (2-tailed)
Developing self-confidence	-2.53	-2.51	.013*
Developing coping skills	-2.80	-3.11	.002*
Giving back	-3.52	-3.07	.003*
Sober lifestyle	-0.44	-0.39	.696
Bonding and support	-0.08	-0.07	.947
Goal to focus on	-2.31	-2.12	.036*
Available role-models	0.74	0.59	.555
Identify high-risk situations	-1.32	-0.95	.345
Structure to follow	-3.18	-2.33	.021*
Reminder of consequences	-1.18	-0.92	.361
Alternative activities	-1.77	-1.23	.219
Gaining rewards	2.52	1.87	.063

Note. Components are listed in order of their main rated importance. Mean difference is calculated by subtracting importance ratings from offered ratings. * $p < .05$.

For seven components, no significant differences ($p > .05$) were found between importance and offered ratings. These components were bonding and support, following a sober lifestyle, presence of role models, reminder of consequences, provision of alternative activities, gaining rewards, and ability to identify high-risk situations. The importance ratings

for the other five components were significantly higher ($p > .05$) than the offered ratings. These components were goal to focus on, structure, giving back, developing coping skills and developing self-confidence.

Assessing for group differences. A 3 x 12 mixed ANOVA assessed if the different types of groups rated the importance of the components differently. Three group types were identified: 12-step ($n = 48$), structured non-12-step ($n = 53$) and unstructured non 12-step ($n = 50$). The data were reflected and transformed using log 10, due to outliers and a non-normal, negatively skewed distribution. The data were then reflected back before analysis to change the transformed variables back to their original order (Duffy & Jacobsen, 2005). Post-transformation the data were normally distributed, as assessed by Normal Q-Q Plots. Levene's test of homogeneity of variance identified that all the variables showed homogeneity of variances ($p > .05$). Homogeneity of covariances was violated, as assessed by Box's test of equivalence of covariance matrices ($p < .001$). However, as sample sizes from the three groups were relatively large and equal, this was not considered a considerable issue (Tabachnick & Fidell, 2001).

Mauchly's test of sphericity indicated that the assumption of sphericity had been violated, $\chi^2(65) = 232.30$, $p < .001$, therefore a Greenhouse-Geisser correction was applied. There was no statistically significant interaction between the different components and group type on importance ratings, $F(16.99, 1257.26) = 0.92$, $p = .56$, partial $\eta^2 = .010$. As expected from prior analysis there was a main effect of importance ratings for the different components, $F(8.50, 1257.26) = 10.15$, $p < .001$, partial $\eta^2 = .064$, however there was no main effect of group $F(2, 148) = 0.95$, $p = .39$, partial $\eta^2 = .013$, indicating the ratings did not significantly differ between the different types of groups.

A 3x12 mixed ANOVA was also used to compare how offered all the components were in the three different types of groups. These data were also transformed (using log 10)

and reflected to make the data normally distributed. Homogeneity of variance was again established through Levene's test ($p > .05$), and homogeneity of covariances was once again violated ($p < .001$).

Mauchly's test of sphericity indicated that the assumption of sphericity had been violated, $\chi^2(65) = 232.30$, $p < .001$; therefore, a Greenhouse-Geisser correction was applied. There was no statistically significant interaction between the different components and group type on offered ratings, $F(14.34, 1061.12) = 0.85$, $p = .62$, partial $\eta^2 = .01$. As expected from prior analysis, there was a main effect of how offered the different components are, $F(7.17, 1061.12) = 10.96$, $p < .001$, partial $\eta^2 = .069$, however there was no main effect of group $F(2, 148) = 0.51$, $p = .60$, partial $\eta^2 = .007$, indicating the ratings did not significantly differ between the different types of groups.

Influence of recovery duration and time committed to recovery group. A correlational analysis was conducted to determine whether individuals rated how important and offered components were differently depending on their length of time in recovery, and in the recovery group. Results suggested that the only significant correlation was between the length of time in recovery and how offered ($r = .18$, $p = .029$) and important ($r = .16$, $p = .048$) rewards are. However once a Bonferroni correction was applied for multiple comparisons ($p < .001$), this result was no longer significant.

Discussion

The research described in this chapter analysed the experiences of participants in a diverse range of addiction recovery groups, and it determined the importance and availability of Moos' (2008) components across different groups within the U.K. The results suggest that all of Moos' components were highly important and typically offered; however, some components such as 'gaining rewards' had significantly lower offered and importance ratings than others. The results also suggest that component ratings did not differ depending on the

type of group someone is in, the length of time they have been in recovery, and the length of time they have been involved in their recovery group.

This outcome is interesting, as despite the variety of different recovery groups involved (all with different structures, underlying approaches and theoretical frameworks), it seems that participants rated the components similarly. This supports the suggestion that recovery groups have universal components (Kelly & Yeterian, 2008; Moos, 2007), and it is the similarities, not the differences, that make groups successful in helping individuals in recovery improve their lives.

The findings suggest that the same most important five components were identified in both offered and importance ratings. In no particular order, these are: 'improving self-confidence', 'improving coping skills', 'bonding and support', 'giving back' and 'following a sober lifestyle'. The quantitative analysis explored a large number of components, making it difficult to interpret which components were considered more important or offered than the others. Future research could qualitatively explore these top five components in more detail, to discover what it is about them that individuals value the most.

'Gaining rewards' was the component that participants rated the least important and the least offered by the groups. This component is derived from behavioural choice theory, with Moos (2008) suggesting rewards in the groups provide individuals an alternative to rewards gained from substance misuse. The results of the current study suggest that behavioural choice theory may not be as important in recovery groups as Moos thought, as the other component derived from this theory, 'provision of alternative activities', was also one of the lowest rated components. However, it is important to note that all components were rated highly, indicating that although components derived from behavioural choice theory may be less important aspects of recovery groups, they were still considered valuable by most.

Group satisfaction was assessed through analysing the difference between importance and offered ratings. There was no significant difference for seven of the components, indicating individuals were satisfied with how offered these components were within their groups. For the other five components the importance ratings were significantly higher than the offered ratings, indicating a sense of dissatisfaction with the group's provision of these important aspects. Three of these significant components ('giving back', 'developing self-confidence' and 'coping skills') were part of the top five components mentioned earlier, and recovery groups could focus on increasing the availability of these components to improve satisfaction of group members.

The qualitative analysis provided a first-hand perspective on individuals' experiences within recovery groups, and highlighted the aspects they considered important. Four of the themes identified in the stories (*perspective taking, connecting to others, developing skills and value of group activities*) were components that individuals value within their groups. These components have some similarities with Moos' (2008) components and our quantitative findings. For example, the theme *connecting to others* highlights the importance of the components 'bonding and support' and 'giving back to others'. In addition, the theme *developing skills* echoes Moos' components 'developing self-confidence' and 'developing coping-skills'. Moos' components reflected in the qualitative themes are four of the top five components identified in the quantitative findings, further supporting the idea that recovery groups should focus on this 'top five'.

The theme *perspective taking* discussed the importance of sharing stories, and how other's views and stories helped individuals gain new insight and perspectives of their own addiction. Perspective taking can be related to the ACT model of psychological flexibility. This model suggests that when individuals develop self-awareness, this flexibility can bring about changes in the self (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). It seems that self-

awareness and reflection could be important components of recovery groups despite not being mentioned by Moos (2008).

The theme *connecting to others* discussed the importance of like-minded individuals, and how connecting with people who had similar issues made individuals feel like they were not alone. This mirrored findings from the qualitative research in Chapter Five that explored members' experiences of social-based recovery groups, yet it is not included in Moos' (2008) components. Previous components highlighted the importance of having role models present, but the current study suggests that it is more important to have someone to stand alongside rather than look up to.

'Alternative activities' was one of the lowest rated components, yet it was discussed extensively in the stories resulting in the theme *value of group activities*. It is unclear why there was this discrepancy between the quantitative and qualitative findings. Perhaps 'having a sober lifestyle' (which these activities often encourage) was more important than the activities themselves? Another potential explanation is that perhaps social biases could be at play, as going on activities is something that may be something of value to the individual but it is less likely to be endorsed by others. Discrepancies such as this in mixed methods designs are common, and Creswell and Plano Clark (2007) suggest future research could explore this incongruity in more depth.

The final qualitative theme, *a change in self,* highlighted the importance of recovery groups and the positive impact they can have on individual's lives. These findings support social identity models of recovery, as the findings highlight the important role that groups play in the identity transition from 'addict' to 'recovering individual' (Best et al., 2016; Frings & Albery, 2015). Many individuals as a result of the group experience and the components it provided had been able to make positive changes in their lives, moving from hopeless to hopeful. Previous research has often focused on objective measures of change

(Humphreys, 2004) at the expense of exploring personal accounts. Although this objective approach is valuable when quantifying group effectiveness, the nature of recovery is subjective (Laudet, 2007), and the perceived benefits explored in the current study provided insights into *how* these groups promote change.

There are a number of limitations of the study that should be acknowledged. The study considered only individuals who were actively engaged in recovery groups. For this reason, our findings should not be considered representative of the whole recovery community. Future research could examine the experiences of individuals who were unsatisfied with their recovery group and may have left, and their reasons behind this. Also, whereas the purpose of using Sensemaker was to understand a complex system, there were limitations of the approach. When the researcher analysed and interpreted the results, it seemed that a more traditional analysis approach (i.e., triangulating the qualitative thematic analysis of the stories with the statistical analysis of the components) was more scientifically robust and provided more insight than some of the novel Sensemaker techniques (e.g., identifying clusters within the triads). The triads could only be visually inspected for clusters, and although this inspection did support the other findings, there is a lack of statistical analysis available to assess the triads with any scientific rigour (Emerging Options, 2011). This suggests that although the Sensemaker triads can be used to add weight to findings derived from more traditional qualitative and quantitative methods, the Sensemaker paradigm has its limitations and may not be as well suited to academic research as originally thought.

Table 7.5 shows an update of Moos' (2008) components based on the findings from the current study. As all components were rated reasonably highly, no components have been removed at present. We maintained our original decisions to add in the component 'giving back', and split the original component 'observing and imitating norms and role-models' into 'following a sober lifestyle' and 'available role models'. Two new components have also

been added based on the qualitative findings: ‘presence of like-minded individuals’ and ‘developing self-awareness and reflection skills’. The current study provided support for Moos’ original components, and identified that these components are universal across a diverse range of recovery groups in the U.K., and stable across time. The findings offer an in-depth, person-focused perspective into what makes recovery groups successful, utilising the voices of the true experts of addiction recovery groups.

Table 7.5.

The 14 Important Components of Addiction Recovery Groups.

Components
Bonding and support
Goal direction
Structure to follow
Following a sober lifestyle
Available role models
Expectations of positive and negative consequences
Involvement in protective activities
Effective rewards
Identifying high-risk situations
Building self-confidence
Developing coping skills
Giving back
Presence of like-minded individuals
Developing self-awareness and reflection skills

CHAPTER EIGHT

General Discussion

Addiction research and practice often focus on the problems associated with substance use disorders, and the negative impact addiction can have on an individual, their family and the wider society. However, the recovery movement has shifted the focus, and it is now being recognised that many individuals successfully recover from a substance use disorder in a number of different ways (Laudet, 2008). Exploring the pathway into recovery, the identity shifts that occur during this change, and the role of mutual aid groups in maintaining the recovery identity were the overall aims of this thesis.

Recovery from addiction can be a complex process, and individuals can experience multiple relapses and have difficult journeys through treatment (Raistrick, Heather, & Godfrey, 2006). Establishing methods of predicting an individual's *readiness* to change and move towards a recovery identity was the first aim of this thesis. The second aim was to investigate experiences in recovery groups, as previous research has suggested that they play a significant role in the social transition from addiction to recovery (e.g. Frings & Albery, 2015). We intended to conduct research that was important both theoretically and practically—research that would advance addiction literature and help individuals who have experienced or were experiencing a substance use disorder. This chapter summarises the main outcomes of the theses and considers applications of the research within a wider context.

Summary of Findings

The initial chapters of this thesis focus on alcohol attentional bias, which is an automatic shift of one's attention towards alcohol-related stimuli. It is believed to be a core feature of an alcohol use disorder (Field & Cox, 2008). The literature review in Chapter Two discusses the previous research that has been conducted on alcohol attentional bias, and it

identifies some gaps and unanswered questions within the literature. Although there has been some previous literature supporting the clinical utility of alcohol attentional bias and its ability to predict treatment outcome (e.g., Cox, Hogan, Kristian, & Race, 2002), further research was needed to validate this relationship (Field, Marhe, & Franken, 2014). It was also determined that an individual's readiness to change cannot be reliably measured using explicit measures such as the Readiness-to-Change Questionnaire (Heather & Honekopp, 2008). This led to the idea that an implicit measure of recovery-related change might fare better. Accordingly, the first experimental study reported in this thesis (Chapter Three) addressed some of these unanswered questions. This was achieved by assessing whether an individual's attentional bias for alcohol and recovery-related words in detoxification would predict their treatment outcome three months later. The results showed that the best predictor of treatment outcome was an attentional bias for positive change-related words, with successful individuals having less attentional bias for these words than for the other word categories. Although this finding was unexpected, it was supported by significant relationships between positive change-related interference scores and continuous measures of drinking at follow-up. The study concluded that positive change-related words were a better predictor of treatment outcome and social identity shift than are either alcohol-related words or negative change-related words.

During the follow-up sessions for the above study, it was apparent that the quantitative information collected about individuals' treatment outcomes did not necessarily capture the diverse experiences of recovery that the successful individuals reported. These individuals informally discussed stories about their recovery journeys. These stories inspired me to explore methods of scientifically capturing these experiences, and provided a focus for the remainder of the research. The focus in addiction practice and research is changing from a problem-centred medicalised model to a solution-centred recovery-based approach (Laudet,

2008). Chapter Four discussed the literature on recovery and identified the importance of mutual aid groups and their role in an individual's recovery journey. The second experimental study (reported in Chapter Five) was a qualitative study exploring individuals' experiences of social-based recovery groups. This type of group has not previously been researched, and four themes were derived from interviews with 10 group members: (a) the group's role in their recovery, (b) personal choice and flexibility in recovery experience, (c) the group as an inclusive family unit, and (d) active involvement in the group.

The final project involved 151 individuals in a wide range of recovery groups who completed a survey about their group experiences. This project was divided into two experimental studies (reported in Chapter Six and Chapter Seven). Chapter Six aimed to validate the Recovery Strengths Questionnaire (RSQ) as a measure of recovery capital. The RSQ was found to be psychometrically sound, with high internal consistency and concurrent validity with the Assessment of Recovery Capital (ARC; Groshkova, Best, & White, 2013). RSQ scores were positively correlated with length of time in recovery and length of membership in recovery groups, and the scores could be used to discriminate between those in early and late recovery. Principal components analysis revealed a two-factor structure of recovery capital. These two factors were named 'internally generated recovery strengths' and 'externally generated recovery strengths', and it was found that only the internal factor scale (i.e., resources developed *within* recovery groups) predicted length of time in recovery and length of recovery group membership. The study detailed in Chapter Seven used a mixed-methods design to determine what components were considered offered and important by individuals attending a wide-range of recovery groups across the U.K. Triangulation of the qualitative and quantitative findings supported the presence and importance of the recovery group components that have been suggested in previous literature (Moos, 2008). Component ratings did not differ depending on the type of group someone is in, the length of time they

have been in recovery, and the length of time they have been involved in their recovery group. The qualitative results highlighted other important components of recovery groups that were not identified in the previous literature, and an updated list of recovery group components was created. Overall, these studies offered insight into the underlying psychological mechanisms associated with the identity shift process, and the experiences of individuals once they had achieved this recovery identity.

How Does This Research Contribute to Theory and Practice?

The findings outlined in this thesis can contribute to future theory and practice in a number of areas, and the results will be of interest to many audiences. A number of these audiences and our plans for dissemination are outlined below.

Contribution to research. This thesis contains novel studies that build upon previous findings, extending our knowledge of key concepts, theories and ideas. The current studies provide significant contributions to the addiction field.

The attentional bias study outlined in Chapter Three offers insight into the clinical utility of various versions of the emotional-Stroop test. The finding that successful individuals displayed a negative attentional bias towards positive recovery-related words presents new questions regarding the role that emotional valence can play in an individual's attentional bias. The results suggest that it is the perception of a word (rather than its objective meaning) that influences attentional bias. This novel finding should encourage future researchers to further establish the clinical utility of positive recovery-related attentional bias, and to better determine why relapsed individuals showed an attentional bias for positive change-related words, whereas successful individuals showed a *negative* attentional bias for them. If future findings support the current results, this paradigm could be applied in clinical practice to help predict treatment outcome and measure change. This Chapter has recently been accepted for publication in the Addictive Behaviors journal.

The qualitative study outlined in Chapter Five contributes to the recovery literature by exploring a type of mutual aid group that to date had not been extensively researched within the literature. The rich, detailed stories told in the interviews provided a wealth of information about social-based recovery groups. Comparisons between the qualitative findings and Moos' (2008) important components of a 12-step recovery group allowed both similarities and differences between the two types of groups to be identified. The research highlighted the importance of conducting research with these smaller, lesser-known groups, and posed some interesting new ideas for future research, such as the additional benefits that can accrue from attending multiple mutual aid groups.

The study reported in Chapter Six evaluated a new measure of recovery capital. The Recovery Strengths Questionnaire was found to be psychometrically sound; thus, can be used in future research to assess an individual's recovery capital. The study also advanced our understanding of recovery capital domains. Past research has regularly discussed the multiple domains of recovery capital (e.g., Groshkova et al., 2013; White & Cloud, 2008), yet the principle components analysis of these same measures conducted in this research established that previous questionnaires measure only one domain (Arndt, Sahker, & Hedden, 2017; Groshkova et al., 2013; Vilsaint et al., 2017). The measure in the current study used scales with more response categories, which identified finer discriminations and a two-factor structure of recovery capital. These two factors ('internally generated recovery strengths' and 'externally generated recovery strengths') played different roles in an individual's recovery journey, as only internally generated strengths could predict length of time in recovery. This finding theoretically contributes to the literature surrounding which recovery capital elements are most important for sustaining recovery.

The final experimental chapter (Chapter Seven) assessed which components are offered and considered most important in a wide range of recovery groups across the U.K.

The findings provide support for the components identified in Moos' (2008) theory. This study was the first to empirically test Moos' components, using a person-focused perspective to explore what makes recovery groups successful. The findings also provided insight into other important components that had not been previously considered in Moos' theory (e.g., presence of like-minded individuals), and recognised the universality of these components across a diverse range of groups. The study used Sensemaker, which has not been previously used in addiction research, and it evaluated the suitability of using this approach within addiction research.

This thesis also provided support for Frings and Albery's (2015) social identity model of cessation maintenance (SIMCM). The ability to detect the transition into recovery through attentional biases towards recovery identity-related cues (Chapter Three) supported the inclusion of cognitive processes within the SIMCM model, and the studies exploring mutual aid group experiences highlighted the importance of several key SIMCM components (e.g. social connectedness, group cohesiveness, building self-efficacy).

Contribution to clinicians and other healthcare professionals. Further research exploring the clinical utility of attentional bias is needed before the paradigm can be used within clinical practice. However, if this effect is found to be robust in future research, clinicians could use the recovery-Stroop test to determine an individual's implicit readiness to change. This could help refine effective treatments by allowing clinicians to objectively predict treatment outcome prior to discharge.

Chapters Five and Seven highlighted the multiple benefits that can come from attending recovery groups, which should encourage clinicians to refer service users to these groups as a cost-effective way of helping maintain an individual's abstinence. Clinicians and healthcare professionals could also use the recovery capital measure discussed in Chapter Six to assess an individual's recovery strengths, and use the results to develop a person-centred

recovery plan. The measure could also be used to evaluate programmes and groups run within substance misuse services, for example by measuring an individual's recovery capital at the beginning and end of a programme. This measure is already being used as an evaluation tool in the substance misuse service in North Wales by assessing the effectiveness of a 12-week psychosocial recovery programme and allowing the service users to visually see their progress during the course.

Contribution to policy makers and commissioners. The National Institute for Health and Care Excellence guidelines (NICE, 2012) for drug use disorders recommends that services that support individuals for at least six months after abstinence should be commissioned. A main source of support after abstinence is often mutual aid groups (Humphreys, 2004), and the research reported in Chapter Six of this thesis shows that there are positive associations between length of time in recovery groups and the development of recovery capital. Public Health England (2013a) suggested that Area Planning Boards should commission these local recovery community organisations. However, as we saw in Chapter Five this is not always the case, and several of these local, social-based recovery groups in North Wales are still struggling for funding. The research reported in Chapter Five of this thesis examined the experiences of individuals who engage in social-based recovery groups in North Wales, and it identified the positive impacts these groups can have on these individuals' lives. We aim to share the research with local commissioners, in the hope that this will provide support for funding similar groups in North Wales in the future. As outlined by one of the participants in the quotation below, showing others first-hand the benefits of these groups helps provide evidence for the group's success.

> *'You know I'd love to get an MP just for a day to see here . . . let me come and take you meet a few people . . . from different groups, and I think then maybe . . . they'd think actually do you know, something works in this.'*

Also, whereas previously there have been anecdotal reports from individuals in these groups acknowledging their usefulness, no research had been conducted to date supporting these smaller, local groups. This study may encourage commissioners and policy makers to attend and find out more about the groups in their local areas.

Drug and alcohol policies can have a significant influence on substance use services within the U.K. (Drug Strategy, 2017). Thus, it is important that these policies are data-driven, and the research conducted for this thesis could contribute towards the evidence base for policies created in the future. Currently both the drug and alcohol guidelines from NICE recommend that healthcare professionals provide information about mutual aid groups to their service users (NICE, 2011; NICE, 2012). However, as mentioned in Chapter Five, despite these guidelines, health professionals often have limited knowledge of mutual aid groups, and can be reluctant to refer individuals to them as a result (Donovan, Ingalsbe, Benbow, & Daley, 2013; Kelly & White, 2012). This is particularly the case for locally developed groups such as the ones studied in Chapter Five, and many of the groups that were involved in the larger recovery survey (Chapters Six and Seven).

Although guidelines and policies are in place that encourage health professionals to recommend mutual aid groups to individuals recovering from substance use disorders, perhaps more needs to be done to ensure that these guidelines are put into practice. Research has shown that simply providing the information to individuals is often not a strong enough motivator for individuals to attend groups (Humphreys, 1999), and an active approach is more effective (Timko, DeBenedetti, & Billow, 2006).

Public Health England (2013a) have created a ‘mutual aid toolkit’, which contains a wealth of information on how both health professionals and commissioners can actively help improve access to mutual aid groups in their areas. This toolkit includes guidelines for commissioners, service managers, and a ‘Facilitating Access to Mutual Aid’ (FAMA) model.

The FAMA model provides an active approach for encouraging service users to attend local mutual aid groups, by asking keyworkers to use motivational interviewing skills, and to work with the service user by encouraging goal-setting and use of a journal to document their experiences of attending groups (Public Health England, 2013b). As shown in Chapters Five and Seven, individuals attending mutual aid groups are often satisfied with what their group is offering. Providing some more information in this toolkit about the evidence-based benefits of mutual aid groups from a first-hand perspective may be a useful addition to the policies that support the use of the toolkit. The FAMA model also encourages individuals to sample multiple mutual aid groups in order to find a group that suits their personal needs. The theme 'personal choice and flexibility in the recovery experience' identified in the qualitative analysis (Chapter Five) emphasises the importance of this FAMA model step.

Contribution to service users. Chapters Five and Seven provided both qualitative and quantitative information regarding the benefits and important components of a wide range of recovery groups. This information could be used to encourage individuals to join a recovery group by informing them using a first-hand perspective from like-minded individuals. To achieve this we have been working closely with CAIS, a drug and alcohol charity in North Wales. We have created posters to use within services that outline some of the benefits of mutual aid groups. These benefits are supported by quotations from participants in the two studies. Hopefully, the posters will encourage individuals to maintain their recovery by attending mutual aid groups and gain the support they need.

Chapter Seven outlined the important components of mutual aid groups. It also provided an updated version of Moos' (2008) components based on the findings from our recovery group survey. These components could be used in the future as a guideline when creating new mutual aid groups, and they could also be used to improve existing groups.

Group leaders could ask their members to ascertain whether the group was offering the outlined components, and could make changes in the group based on their feedback.

Finally, through dissemination of this research we hope to benefit service users by raising awareness of addiction, recovery, and the importance of mutual aid groups.

Strengths of the Research

It is evident from the previous section that this research has the potential to make significant contributions to a number of areas. In fact, the scope of the practical applications is one of the main strengths of this thesis. Connecting research to policy and practice is extremely important, as it allows research findings to make a positive impact on individuals living with addiction. We are currently disseminating the project findings to the audiences described earlier. Hopefully, in the near future this will produce some positive changes in both the local community and the remainder of the U.K.

The majority of previous addiction research has included participants who were residing in England or the United States (see Chapter One). The studies conducted for this thesis provide a unique insight into the addiction and recovery communities specifically in Wales, which can be used to more accurately inform the development of local services and additional recovery groups.

Another strength of this thesis is that both qualitative and quantitative methodologies were used. Using these approaches together provides a more comprehensive overview of addiction, as the research methodologies were specifically chosen to match each individual research question. For example, the quantitative methodologies allowed us to test specific experimental hypotheses (e.g., Chapters Three and Six), and the qualitative research provided novel, in-depth insight into under-researched areas (Chapter Five) (Snape & Spencer, 2003). We also used a mixed-methods design in Chapter Seven, as this allowed us to synthesise the

findings from the two approaches in order to gain a broader understanding of a complex area (Creswell, 2013).

A number of tools were developed during the course of the thesis research. Specifically, we (a) created a recovery-Stroop test that measures attentional bias for change-related words (Chapter Three), (b) developed a new measure of recovery capital that was shown to be psychometrically sound (Chapter Six), and (c) derived a list of the important components of mutual aid groups (Chapter Seven). All of these tools could have important uses in research and practice in the future.

The research conducted for the thesis used a collaborative approach throughout. That is, we worked closely with individuals who had first-hand experience with a substance use disorder. This process helped us identify research topics that individuals with actual experiences felt were important, and it allowed them to provide input into the design of the projects, help with recruitment, and play a role in disseminating the findings. An editorial by Neale et al. (2017) discussed the value of such collaborative research in the addiction field. They argued that ethically individuals who are 'experts by experience' should be able to contribute to research that may affect them. These individuals might have alternative insights into the population that is being researched due to their actual experiences. As a result, they are sometimes proficient in arriving at solutions to problems that arise (e.g., recruitment difficulties). These individuals can also help researchers ensure that the findings accurately reflect the targeted participant group (Neale et al., 2017). My personal experience in working with the 'experts by experience' was one of the most enjoyable aspects of conducting the research for this thesis. It helped me to appreciate and understand the diverse range of experiences that people with substance use disorders have.

Limitations of the Research and Future Directions

Despite the various strengths of the thesis, it is important also to acknowledge its limitations in order to better pave the way for additional research in the future. Some of the issues are related to the methodology used in particular studies, and others are more general issues that apply to the thesis as a whole.

First, it should be acknowledged that we experienced several difficulties with participant recruitment throughout the research. This is a common issue with hard-to-reach clinical populations (Subbaraman, Laudet, Ritter, Stunz, & Kaskutas, 2015). It meant that we sometimes did not get as many participants as we wanted, with recruitment taking much longer than expected in all three studies. For example, in the attentional bias study (Chapter Three), we used strict inclusion and exclusion criteria to try to ensure that the findings could be attributed to attentional bias and not to other confounding factors (e.g., additional drug use and/or neurological impairments). This meant that recruitment was slow and difficult. The follow-up sessions presented additional difficulties, especially difficult-to-contact participants and attrition. Nevertheless, we completed the study with an 85% follow-up rate, which is a similar rate to that obtained in Project MATCH (Project MATCH Research Group, 1998). Hansten, Downey, Rosengren and Donovan's (2000) findings indicate that valid results that accurately represented the population studied could be obtained with follow-up rates greater than 70%. This implies that the attrition in our study probably did not have a significant impact on the results. We also had to change our recruitment strategy for the Sensemaker study (Chapters Six and Seven). We initially began with an exclusively online study, and advertised the survey mainly over social media. Unfortunately, recruitment was slow, and after consulting some recovering individuals, we decided to also attend the recovery groups to allow individuals to complete the survey on paper. As suggested by

Subbaraman et al. (2015), the online population is not currently representative of the general population, although this may change in the future.

Another limitation of the attentional bias study (Chapter Three) was our use of staff as a control group. Staff members were chosen in an attempt to regulate the control group's exposure to alcohol-related cues (Cox et al., 2002), but we found that staff did not show significantly different interference scores to the recovery or alcohol-related words from the client group. A number of potential reasons were identified in Chapter Three as to why staff's interference scores did not differ, but regardless of the explanation it is clear that this group is not an ideal control. The ideal control group for alcohol attentional bias studies has not yet been identified (Field & Cox, 2008), but our study informs future researchers to avoid using staff members.

Some of the research described in this thesis has left us with a number of unanswered questions. For example, the attentional bias study (Chapter Three) yielded some unexpected findings. A potential explanation was discussed in Chapter Three, which suggested that perception of a word (rather than the word's objective meaning) causes attentional bias. However, this explanation needs to be tested, and we are currently conducting further research to assess this possibility. Although having unanswered questions can be a limitation of this thesis, hopefully these questions will stimulate researchers to explore the various possibilities in the future.

The research reported in Chapters Five, Six and Seven examined the benefits of recovery groups from a first-hand perspective. It compiled in-depth accounts of the experiences of individuals involved in mutual aid groups. However, it should be acknowledged that the views of individuals actively involved in groups might not accurately reflect the views of the entire recovery population from which they are drawn. There are likely many individuals who choose not to attend groups, or may have already attended

groups, not enjoyed them and subsequently left. Further research should also investigate the experiences of these populations to gain a more representative overview of the entire U.K. recovery community. Moos and Moos (2006) found that rates of relapse were higher for individuals who were not seeking help, in comparison to those who entered formal treatment and/or attended mutual aid groups. It is important to identify reasons why some individuals do not engage in these beneficial groups and to pinpoint the barriers that they may have faced. This information would provide a new understanding that could play a significant role in helping engage individuals with groups and other programmes.

The Sensemaker survey described in Chapter Seven was a novel methodology that had not been previously used within addiction research. Some difficulties with this method arose, including a lack of statistical analysis available to assess the triads (Emerging Options, 2011). Despite these difficulties, we managed to use the triads to support the findings from the mixed-method approach, and inevitably trying novel methodologies and assessing the feasibility of them is an important part of research.

Finally, it is worth noting that demographics of the addiction population are continuously evolving (Drug Strategy, 2017). There are currently rising issues with individuals using novel psychoactive substances (NPS; Gilani, 2016). NPS are also known as ‘legal highs’ and include substances such as ‘spice’ that are newly synthesised and often mimic the effects of illegal substances (Tracy, Wood, & Baumeister, 2017). Although further research is needed on the effects of NPS, there is some evidence to suggest that there can be significant psychological and physical impacts of NPS use (Neptune, 2015). As a result, it is likely that many more NPS users will come into substance misuse services in the future. Services and groups may need to adapt themselves to suit this new cohort, and the research conducted for this thesis will need to be replicated in order to see whether similar findings will also be found within the NPS population.

The knowledge and new insights derived from the research conducted for this thesis has produced should encourage further research that expands on the findings, explores some of the unanswered questions and addresses some of the limitations that were mentioned.

Conclusions

Overall the research conducted for this thesis demonstrated the attentional bias processes that can be used to predict treatment outcome (i.e. positive identity shifts) after detoxification. In line with the idea that mutual aid groups help maintain these positive identity shifts, the thesis also investigated the experiences of individuals recovering from substance use disorders who were involved in a wide range of groups. Orford (2008) suggested that addiction research should move away from the medicalised model, and focus instead on the change processes within addiction and recovery. The research that was conducted was in line with Orford's suggestions. It contributed to the literature on addiction, and it has important clinical implications that are already being used to make improvements in mutual aid groups and substance misuse services.

It is clear that the pathway through addiction and recovery is complex and unique to each individual. The NICE (2011) guidelines state that the individual should be at the centre of his or her care. We argue that the same principles should apply in research. As Orford (2008) and Neale et al. (2017) contend, the true 'experts' in addiction are the individuals who have experiences with substance use disorders. The research conducted for this thesis utilized substance users' knowledge and experiences in order gain a more ecologically valid and insightful understanding of their journeys through addiction. The findings have provided a solid foundation for future research, and they will hopefully stimulate an interest in researchers, clinicians, policy makers and service users.

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Appendix A

Information Sheet (Study One)

Title of the study
Attentional Bias as a Predictor of Treatment Outcome.

Information about the study
Service users and staff members are invited to take part in a research study. We will give you a test to work out how distracted you are by certain words related to recovery. We wish to see whether distraction to words is related to treatment outcome.

Why have I been asked to part?
We are asking service users with alcohol dependency (who live in North Wales) who are undergoing detoxification at the Hafan Wen, and CAIS staff members to take part in this research. To take part, participants must use no other illicit drugs, and staff members must have no personal history of drug or alcohol dependency.

What does the study involve?
In the study we will ask you to rate how meaningful some words are to you in relation to your treatment. Following this, you will be asked to complete several questionnaires about your drinking (e.g., how it affects you). Finally, you will perform a short computerized task, where words are presented on screen and you are required to select the colour of the word. This part of the study will occur at Hafan Wen and will take no longer than 90 minutes of your time. Service users will be asked to attend a follow-up appointment after three months. This will be a short session at your local treatment service building, where the questionnaires will be re-administered, and you will be asked about your progress since leaving treatment.

Service users will also be asked to nominate a collateral – that is, a friend, family member, or treatment provider who can also inform us about your treatment progress. The researcher will obtain consent from all nominated individuals, but only some of these will be contacted after you leave Hafan Wen.

NB. If your preferred language is Welsh, we would like to apologise for the fact the study will be in English only. This is because through translation some words may lose their meaning.

Are there any benefits or risks?
There are no direct benefits to participating in this study, however, your participation may benefit others in treatment in the future. You will receive a £10 shopping voucher for each session you attend. There are no foreseen risks to participating, but if you feel distressed at any point you are free to withdraw without penalty to you or your treatment.

What will happen to my data?
All data collected will be confidential, and you will not be identified in any report, thesis or publication that arises from this study. Only the researchers and project supervisor will have access to the data, and if you choose to withdraw you have the right to request that your data is not used.

Confidentiality will not be maintained if there is a risk of significant harm to you or someone else, or there is disclosure of a serious crime. These instances will be managed on a case-by-case basis.

What if I don't want to take part?
Taking part in this study is completely voluntary, and you can withdraw at any point without penalty or explanation. Deciding not to take part will not impact any other aspect of your treatment at Hafan Wen.

Who do I contact about the study?
If you have any questions about the study, please email the researcher Hannah Rettie at psue8f@bangor.ac.uk, or the principle investigator Dr. Lee Hogan at lee.hogan@bangor.ac.uk. You can telephone (01248 388276) or write to Dr. Lee Hogan, School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS or email h.francis@bangor.ac.uk.

Who do I contact with any complaints about this study?
If you have any concerns or complaints about this study, then please contact Mr Hefin Francis, School Manager, School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS or email h.francis@bangor.ac.uk.

Appendix B

Recruitment Poster for Staff

Would you like to participate in a research experiment?

CAIS staff members are invited to take part in an experiment for the School of Psychology, Bangor. The study examines people's perceptions of treatment and service user outcomes.

The study will take no more than 90 minutes (less time in many cases), and you will be given a £10 shopping voucher for your time.

What will the study involve?
You will fill in several questionnaires, and complete a computer task in your work place. All of your answers will remain strictly confidential.

Who can participate?
All staff members who do not have a personal history of drug or alcohol abuse can participate.

If you are interested, please read through the information sheet provided. If you wish to find out more about taking part then speak to your manager or contact the researcher Hannah Rettie (psue8f@bangor.ac.uk)

Appendix C

Informed Consent Form (Study One)

Title of the study: Attentional Bias as a Predictor of Treatment Outcome.

Name of Researcher: Hannah Rettie (psue8f@bangor.ac.uk)

Supervisor: Dr. Lee Hogan (lee.hogan@bangor.ac.uk)

Please write your initials in the box next to each line to which you consent.

I have read the information sheet.	
I have had the opportunity to consider the information and ask questions.	
I understand that my participation is voluntary, and that I may withdraw at any time without penalty or explanation, or it affecting my treatment in any way.	
I agree to take part in the above study.	
I agree to being contacted in three months time for a follow-up session (Service users only).	
I agree to provide the contact details of a collateral, who may be contacted after I leave Hafan Wen about my progress (Service users only).	

Participant's Name: _____ Date: _____

Participant's Signature: _____

For Researcher use

Investigator's Name: _____ Date: _____

Investigator's Signature: _____

Appendix D

Word List for Clients

Reasons for Change – List 1

Please rate how much each of these words might represent a reason for change for you, right now, at this stage in your treatment on the 10-point scale (0 = 'not at all' to 10 = 'the greatest amount possible'). Then please put a cross in the box for the eight most relevant words.

Growth	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Transformation	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Recovery	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Shift	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Awakening	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Freedom	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Calmness	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Happiness	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Hope	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Joy	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Relief	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Truth	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Faith	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Knowledge	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Insight	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Revelation	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Confidence	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Strength	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Acceptance	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Awareness	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Peace	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Commitment	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Reasons for Change – List 2

Please rate how much each of these words might represent a reason for change for you, right now, at this stage in your treatment on the 10-point scale (0 = 'not at all' to 10 = 'the greatest amount possible'). Then please put a cross in the box for the eight most relevant words.

Unhealthy	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Liver	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Lonely	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Trapped	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Deprivation	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Death	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Sick	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Poison	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Stuck	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Uncertainty	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Regret	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Victim	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Failure	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Useless	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Crime	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Prison	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Battle	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Debt	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Alone	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Loss	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Conflict	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Chaos	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Alcohol-Related Words

Please rate how relevant or meaningful these words are <u>to you</u> on the 10-point scale (0 = 'not at all' to 10 = 'the greatest amount possible'). Then please put a tick in the box for the eight words most relevant to you.

Beer	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Cider	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Wine	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Vodka	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Whiskey	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Brandy	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Gin	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Rum	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Sherry	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Ale	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Spirits	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Cocktail	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Liquor	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Alcohol	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Booze	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Pint	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Hangover	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Drunk	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Sloshed	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Intoxicated	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Pub	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Bar	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Neutral Words

Please rate how relevant or meaningful these words are to you on the 10-point scale (0 = 'not at all' to 10 = 'the greatest amount possible'). Then please put a tick in the box for the eight words **least** relevant to you.

Table	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Chair	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Stairs	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Cupboard	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Ceiling	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Desk	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Lampshade	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Shoe	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Oven	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Rucksack	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Rug	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Telephone	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Newspaper	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Fridge	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Floor	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Umbrella	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Painting	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Radio	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Pencil	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Sofa	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Carpet	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Window	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Appendix E

Word List for Staff

Reasons for Change – List 1

Please rate each word on how much you think they might represent a service user's reason for change on the 10-point scale (0 = 'not at all' to 10 = 'the greatest possible'). Then please put a cross in the box for the eight most relevant words.

Growth	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Transformation	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Recovery	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Shift	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Awakening	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Freedom	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Calmness	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Happiness	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Hope	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Joy	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Relief	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Truth	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Faith	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Knowledge	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Insight	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Revelation	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Confidence	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Strength	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Acceptance	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Awareness	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Peace	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Commitment	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Reasons for Change – List 2

Please rate each word on how much <u>you think</u> they might represent a service user's reason for change on the 10-point scale (0 = 'not at all' to 10 = 'the greatest possible'). Then please put a cross in the box for the eight most relevant words.

Unhealthy	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Liver	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Lonely	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Trapped	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Deprivation	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Death	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Sick	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Poison	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Stuck	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Uncertainty	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Regret	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Victim	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Failure	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Useless	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Crime	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Prison	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Battle	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Debt	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Alone	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Loss	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Conflict	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Chaos	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Alcohol-Related Words

Please rate how relevant or meaningful these words are to you on the 10-point scale. Then please put a tick in the box for the eight words most relevant to you.

Beer	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Cider	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Wine	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Vodka	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Whiskey	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Brandy	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Gin	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Rum	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Sherry	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Ale	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Spirits	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Cocktail	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Liquor	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Alcohol	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Booze	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Pint	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Hangover	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Drunk	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Sloshed	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Intoxicated	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Pub	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Bar	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Neutral Words

Please rate how relevant or meaningful these words are to you on the 10-point scale. Then please put a tick in the box for the eight words **least** relevant to you.

Table	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Chair	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Stairs	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Cupboard	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Ceiling	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Desk	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Lampshade	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Shoe	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Oven	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Rucksack	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Rug	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Telephone	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Newspaper	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Fridge	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Floor	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Umbrella	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Painting	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Radio	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Pencil	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Sofa	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Carpet	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Window	0	1	2	3	4	5	6	7	8	9	10	
	Not at all										Greatest possible	

Appendix F

Demographics Questionnaire

Participant Number: ……..

Name:…….

Date of Birth: ……../……../……..

Gender:

Male ☐ Female ☐ Other ☐

What is your preferred reading language?

Welsh ☐ English ☐ Other (please state)……

Age of first alcoholic drink: ……

Number of previous detoxes: ……..

Please provide a contact number/email address below. We will use this to contact you for a follow-up session in three months:

……..……..……..……..……..

Please provide the contact details of a significant other (e.g. community worker, family member, friend). We will contact a small, random selection of these individuals to enquire about your progress post-treatment:

Name: ……..……..

Relation to you: ……..……..

Contact details: ……..……..

Appendix G

Readiness to Change Questionnaire [Treatment Version]

READINESS TO CHANGE QUESTIONNAIRE
[TREATMENT VERSION]
REVISED EDITION 2007

The following questions are designed to identify how you personally feel about your drinking right now. Please think about your current situation and drinking habits, even if you have given up drinking completely. Read each question below carefully and then decide whether you agree or disagree with the statements. Please tick the answer of your choice to each question. If you have any problems please ask the questionnaire administrator.

Your answers are completely private and confidential

Key: **SD** = Strongly disagree **D** = Disagree **U** = Unsure
A = Agree **SA** = Strongly agree

	SD	D	U	A	SA	*Office use*
1 It's a waste of time thinking about my drinking because I do not have a problem.	•	•	•	•	•	PC
2 I enjoy my drinking but sometimes I drink too much.	•	•	•	•	•	C
3 There is nothing seriously wrong with my drinking.	•	•	•	•	•	PC
4 Sometimes I think I should quit or cut down on my drinking.	•	•	•	•	•	C
5 Anyone can talk about wanting to do something about their drinking, but I'm actually doing something about it.	•	•	•	•	•	A
6 I am a fairly normal drinker.	•	•	•	•	•	PC
7 My drinking is a problem sometimes.	•	•	•	•	•	C
8 I am actually changing my drinking habits right now (either cutting down or quitting).	•	•	•	•	•	A
9 I have started to carry out a plan to cut down or quit drinking.	•	•	•	•	•	A

10 There is nothing I really need to change about my drinking.	• • • • •	PC
11 Sometimes I wonder if my drinking is out of control.	• • • • •	C
12 I am actively working on my drinking problem.	• • • • •	A

FOR OFFICE USE ONLY

Please enter the subject's scores below:

Scale Scores	
PC Score	
C Score	
A Score	

Appendix H

Difficulties in Emotion Regulation Scale

Serenity Programme™ - serene.me.uk - Difficulties in Emotion Regulation Scale (DERS)

1	2	3	4	5
Almost never (0-10%)	Sometimes (11-35%)	About half the time (36-65%)	Most of the time (66-90%)	Almost always (91-100%)

Difficulties in Emotion Regulation Scale (DERS)

Identifier Date

Please indicate how often the following 36 statements apply to you by writing the appropriate number from the scale above (1 – 5) in the box alongside each item.

1	I am clear about my feelings (R)	☐
2	I pay attention to how I feel (R)	☐
3	I experience my emotions as overwhelming and out of control	☐
4	I have no idea how I am feeling	☐
5	I have difficulty making sense out of my feelings	☐
6	I am attentive to my feelings (R)	☐
7	I know exactly how I am feeling (R)	☐
8	I care about what I am feeling (R)	☐
9	I am confused about how I feel	☐
10	When I'm upset, I acknowledge my emotions (R)	☐
11	When I'm upset, I become angry with myself for feeling that way	☐
12	When I'm upset, I become embarrassed for feeling that way	☐

Serenity Programme™ - serene.me.uk - Difficulties in Emotion Regulation Scale (DERS)

1	2	3	4	5
Almost never (0-10%)	Sometimes (11-35%)	About half the time (36-65%)	Most of the time (66-90%)	Almost always (91-100%)

13	When I'm upset, I have difficulty getting work done	☐
14	When I'm upset, I become out of control	☐
15	When I'm upset, I believe that I will remain that way for a long time	☐
16	When I'm upset, I believe that I'll end up feeling very depressed	☐
17	When I'm upset, I believe that my feelings are valid and important (R)	☐
18	When I'm upset, I have difficulty focusing on other things	☐
19	When I'm upset, I feel out of control	☐
20	When I'm upset, I can still get things done (R)	☐
21	When I'm upset, I feel ashamed with myself for feeling that way	☐
22	When I'm upset, I know that I can find a way to eventually feel better (R)	☐
23	When I'm upset, I feel like I am weak	☐
24	When I'm upset, I feel like I can remain in control of my behaviours (R)	☐
25	When I'm upset, I feel guilty for feeling that way	☐
26	When I'm upset, I have difficulty concentrating	☐
27	When I'm upset, I have difficulty controlling my behaviours	☐

Serenity Programme™ - serene.me.uk - Difficulties in Emotion Regulation Scale (DERS)

1	2	3	4	5
Almost never (0-10%)	Sometimes (11-35%)	About half the time (36-65%)	Most of the time (66-90%)	Almost always (91-100%)

28	When I'm upset, I believe that there is nothing I can do to make myself feel better	☐
29	When I'm upset, I become irritated with myself for feeling that way	☐
30	When I'm upset, I start to feel very bad about myself	☐
31	When I'm upset, I believe that wallowing in it is all I can do	☐
32	When I'm upset, I lose control over my behaviours	☐
33	When I'm upset, I have difficulty thinking about anything else	☐
34	When I'm upset, I take time to figure out what I'm really feeling (R)	☐
35	When I'm upset, it takes me a long time to feel better	☐
36	When I'm upset, my emotions feel overwhelming	☐

Document Version: 1.1
Last Updated: 05 June 2013
Planned Review: 30 June 2018

Privacy - please note - this form does not transmit any information about you or your assessment scores If you wish to keep your results, you must print this document These results are intended as a guide to your health and are presented for educational purposes only They are not intended to be a clinical diagnosis If you are concerned in any way about your health, please consult with a qualified health professional.

Gratz, K.L. & Roemer, E. Multidimensional Assessment of Emotion Regulation and Dysregulation: Development, Factor Structure, and Initial Validation of the Difficulties in Emotion Regulation Scale. Journal of Psychopathology and Behavioral Assessment, 26: 1, pp. 41-54.

Appendix I

Short Inventory of Problems Questionnaire

The Drinker Inventory of Consequences (DrInC)

Short Inventory of Problems (SIP-2L)

INSTRUCTIONS: Here are a number of events that drinkers sometimes experience. Read each one carefully and circle the number that indicates whether this has *EVER* happened to you (0 = No, 1 = Yes). If an item does not apply to you, circle zero (0).

	Has this *EVER* happened to you? Circle one answer for each item.	**No**	**Yes**
1.	I have been unhappy because of my drinking.	0	1
2.	Because of my drinking, I have not eaten properly.	0	1
3.	I have failed to do what is expected of me because of my drinking.	0	1
4.	I have felt guilty or ashamed because of my drinking.	0	1
5.	I have taken foolish risks when I have been drinking.	0	1
6.	When drinking, I have done impulsive things that I regretted later.	0	1
7.	My physical health has been harmed by my drinking.	0	1
8.	I have had money problems because of my drinking.	0	1
9.	My physical appearance has been harmed by my drinking.	0	1
10.	My family has been hurt by my drinking.	0	1
11.	A friendship or close relationship has been damaged by my drinking.	0	1
12.	My drinking has gotten in the way of my growth as a person.	0	1
13.	My drinking has damaged my social life, popularity, or reputation.	0	1
14.	I have spent too much or lost a lot of money because of my drinking.	0	1
15.	I have had an accident while drinking or intoxicated.	0	1

Appendix J

Hospital Anxiety and Depression Scale

Instructions: Doctors are aware that emotions play an important part in most illnesses. If your doctor knows about these feelings he or she will be able to help you more. This questionnaire is designed to help your doctor know how you feel. Read each item and circle the reply which comes closest to how you have been feeling in the past week. Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought out response.

I feel tense or 'wound up':	**A**
Most of the time	3
A lot of the time	2
Time to time, occasionally	1
Not at all	0

I feel as if I am slowed down:	**D**
Nearly all of the time	3
Very often	2
Sometimes	1
Not at all	0

I still enjoy the things I used to enjoy:	**D**
Definitely as much	0
Not quite so much	1
Only a little	2
Not at all	3

I get a sort of frightened feeling like 'butterflies in the stomach':	**A**
Not at all	0
Occasionally	1
Quite often	2
Very often	3

I get a sort of frightened feeling like something awful is about to happen:	**A**
Very definitely and quite badly	3
Yes, but not too badly	2
A little, but it doesn't worry me	1
Not at all	0

I have lost interest in my appearance:	**D**
Definitely	3
I don't take as much care as I should	2
I may not take quite as much care	1
I take just as much care as ever	0

I can laugh and see the funny side of things:	**D**
As much as I always could	0
Not quite so much now	1
Definitely not so much now	2
Not at all	3

I feel restless as if I have to be on the move:	**A**
Very much indeed	3
Quite a lot	2
Not very much	1
Not at all	0

Worrying thoughts go through my mind:	**A**
A great deal of the time	3
A lot of the time	2
From time to time but not too often	1
Only occasionally	0

I look forward with enjoyment to things:	**D**
A much as I ever did	0
Rather less than I used to	1
Definitely less than I used to	3
Hardly at all	2

I feel cheerful:	**D**
Not at all	3
Not often	2
Sometimes	1
Most of the time	0

I get sudden feelings of panic:	**A**
Very often indeed	3
Quite often	2
Not very often	1
Not at all	0

I can sit at ease and feel relaxed:	**A**
Definitely	0
Usually	1
Not often	2
Not at all	3

I can enjoy a good book or radio or TV programme:	**D**
Often	0
Sometimes	1
Not often	2
Very seldom	3

Questions relating to anxiety are indicated by an 'A' while those relating to depression are shown by a 'D'. Scores of 0-7 in respective subscales are considered normal, with 8-10 borderline and 11 or over indicating clinical 'caseness'

Appendix K

Debriefing Form (Study One)

Title of the study
Attentional Bias as a Predictor of Treatment Outcome

Name of Researchers: Hannah Rettie (psue8f@bangor.ac.uk)

Name of Supervisor: Dr. Lee Hogan (lee.hogan@bangor.ac.uk)

Purpose and Background
The purpose of this study was to understand the relationship between your performance on the computer task and your treatment outcome. That is, we were interested in your reactions times to the different words we showed you. Previous research has shown that people who drink excessively are slower to respond to words related to alcohol because of distraction known as 'attentional bias'. In this study, we wanted to explore if the degree of distraction (to alcohol words and positive and negative change words) was related to successful outcomes following treatment.

We asked staff members to participate in the study to act as a 'control' group, primarily to see if the distraction to certain words was unique to service users in treatment.

Questions
If you have any questions about this experiment or its findings please contact the researcher or her supervisor. Our e-mail addresses are shown above. Alternatively, you can telephone (01248 388276) or write to use at the School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS.

Complaints
If you have any concerns or complaints about this study, then please contact Mr Hefin Francis, School Manager, School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS or email h.francis@bangor.ac.uk.

Thank you for participating. ☺

Appendix L

Information Sheet (Study Two)

Title of the study

Exploring the Experiences of Being Involved in an Social-based Recovery Group

Information about the study

Members of addiction recovery groups in North Wales are invited to take part in a research study. We want to explore your experiences of being involved in a social-based recovery group, and how this has impacted on your recovery. To do this, we will ask you to take part in an informal face-to-face interview.

Why have I been asked to part?

We are asking members of social-based recovery groups to take part in this research. To take part, you must have previously had a drug or alcohol dependency, and have been abstinent from substances for at least a month.

What does the study involve?

In the study you will be asked to take part in a semi-structured interview, where you will be asked questions about your experiences of being within the group. The interview will last approximately an hour, and will be recorded for later analysis.

Are there any benefits or risks?

There are no direct benefits to participating in this study, however, your participation may benefit others involved in recovery groups in the future. You will receive a £10 shopping voucher for your time. There are no foreseen risks to participating, but if you feel distressed at any point you are free to withdraw without penalty.

What will happen to my data?

All data collected will be confidential, and you will not be identified in any report, thesis or publication that arises from this study. Only the researchers and project supervisor will have access to the data, and if you choose to withdraw you have the right to request that your data is not used.

Confidentiality will <u>not</u> be maintained if there is a risk of significant harm to you or someone else, or there is disclosure of a serious crime. These instances will be managed on a case-by-case basis.

What if I don't want to take part?

Taking part in this study is completely voluntary, and you can withdraw at any point without penalty or explanation.

Who do I contact about the study?

If you have any questions about the study, please email the researcher Hannah Rettie at psue8f@bangor.ac.uk, or the principle investigator Dr. Lee Hogan at lee.hogan@bangor.ac.uk. You can telephone (01248 388276) or write to Dr. Lee Hogan, School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS or email h.francis@bangor.ac.uk.

Who do I contact with any complaints about this study?

If you have any concerns or complaints about this study, then please contact Mr Hefin Francis, School Manager, School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS or email h.francis@bangor.ac.uk.

Appendix M

Informed Consent Form (Study Two)

Title of the study: Exploring the Experiences of Being Involved in a Social-based Recovery Group

Name of Researcher: Hannah Rettie (psue8f@bangor.ac.uk)

Supervisor: Dr. Lee Hogan (lee.hogan@bangor.ac.uk)

Please write your initials in the box next to each line to which you consent.

I have read the information sheet.	
I have had the opportunity to consider the information and ask questions.	
I understand that my participation is voluntary, and that I may withdraw at any time without penalty or explanation, or it affecting my treatment in any way.	
I agree to take part in the above study.	

Participant's Name: _____ Date: _____

Participant's Signature: _____

For Researcher use

Investigator's Name: _____ Date: _____

Investigator's Signature: _____

Appendix N

Interview Protocol and Example Introduction Script

Key Components	
Introduction: Consent Purpose Confidentiality Questions	Ensure participant previously read the information sheet and provided written consent before beginning the interview. Remind participant of the interview purpose, and check that they are happy to proceed. Explain issues around consent including consent to be recorded and ensure confidentiality. Make sure the participant is able to ask questions.
Begin Recording	State participant number and gain verbal consent on the recording itself.
Questions: Broad opening Open-ended (no specific order) Use probes as needed	Please describe the social recovery group that you are involved in. Could you please tell me about your experience of being involved in this group? How has this group impacted on your overall recovery experience? More specifically, what aspects of this recovery group have been important for your recovery? To your knowledge, how is this group different from mutual aid and 12-step groups such as SMART, NA and AA? To your knowledge, how is this group similar to mutual aid and 12-step groups such as SMART, NA and AA? *Example probes*: Could you please give an example? Is there anything else? Could you expand on that please? What do you mean by...?
Closing Further Questions Next steps	Let them know that you have asked all your questions then give them the opportunity to add anything they think maybe important or valuable: 'Is there anything else you would like me to know or that you think is important to help understand your experience better? In closing the interview ensure the participant has time to ask any further questions. Debrief interview, and explain that a full verbal and written debrief will be provided at the end of the study after completing the questionnaire.

So what we want to do is have a brief chat where I will ask a few questions about your experience of being involved in [Insert Recovery Group]. I am looking to hear from you as much as possible, so I will keep the questions brief. Please feel free to say what you think is important.

Before we start, can I record this interview to allow us to analyse the data? The contents of this interview will usually only be shared between the research team and myself for research purposes, and your name will be anonymous in any report that we produce. However, some information may need to be passed to authorities, for example, if you disclosed information about a crime etc.

Also if you feel you don't want to answer a particular question, or stop the interview that is completely fine. Do you have any questions before we begin recording?

Ok, so just for the tape am I ok to ask for you to repeat your verbal content?

Ok this is participant number … may I have permission to record this interview?

Appendix O

Debriefing Form (Study Two)

Title of the study

Exploring the Experiences of Being Involved in an Social-based Recovery Group

Name of Researchers: Hannah Rettie (psue8f@bangor.ac.uk)

Name of Supervisor: Dr. Lee Hogan (lee.hogan@bangor.ac.uk)

Purpose and Background

The purpose of this study was to understand your experiences of being in a social-based recovery group. These types of groups are rarely mentioned in the literature, as previous research has often focused on mutual aid and 12-step groups, such as Alcoholic Anonymous, Narcotics Anonymous and SMART. We want to explore how being involved in a social-based recovery group may have impacted your recovery, and if there are any differences between social-based groups and the more traditional 12-step and mutual aid groups.

Questions

If you have any questions about this experiment or its findings please contact the researcher or her supervisor. Our e-mail addresses are shown above. Alternatively, you can telephone (01248 388276) or write to use at the School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS.

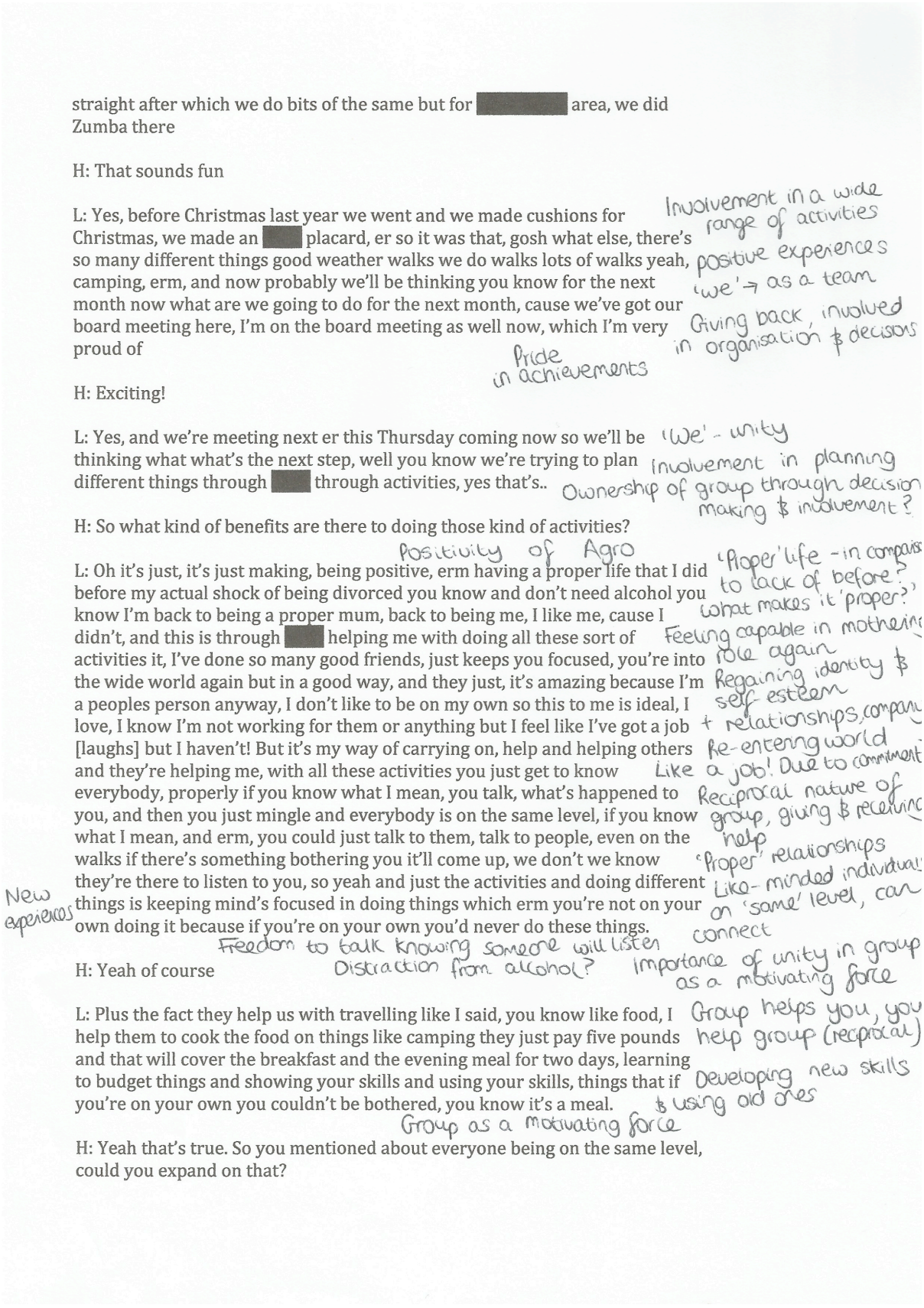
Complaints

If you have any concerns or complaints about this study, then please contact Mr Hefin Francis, School Manager, School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS or email h.francis@bangor.ac.uk.

Thank you for participating. ☺

Appendix P

Example Transcription and Coding for Interviews



straight after which we do bits of the same but for [redacted] area, we did Zumba there

H: That sounds fun

L: Yes, before Christmas last year we went and we made cushions for Christmas, we made an [redacted] placard, er so it was that, gosh what else, there's so many different things good weather walks we do walks lots of walks yeah, camping, erm, and now probably we'll be thinking you know for the next month now what are we going to do for the next month, cause we've got our board meeting here, I'm on the board meeting as well now, which I'm very proud of

Involvement in a wide range of activities
positive experiences
'we' → as a team
Giving back, involved in organisation & decisions
Pride in achievements

H: Exciting!

L: Yes, and we're meeting next er this Thursday coming now so we'll be thinking what what's the next step, well you know we're trying to plan different things through [redacted] through activities, yes that's..

'We' - unity
Involvement in planning
Ownership of group through decision making & involvement?

H: So what kind of benefits are there to doing those kind of activities?

Positivity of Agro

L: Oh it's just, it's just making, being positive, erm having a proper life that I did before my actual shock of being divorced you know and don't need alcohol you know I'm back to being a proper mum, back to being me, I like me, cause I didn't, and this is through [redacted] helping me with doing all these sort of activities it, I've done so many good friends, just keeps you focused, you're into the wide world again but in a good way, and they just, it's amazing because I'm a peoples person anyway, I don't like to be on my own so this to me is ideal, I love, I know I'm not working for them or anything but I feel like I've got a job [laughs] but I haven't! But it's my way of carrying on, help and helping others and they're helping me, with all these activities you just get to know everybody, properly if you know what I mean, you talk, what's happened to you, and then you just mingle and everybody is on the same level, if you know what I mean, and erm, you could just talk to them, talk to people, even on the walks if there's something bothering you it'll come up, we don't we know they're there to listen to you, so yeah and just the activities and doing different things is keeping mind's focused in doing things which erm you're not on your own doing it because if you're on your own you'd never do these things.

'Proper' life - in comparison to lack of before? What makes it 'proper?'
Feeling capable in mothering role again
Regaining identity & self-esteem
+ relationships, company
Re-entering world
Like a job! Due to commitment
Reciprocal nature of group, giving & receiving help
'Proper' relationships
Like-minded individuals on 'same' level, can connect
New experiences
Freedom to talk knowing someone will listen
Distraction from alcohol?
Importance of unity in group as a motivating force

H: Yeah of course

L: Plus the fact they help us with travelling like I said, you know like food, I help them to cook the food on things like camping they just pay five pounds and that will cover the breakfast and the evening meal for two days, learning to budget things and showing your skills and using your skills, things that if you're on your own you couldn't be bothered, you know it's a meal.

Group helps you, you help group (reciprocal)
Developing new skills & using old ones
Group as a motivating force

H: Yeah that's true. So you mentioned about everyone being on the same level, could you expand on that?

Appendix Q

Example of a Thematic Document for Interviews

TRANSCRIPT H
Theme 3 – Recovery as a personal journey

Making own choices

- You can get involved as much or as little as you want
- I'm proud of it, yeah, erm because you haven't got to get involved, you don't have to go, I'm not forced and as an addict when we're told something we want to go the other way we want to do the complete opposite, you know, and that still happens with or without substance, you still have that addict in you
- So I had to be the change that I wanted to see in the world
- I don't ram it down people's throats, you know they have to come and see it, it might work for them and it might not, and it doesn't matter if it does or if it doesn't it will still be here.
- [redacted] wanted members I wanted to become a member so it was a no-brainer
- It's not a cut and thrust you must do, there's nothing rammed down your throat, erm, the more the merrier you know if you've got a hangover or you're suffering you just have to let people know and you'll be treated accordingly. I know because I've been in that situation, so it's working for me, and it can work, but again, if you don't want it you won't find it but it'll be there, it's still it'll be there
- I've got the problem at least I recognize that but I have to be the change I want to see in the world, I can't force anyone else, I don't wanna force anyone to do it, because I've got a brother close, not close to me, but a brother in blood and he's a raging alcoholic, and he's really really ill, but it's nothing I can do about that
- I wish they did get a bit more support from some of the other guys here that, er they're doing their own thing, but that's me being biased again, erm, only cause I think they'll get a little bit more from it, but again, it's their journey it's their recovery and I'm doing mine, erm and maybe when I was their age, yeah I wouldn't wanna listen either
- The door is always open, and the door is always open for walking in and the door is open for walking out, you haven't got to sit there and be uncomfortable you haven't got to do nothing in any whether it's [redacted] or [redacted], or any recovery session
- It's entirely up to yourself but it's good, it's fun, believe me, it has to be fun, there's no good white knuckling otherwise you might as well stay back, you might as well just stay back on the drink just get on it, you're not ready, erm, and you might meet some nice people.

Decision to be involved in multiple groups

- I'm an active member of [redacted] as well
- I can't separate them, I'm the same me I'm the same addict, I don't, I was talking about that just before I came here
- I'm the same whatever has helped me to get where I am it's a combination of all things
- I don't have a blank calendar, because that's in on it anyway, and then anything else in between I just stick on like my [redacted] I'll always go on a Wednesday, er Wednesday Friday erm and a Monday, but I also go Sunday I I want to I can go to

Appendix R

Final Thematic Table for Interviews

THEME IDENTIFIED IN TRANSCRIPTS	TRANSCRIPT										TOTAL	FINAL THEME
	A	B	C	D	E	F	G	H	I	J		
Active involvement (organisation)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Active involvement
Giving back	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Active involvement
Struggles of group	✗	✓	✓	✓	✓	✗	✓	✗	✓	✗	6	Active involvement
Wider community	✓	✗	✓	✗	✗	✗	✓	✗	✓	✓	5	Active involvement
Recollections of previous addiction	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	7	Group's role in recovery
Change in self	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	8	Group's role in recovery
Recovery group part of journey	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	8	Group's role in recovery
Group activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Group's role in recovery
Developing skills and knowledge	✗	✓	✗	✓	✓	✓	✗	✗	✓	✓	6	Group's role in recovery
Receiving support	✓	✓	✗	✗	✓	✓	✓	✓	✗	✓	7	Group's role in recovery
Inclusion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Inclusive family unit
Welcoming	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Inclusive family unit
Like-minded people	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Inclusive family unit
Positive relationships	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Inclusive family unit
Recovery is personal choice	✓	✗	✓	✓	✓	✗	✗	✓	✓	✗	6	Personal choice and flexibility
Freedom	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	9	Personal choice and flexibility
Importance of others journeys	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Personal choice and flexibility
Recovery network	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	9	Personal choice and flexibility
Uniqueness of group	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	1	Not placed in a final theme

Appendix S

Sensemaker Survey

Recovery

Participant Information Sheet & Consent

Study title: Exploring the Components of Addiction Recovery Groups
Researchers: Hannah Rettie
Supervisor: Lee Hogan

Why have I been asked to take part?
Members of addiction recovery groups are invited to take part in this research study. To take part, you must be a regular attendee of one or more recovery groups, have previously had a drug or alcohol dependency, and have been abstinent from substances for at least a month.

Do I have to take part?
Your participation is entirely voluntary and you may withdraw at any time without giving any reasons.

What do I have to do?
In this study you will be asked to provide a written story of an experience you have had within your recovery group. After this you will be asked a few questions relating to the experience that you shared, followed by several demographic questions.

Are there any benefits or risks to participating?
If you provide your email address at the end of the study, you will be sent a £5 Amazon voucher for taking part. Your participation may also benefit others involved in recovery groups in the future. There are no foreseen risks to participating, however free substance misuse support is available anytime by calling DAN 24/7 on 0808 808 2234. You do not have to answer any questions that you do not feel comfortable with, and can email psue8f@bangor.ac.uk if you wish to have any information removed once your responses have been submitted. You are able to withdraw at any time during participation without giving a reason, and withdrawing from this study will not affect any support that you currently receive.

Will the data from my participation be kept confidential?
Yes, completely confidential. The stories you submit are anonymous, and under no circumstances will your names or any identifying information be included in the reporting of this research. Only the researchers named and the supervisor will have access to the data of this study that will be stored on a password protected and encrypted computer.

What will happen to the results of the research study?
The data of the current study will primarily be part of a PhD project. It is also possible that results may be published in a scientific journal and presented at conferences.

Who can I contact for further information?
If you have any questions about this study or its findings please contact the lead researcher, Hannah Rettie at psue8f@bangor.ac.uk or her supervisor Lee Hogan at lee.hogan@bangor.ac.uk. Alternatively, you can telephone (01248 388276), or write to us at the School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS.

Complaints
If you have any concerns or complaints about this study, then please contact Mr Hefin Francis, School Manager, School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS or email h.francis@bangor.ac.uk.

Consent
Please tick each statement to which you give consent before continuing:

- ☐ I have read and understood the information on this sheet.
- ☐ I have had the opportunity to consider the information and email the researcher any questions that I have.
- ☐ I understand that my participation is voluntary, and that I may withdraw at any time without penalty or explanation.
- ☐ I agree to take part in the above study..

Recovery

Choose a question to respond to:

1. If a friend was thinking of joining your recovery group, what story would you share about it?
2. Think about a recent experience you've had at recovery group that was helpful. What happened?

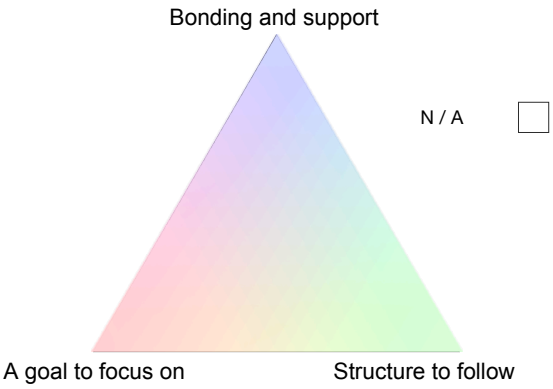
Please share your story here:
Please give your story a title:

COGNITIVE EDGE

Recovery

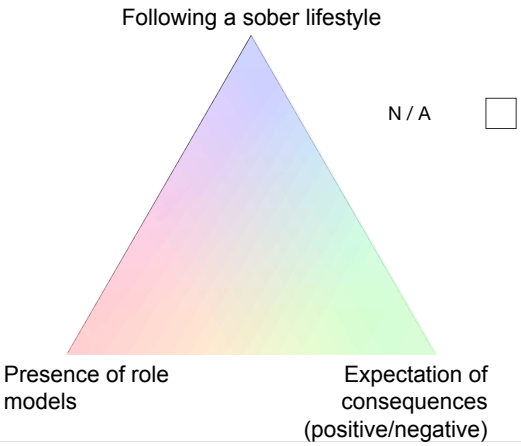
Please place <u>one</u> X anywhere <u>inside</u> each triangle to a position that best describes the story you described on the previous page. The closer the X is to any one statement, the more important that statement is. If a question does not relate to your experience, tick the N/A box.

1. In my story my group provided…



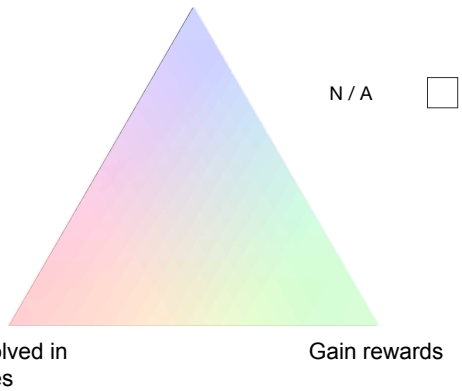
N / A ☐

2. My story was influenced by…



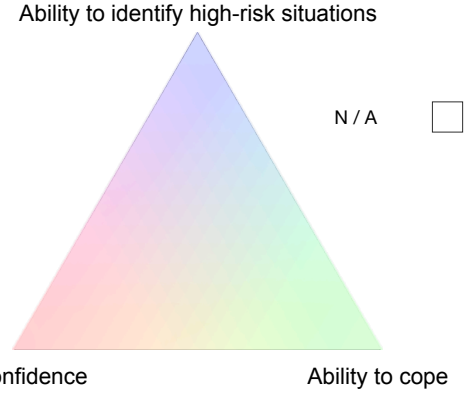
N / A ☐

3. In my story, my recovery group allowed me to…



N / A ☐

4. In my story, my group helped me develop my…



N / A ☐

Recovery

Some questions relating to the story you just shared.

How often do you think your story happens?

	All the time
	Sometimes
	Once in a while
	Rarely

How do you feel about your story?

	Strongly positive
	Positive
	Neutral
	Negative
	Strongly Negative

Who do you think should know about your story?

	Everyone
	Friends
	Those closest to me (family, partner)
	Group members
	Professionals
	No one
	Other, please state: ……..

COGNITIVE EDGE

Recovery

If you could now think more generally about the main recovery group you are involved in. We'd like to know to what extent you feel the 12 potential components are (1) offered by your group and (2) how important they are to you. Place an X on each line below:

1. Bonding and support

Not offered by my group — Offered by my group

Not important to me — Important to me

2. A goal to focus on

Not offered by my group — Offered by my group

Not important to me — Important to me

3. Structure to follow

Not offered by my group — Offered by my group

Not important to me — Important to me

4. Following a sober lifestyle

Not offered by my group — Offered by my group

Not important to me — Important to me

5. Presence of role models

Not offered by my group — Offered by my group

Not important to me — Important to me

6. Reminders of consequences

Not offered by my group — Offered by my group

Not important to me — Important to me

Recovery

7. Being involved in activities

Not offered by my group — Offered by my group

Not important to me — Important to me

8. Giving back to others

Not offered by my group — Offered by my group

Not important to me — Important to me

9. Gaining rewards

Not offered by my group — Offered by my group

Not important to me — Important to me

10. Identifying high risk situations

Not offered by my group — Offered by my group

Not important to me — Important to me

11. Improving self confidence

Not offered by my group — Offered by my group

Not important to me — Important to me

12. Improving coping skills

Not offered by my group — Offered by my group

Not important to me — Important to me

COGNITIVE EDGE

Recovery

Some questions related to yourself.

How did you find out about this study?

	Social Media
	Word of mouth
	Through your recovery group
	Other, please state below

.....

What is your date of birth?

.....

How long have you been in recovery for?

Year(s) ..... Month(s) .....

What did you have problematic use with?

	Drugs
	Alcohol
	Both

What is your gender?

	Male
	Female
	Prefer not to say

Which recovery group is this story about?

	Alcoholics Anonymous
	Narcotics Anonymous
	AGRO
	Link
	SMART Recovery
	Moving on in my recovery
	Other, please state below

.....

What is your ethnicity?

.....

How long have you been involved in your recovery group?

Year(s) ..... Month(s) .....

Are you involved in any other recovery group?

	No
	If yes, please state below

.....

Recovery

Assessment of Recovery Capital

Please tick if you agree with any of the following statements.
Feel free to skip this questionnaire if you wish

1. Having a sense of purpose in life is important to my recovery journey ☐
2. I am able to concentrate when I need to ☐
3. I am actively involved in leisure and sport activities ☐
4. I am coping with the stresses in my life ☐
5. I am currently completely sober ☐
6. I am free from worries about money ☐
7. I am actively engaged in efforts to improve myself (training, education and/or self-awareness) ☐
8. I am happy dealing with a range of professional people ☐
9. I am happy with my personal life ☐
10. I am making good progress on my recovery journey ☐
11. I am proud of my home ☐
12. I am proud of the community I live in and feel a part of it ☐
13. I am satisfied with my involvement with my family ☐
14. I cope well with everyday tasks ☐
15. I do not let other people down ☐
16. I am free of threat or harm when I am at home ☐
17. I am happy with my appearance ☐
18. I engage in activities and events that support my recovery ☐
19. I eat regularly and have a balanced diet ☐
20. I engage in activities that I find enjoyable and fulfilling ☐
21. I feel physically well enough to work ☐
22. I feel safe and protected where I live ☐
23. I feel that I am in control of my substance use ☐
24. I feel that I am free to shape my own destiny ☐
25. I get lots of support from friends ☐

Recovery

Assessment of Recovery Capital

Please tick if you agree with any of the following statements

26. I get the emotional help and support I need from my family ☐
27. I have a special person that I can share my joys and sorrows with ☐
28. I have access to opportunities for career development (job opportunities, volunteering or apprenticeships) ☐
29. I have enough energy to complete the tasks I set myself ☐
30. I have had no 'near things' about relapsing ☐
31. I have had no recent periods of substance intoxication ☐
32. I have no problems getting around ☐
33. I have the personal resources I need to make decisions about my future ☐
34. I have the privacy I need ☐
35. I look after my health and wellbeing ☐
36. I make sure I do nothing that hurts or damages other people ☐
37. I meet all my obligations promptly ☐
38. I regard my life as challenging and fulfilling without the needs for using drugs or alcohol ☐
39. I sleep well most nights ☐
40. I take full responsibility for my actions ☐
41. It is important for me to be involved in activities that contribute to my community ☐
42. In general I am satisfied with my life ☐
43. It is important for me to do what I can to help other people ☐
44. It is important to me that I make a contribution to society ☐
45. My living space has helped to drive my recovery journey ☐
46. My personal identity does not revolve around drug use or drinking ☐
47. There are more important things to me in life than using substances ☐
48. What happens to me in the future mostly depends on me ☐
49. I have a network of people I can rely on to support my recovery ☐
50. When I think of the future I feel optimistic ☐

Recovery Strengths Questionnaire

The recovery strengths questionnaire assesses your satisfaction across five areas of your life. Thes e areas represent your own personal "Recovery Strengths" – this is, the existing resources that you have to support your recovery.

Please circle the number to indicate how satisfied you feel in relation to each of the questions below. Each question is rated on a 0- to 10-point scale, with 10 = a high-level of satisfaction and 0 = a sense of dissatisfaction.

Feel free to skip this questionnaire if you wish.

Physical Strengths - These are the resources that assist your daily life

How satisfied are you with your **home/accommodation**? A score of 10 indicates a high level of satisfaction (e.g., you might have a long-term place to live that is secure and safe). A score of 0 indicates a sense of dissatisfaction or insecurity in where you live.

Accommodation: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with your **finances / money**? A score of 10 indicates a high level of security (e.g., a reliable source of income, few demands or little debt). A score of 0 indicates a poor level of security (e.g., high debt and infrequent/unreliable access to money).

Finances: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with your level of **physical health**? A score of 10 indicates a high level of satisfaction (e.g., you are physically active, without pain or discomfort). A score of 0 indicates a sense of dissatisfaction (e.g., you find it difficult to maintain good health or activity).

Physical Health: 0 1 2 3 4 5 6 7 8 9 10

Recovery

Recovery Strengths Questionnaire

The recovery strengths questionnaire assesses your satisfaction across five areas of your life. Thes e areas represent your own personal "Recovery Strengths" – this is, the existing resources that you have to support your recovery.

Please circle the number to indicate how satisfied you feel in relation to each of the questions below. Each question is rated on a 0- to 10-point scale, with 10 = a high-level of satisfaction and 0 = a sense of dissatisfaction.

Personal Strengths - These are the resources that you have gained from your experiences of life

How satisfied are you with your ability to live according to your own **values** and/or your **spirituality**? A score of 10 indicates a high level of satisfaction (e.g., you live a valued life and/or you feel spiritually connected). A score of 0 indicates a sense of dissatisfaction or inability to live to your own values or you feel a spiritual disconnection.

Values/Spirituality: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with your level of **mental wellbeing**? A score of 10 indicates a high level of satisfaction (e.g., you can comfortably manage day-to-day life). A score of 0 indicates dissatisfaction (e.g., you are frequently distressed and your day-to-day functioning is impaired).

Mental wellbeing: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with your **knowledge or skills**? A score of 10 indicates you have the skills and knowledge to help you solve problems and manage your life. A score of 0 indeicates that you lack knowledge or skills to manage your life effectively.

Knowledge/skills: 0 1 2 3 4 5 6 7 8 9 10

Recovery Strengths Questionnaire

The recovery strengths questionnaire assesses your satisfaction across five areas of your life. Thes e areas represent your own personal "Recovery Strengths" – this is, the existing resources that you have to support your recovery.

Please circle the number to indicate how satisfied you feel in relation to each of the questions below. Each question is rated on a 0- to 10-point scale, with 10 = a high-level of satisfaction and 0 = a sense of dissatisfaction.

Activity Strengths- These are the resources from the activities you engage in

How satisfied are you with your ability to **attend to your own recovery**? A score of 10 indicates you regularly work on your recovery (e.g., you attend and contribute to a recovery-based group). A score of 0 indicates you are not active on your recovery (e.g., you have little or no contact with a recovery-based group).

Attend to your recovery: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with your level of commitment to regular **meaningful activity**? A score of 10 indicates you regularly engage in meaningful activity, like voluntary or paid work, education, or you care for another person. A score of 0 indicates you lack meaningful activity in your life (e.g., you do not work, care for or help others, or you are not in education).

Meaningful activity: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with your ability to **actively learn**? A score of 10 indicates you are satisfied by your ability to learn and you continue to do so (e.g., you attend courses). A score of 0 indicates a sense of dissatisfaction with learning (e.g., you do not actively spend time learning).

Actively learning: 0 1 2 3 4 5 6 7 8 9 10

Recovery Strengths Questionnaire

The recovery strengths questionnaire assesses your satisfaction across five areas of your life. Thes e areas represent your own personal "Recovery Strengths" – this is, the existing resources that you have to support your recovery.

Please circle the number to indicate how satisfied you feel in relation to each of the questions below. Each question is rated on a 0- to 10-point scale, with 10 = a high-level of satisfaction and 0 = a sense of dissatisfaction.

Social Strengths: These are the resources you have from within your relationships with others.

How satisfied are you with your **social networks** (e.g., your relationship to friends, colleagues, group members, peers)? A score of 10 indicates satisfaction with the number and quality of these contacts. A score of 0 indicates dissatisfaction from having too few and/or poor quality contacts.

Social Networks: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with the quality of your **family relationships**? A score of 10 indicates a high level of satisfaction (e.g., you're securely connected to members of your family or you are satisfied with the level of your relationships or connections with them, even if there is little or no contact). A score of 0 indicates a sense of dissatisfaction or disconnection with family members.

Family: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with your quality of your relationship to a **partner** or if you have no partner your general satisfaction with this area of your life? A score of 10 indicates a high level of satisfaction (e.g., you have a satisfying relationship or you are content to be without a partner at the moment). A score of 0 indicates a sense of dissatisfaction or disconnection (e.g., your relationship is not satisfying or you are lonely).

Partner: 0 1 2 3 4 5 6 7 8 9 10

Recovery Strengths Questionnaire

The recovery strengths questionnaire assesses your satisfaction across five areas of your life. Thes e areas represent your own personal "Recovery Strengths" – this is, the existing resources that you have to support your recovery.

Please circle the number to indicate how satisfied you feel in relation to each of the questions below. Each question is rated on a 0- to 10-point scale, with 10 = a high-level of satisfaction and 0 = a sense of dissatisfaction.

Attitudinal Strengths: These are the resources you have from your personal characteristics.

How satisfied are you with your **ability to adapt a positive attitude to life**? A score of 10 indicates an attitude to life that views challenges as opportunities to be overcome. A score of 0 indicates a tendency to focus on the challenges in life in a negative and overwhelming way.

Positive Attitude: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with your ability to bounce back from difficulties in life? A score of 10 indicates a high degree of satisfaction in your ability to overcome challenges and adversity in life. A score of 0 indicates a sense of dissatisfaction in your ability to bounce back from life's challenges or adversity

Able to bounce back: 0 1 2 3 4 5 6 7 8 9 10

How satisfied are you with your sense of self worth? A score of 10 indicates a high level of satisfaction (e.g., you might feel competent, capable, or worthwhile). A score of 0 indicates a sense of dissatisfaction (e.g., you might feel incompetent, lacking worth, or an inability to make a contribution to the world).

Self Worth: 0 1 2 3 4 5 6 7 8 9 10

Debrief

Purpose and Background
The purpose of this study was to understand your experiences of being involved in a recovery group, and what you think the important components are of your recovery group. It is important for us to hear your views on these groups and your personal recovery experiences, as a recent client-focused movement in research has recognized that your personal views on recovery often differ from the perspectives of staff members and academics.

Questions
If you have any questions about this study or its findings please contact the researcher Hannah Rettie (psue8f@bangor.ac.uk) or her supervisor Lee Hogan (lee.hogan@bangor.ac.uk). Alternatively, you can telephone (01248 388276) or write to us at the School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS.

Complaints
If you have any concerns or complaints about this study, then please contact Mr Hefin Francis, School Manager, School of Psychology, Adeilad Brigantia, Bangor University, Gwynedd, LL57 2AS or email h.francis@bangor.ac.uk.

Thank you for participating.

Appendix T

Updated Recovery Strengths Questionnaire

RECOVERY STRENGTHS QUESTIONNAIRE

The recovery strengths questionnaire assesses your satisfaction across different areas of your life. These areas represent your own personal "Recovery Strengths" – this is, the existing resources that you have to support your recovery.
Please circle the number to indicate how satisfied you feel in relation to each of the questions below. Each question is rated on a 0- to 10-point scale, with 10 = a high-level of satisfaction and 0 = a sense of dissatisfaction.

1. How satisfied are you with your **home/accommodation**? A score of 10 indicates a high level of satisfaction (e.g., you might have a long-term place to live that is secure and safe). A score of 0 indicates a sense of dissatisfaction or insecurity in where you live.

Accommodation:
0 1 2 3 4 5 6 7 8 9 10

2. How satisfied are you with your **finances / money**? A score of 10 indicates a high level of security (e.g., a reliable source of income, few demands or little debt). A score of 0 indicates a poor level of security (e.g., high debt and infrequent/unreliable access to money).

Finances:
0 1 2 3 4 5 6 7 8 9 10

3. How satisfied are you with your level of **physical health**? A score of 10 indicates a high level of satisfaction (e.g., you are physically active, without pain or discomfort). A score of 0 indicates a sense of dissatisfaction (e.g., you find it difficult to maintain good health or activity).

Physical Health:
0 1 2 3 4 5 6 7 8 9 10

4. How satisfied are you with your ability to live according to your own **values** and/or your **spirituality**? A score of 10 indicates a high level of satisfaction (e.g., you live a valued life and/or you feel spiritually connected). A score of 0 indicates a sense of dissatisfaction or inability to live to your own values or you feel a spiritual disconnection.

Values/Spirituality:
0 1 2 3 4 5 6 7 8 9 10

5. How satisfied are you with your level of **mental wellbeing**? A score of 10 indicates a high level of satisfaction (e.g., you can comfortably manage day-to-day life). A score of 0 indicates dissatisfaction (e.g., you are frequently distressed and your day-to-day functioning is impaired).

Mental wellbeing:
0 1 2 3 4 5 6 7 8 9 10

6. How satisfied are you with your **knowledge or skills**? A score of 10 indicates you have the skills and knowledge to help you solve problems and manage your life. A score of 0 indicates that you lack knowledge or skills to manage your life effectively.

Knowledge/skills:
0 1 2 3 4 5 6 7 8 9 10

7. How satisfied are you with your ability to **attend to your own recovery**? A score of 10 indicates you regularly work on your recovery (e.g., you attend and contribute to a recovery-based group). A score of 0 indicates you are not active on your recovery (e.g., you have little or no contact with a recovery-based group).

Attend to your recovery:
0 1 2 3 4 5 6 7 8 9 10

8. How satisfied are you with your level of commitment to regular **meaningful activity**? A score of 10 indicates you regularly engage in meaningful activity, like voluntary or paid work, education, or you care for another person. A score of 0 indicates you lack meaningful activity in your life (e.g., you do not work, care for or help others, or you are not in education).

Meaningful activity:
0 1 2 3 4 5 6 7 8 9 10

9. How satisfied are you with your ability to **actively learn**? A score of 10 indicates you are satisfied by your ability to learn and you continue to do so (e.g., you attend courses). A score of 0 indicates a sense of dissatisfaction with learning (e.g., you do not actively spend time learning).

Actively learning:
0 1 2 3 4 5 6 7 8 9 10

10. How satisfied are you with your **social networks** (e.g., your relationship to friends, colleagues, group members, peers)? A score of 10 indicates satisfaction with the number and quality of these contacts. A score of 0 indicates dissatisfaction from having too few and/or poor quality contacts.

Social Networks:
0 1 2 3 4 5 6 7 8 9 10

11. How satisfied are you with the quality of your **family relationships**? A score of 10 indicates a high level of satisfaction (e.g., you're securely connected to members of your family or you are satisfied with the level of your relationships or connections with them, even if there is little or no contact). A score of 0 indicates a sense of dissatisfaction or disconnection with family members.

Family:
0 1 2 3 4 5 6 7 8 9 10

12. How satisfied are you with your quality of your relationship to a **partner** or if you have no partner your general satisfaction with this area of your life? A score of 10 indicates a high level of satisfaction (e.g., you have a satisfying relationship or you are content to be without a partner at the moment). A score of 0 indicates a sense of dissatisfaction or disconnection (e.g., your relationship is not satisfying or you are lonely).

Partner:
0 1 2 3 4 5 6 7 8 9 10

13. How satisfied are you with your **ability to adapt a positive attitude to life**? A score of 10 indicates an attitude to life that views challenges as opportunities to be overcome. A score of 0 indicates a tendency to focus on the challenges in life in a negative and overwhelming way.

Positive Attitude:
0 1 2 3 4 5 6 7 8 9 10

14. How satisfied are you with your **ability to bounce back** from difficulties in life? A score of 10 indicates a high degree of satisfaction in your ability to overcome challenges and adversity in life. A score of 0 indicates a sense of dissatisfaction in your ability to bounce back from life's challenges or adversity

Able to bounce back:
0 1 2 3 4 5 6 7 8 9 10

15. How satisfied are you with your sense of **self worth**? A score of 10 indicates a high level of satisfaction (e.g., you might feel competent, capable, or worthwhile). A score of 0 indicates a sense of dissatisfaction (e.g., you might feel incompetent, lacking worth, or an inability to make a contribution to the world).

Self Worth:
0 1 2 3 4 5 6 7 8 9 10

SCORING

Total score: ..... (maximum score 150)

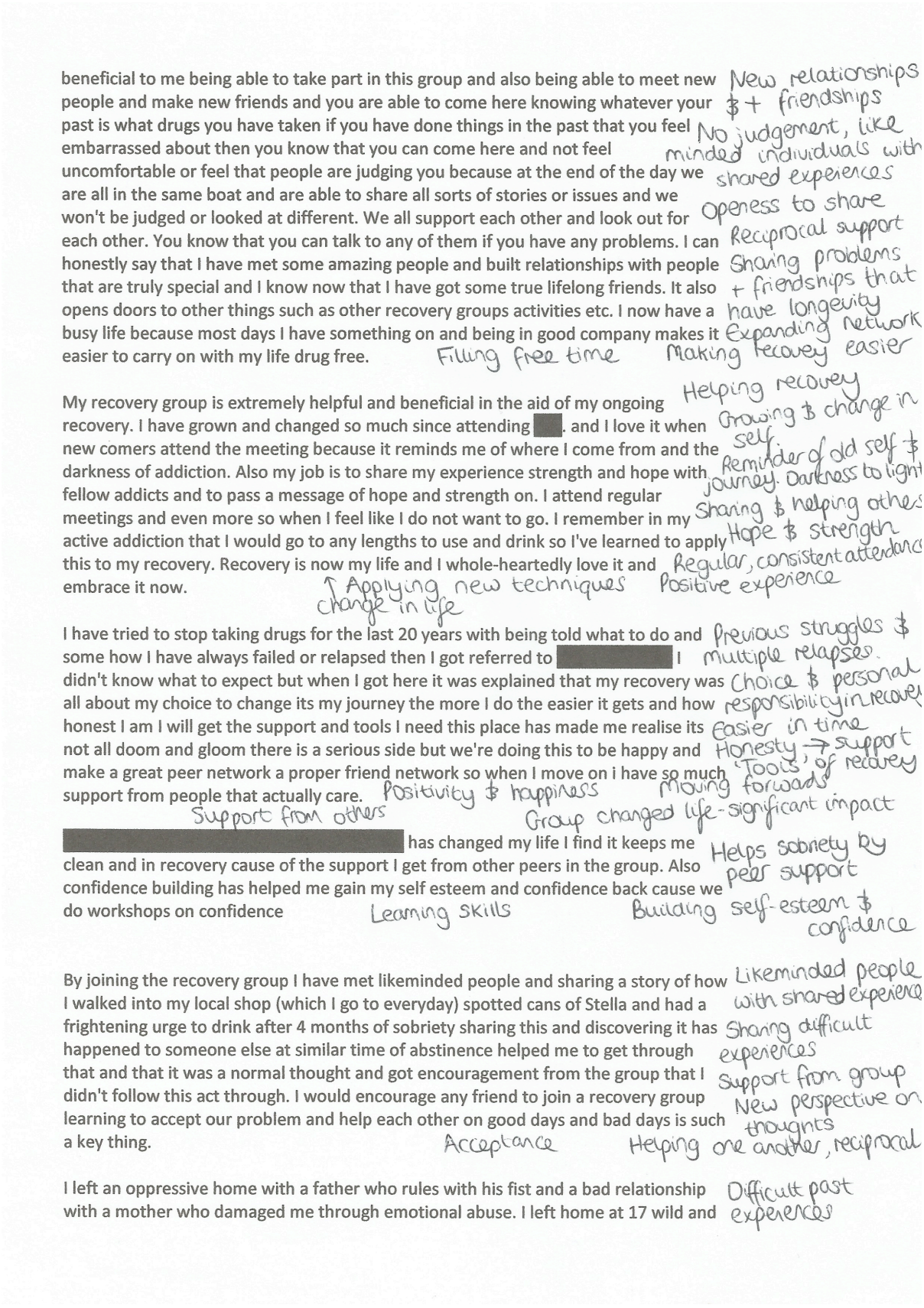
Two subscales:

1. **Internally generated recovery strengths** (values and spirituality, knowledge and skills, attend recovery, meaningful activity, actively learning, social networks, ability to bounce back and self worth)
   Total score: ..... (maximum score 80)

2. **Externally generated recovery strengths** (accommodation, finances, physical health, mental wellbeing, family, partner, and positive attitude)
   Total score: ..... (maximum score 70)

Appendix U

Example Transcription and Coding for Stories



beneficial to me being able to take part in this group and also being able to meet new people and make new friends and you are able to come here knowing whatever your past is what drugs you have taken if you have done things in the past that you feel embarrassed about then you know that you can come here and not feel uncomfortable or feel that people are judging you because at the end of the day we are all in the same boat and are able to share all sorts of stories or issues and we won't be judged or looked at different. We all support each other and look out for each other. You know that you can talk to any of them if you have any problems. I can honestly say that I have met some amazing people and built relationships with people that are truly special and I know now that I have got some true lifelong friends. It also opens doors to other things such as other recovery groups activities etc. I now have a busy life because most days I have something on and being in good company makes it easier to carry on with my life drug free.

New relationships & friendships
No judgement, like minded individuals with shared experiences
Openess to share
Reciprocal support
Sharing problems & friendships that have longevity
Expanding network
Filling free time
Making recovey easier

My recovery group is extremely helpful and beneficial in the aid of my ongoing recovery. I have grown and changed so much since attending [redacted]. and I love it when new comers attend the meeting because it reminds me of where I come from and the darkness of addiction. Also my job is to share my experience strength and hope with fellow addicts and to pass a message of hope and strength on. I attend regular meetings and even more so when I feel like I do not want to go. I remember in my active addiction that I would go to any lengths to use and drink so I've learned to apply this to my recovery. Recovery is now my life and I whole-heartedly love it and embrace it now.

Helping recovey
Growing & change in self
Reminder of old self & journey. Darkness to light
Sharing & helping others
Hope & strength
Regular, consistent attendance
Positive experience
↑ Applying new techniques
change in life

I have tried to stop taking drugs for the last 20 years with being told what to do and some how I have always failed or relapsed then I got referred to [redacted] I didn't know what to expect but when I got here it was explained that my recovery was all about my choice to change its my journey the more I do the easier it gets and how honest I am I will get the support and tools I need this place has made me realise its not all doom and gloom there is a serious side but we're doing this to be happy and make a great peer network a proper friend network so when I move on i have so much support from people that actually care.

Previous struggles & multiple relapses.
Choice & personal responsibility in recovery
Easier in time
Honesty → support
'Tools' of recovey
Moving forwards
Positivity & happiness
Support from others
Group changed life-significant impact

[redacted] has changed my life I find it keeps me clean and in recovery cause of the support I get from other peers in the group. Also confidence building has helped me gain my self esteem and confidence back cause we do workshops on confidence

Helps sobriety by peer support
Learning skills
Building self-esteem & confidence

By joining the recovery group I have met likeminded people and sharing a story of how I walked into my local shop (which I go to everyday) spotted cans of Stella and had a frightening urge to drink after 4 months of sobriety sharing this and discovering it has happened to someone else at similar time of abstinence helped me to get through that and that it was a normal thought and got encouragement from the group that I didn't follow this act through. I would encourage any friend to join a recovery group learning to accept our problem and help each other on good days and bad days is such a key thing.

Likeminded people with shared experience
Sharing difficult experiences
Support from group
New perspective on thoughts
Acceptance
Helping one another, reciprocal

I left an oppressive home with a father who rules with his fist and a bad relationship with a mother who damaged me through emotional abuse. I left home at 17 wild and

Difficult past experiences