

Evaluating The Rediscovery Process as a  
Treatment Programme for a Range of  
Substance Use Disorders.

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### Abstract

Poor outcomes for many of those in treatment for substance use disorders (SUD) has raised interest in recovery-based approaches, positive psychology and the importance of flourishing, a quality defined as functioning positively in all realms of life. However, there is little research into approaches that focus on flourishing in SUD.

This study evaluates The Rediscovery Process (TRP), a brief, recovery focussed approach for SUD. It teaches self-coaching techniques designed to increase flourishing and recovery capital (psychological health, physical health, quality of life, days at work, college, volunteering and housing status) and to reduce impulsivity. A mixed-methods approach was used, comprising of three studies.

First, to evaluate the effect of the TRP on substance use, flourishing, impulsivity and recovery capital, a preliminary pilot study using a randomised wait-list controlled structure was conducted. 72 participants who had been formally diagnosed with single and poly-drug use issues, including, alcohol, opiate, cocaine, crack, cannabis and amphetamine were assigned to either immediately receive the intervention or to wait for the treatment, providing a wait-list control arm. Validated measures of substance use, flourishing, impulsivity and recovery capital were assessed pre- and 1 month post-intervention. The results of the study showed that, compared to the wait-list control group, the TRP provided a significant decrease in alcohol use (the most commonly used substance in the study) and impulsivity, and an increase in flourishing and recovery capital. Due to the low numbers of those using other substances in the study, no other significant changes in use were identified. Associations between flourishing, impulsivity and alcohol usage were also evaluated and a significant moderate negative association between impulsivity and flourishing was found, an association which has not been

previously reported. Second, once the intervention and wait-list groups had both received the intervention, a cohort study ( $n = 69$ ) evaluated the sustainability of this combined group's changes. Validated measures of substance use, flourishing, impulsivity and recovery capital were assessed pre-, 1 and 3 months post-intervention. Impulsivity and alcohol use decreased significantly at 1 and 3 months post-intervention, compared to pre-intervention measurements. Flourishing and psychological health increased significantly at 1 and 3 months post-intervention, compared to pre-intervention measurements. No effect on outcomes was seen in the different referral routes for all analysed measures, at all time points, with the exception of impulsivity at 1 month and QOL at 3 month.

Associations between flourishing, impulsivity and alcohol usage were also evaluated and a highly significant strong association between a decrease in impulsivity and an increase in flourishing was found, however, no other significant associations were found.

Third, a thematic analysis evaluation of participants' experience of the TRP identified two main themes (1) control and (2) flourishing. These themes reflected the value participants found in applying the approach to controlling substance use, emotional regulation, personal growth, empowerment and their sense of self. Many participants noted differences between this approach and those previously tried and the majority found the intervention effective. However, some did not find it of use and there was evidence of issues of a conflict between the concepts of this and other previously used models, which made adopting the new ideas difficult for some.

These studies show that, compared to TAU, the TRP approach significantly reduced alcohol use and impulsivity and increased flourishing and elements of recovery capital and this was maintained over the 3 month period. This supports its place as an approach for those with SUD and opens the possibility of its inclusion within the range of positive psychology interventions for SUD. These results help bridge the gap between the

more traditional focus of addressing the psycho-pathology in SUD and the newer interest in increasing flourishing. It is hoped that this study will encourage further research and a wider adoption of the flourishing concept and this new approach, in SUD.

*Keywords:* Positive psychology, flourishing, addiction, recovery capital, substance use, alcohol, impulsivity, self-coaching, Lightning Process, training programme

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**LIST OF ABBREVIATIONS**

AA	Alcoholics Anonymous
CBT	Cognitive Behavioural Therapy
LP	Lightning Process
LSC	Low Self-Control Measure
MI	Motivational Interviewing
NTA	National Treatment Agency
NTDMS	National Treatment Database Monitoring Service
PHE	Public Health England
SUD	Substance Use Disorder
TA	Thematic Analysis
TOP	Treatment Outcomes Profile
TRP	The Rediscovery Process
TS	Twelve Steps
TSF	Twelve Step Facilitation
TTM	Trans-Theoretical Model

Evaluating The Rediscovery Process as a Treatment Programme for a Range of  
Substance Use Disorders.

## CHAPTER 1: INTRODUCTION

### Defining the Problem

Current substance use disorders (SUD) treatment approaches face a number of challenges, two of which are of specific interest of this study.

The first is the limited success of current treatment models. In the UK 22% (64,166) of the 288,843 people in contact with structured drug services between 2015-6 (NTA, 2017) were discharged as ‘treatment completed’. This is currently determined by ‘clinical judgement that the individual no longer has a need for structured treatment, having achieved all the care plan goals and having overcome dependent use of the substances that brought them into treatment.’ (NDTMS, 2016, p. 23). However, the remaining 78% (224,677) either stay in the system or drop out of treatment.

The second challenge is that success rates seem to be independent of which type of psycho-social intervention has taken place. Results from two major trials found interventions such as Motivational Enhancement Therapy (MET), Cognitive-behavioural Therapy (CBT), 12-step Facilitation Therapy (TSF) or Social and Behavioural Network Therapy (SBNT) have surprisingly similar outcomes, despite having very different approaches (Dale et al., 2017; Maisto et al., 2015; UKATT Research Team, 2005).

These findings evidence the lack of success experienced by the majority of those seeking help with SUD from drug services and the uniformity of response to the main current approaches. As a result, various authorities have called for additional innovative solutions to address these challenges (Gehrs, Ling, Watson, & Cleverley, 2016; Gray, 2011; Klimas, 2018; Sindelar & Fiellin, 2001).

This has led to the rising importance of a recovery agenda and positive psychology concepts in SUD. The UK’s National Treatment Agency (NTA) adopted a recovery agenda in 2010 as a core framework for helping those with drug and alcohol issues

(Strang, 2012), and a recovery-oriented approach remains central to the UK's 2017 Drug Strategy (HM Government, 2017). Previous strategies to the 2010 strategy had more focus on harm minimisation, however, it is now widely acknowledged that a more holistic treatment perspective is important for assisting sustained recovery (Cloud & Granfield, 2008; Penn, Strike, & Mukkath, 2016; Zschau, Collins, Lee, & Hatch, 2016). Positive psychology concepts which focus on increasing positive variables such as flourishing, defined as "filled with emotional vitality...functioning positively in the private and social realms of their lives" (C. L. M. Keyes & Haidt, 2007, p. 6), rather than a focus on reducing negative variables such as impulsivity and substance use, have an important role to play in this agenda. However, there is little research into the value of flourishing in SUD or approaches designed to increase flourishing and reduce substance use.

To begin to address this the Rediscovery Process (TRP) was developed, at the request of a team from Tower Hamlets Community Drug Service, as a recovery-based approach which increased flourishing in SUD. It was adapted from a previous programme, the Lightning Process, that had shown positive outcomes for health issues which were usually relatively unresponsive to treatment, (Crawley et al., 2018; Crawley, Mills, Beasant, et al., 2013). The resulting small-scale proof of concept study of the TRP suggested it was of value in increasing flourishing and reducing substance use (Parker, 2013c), and might provide a useful addition to SUD treatment, but that more research was required to more robustly determine its efficacy.

This study was designed to take this research further by developing the evidence base for this new approach intended to increase flourishing and reduce substance usage in SUD. It provides the first full mixed-methods study to evaluate this new approach to SUD, adds to the evidence base on the value of flourishing in SUD and creates the potential for this intervention to be considered as a positive psychology intervention.

### **The Aim and Hypotheses of the Studies**

There were two aims of this study. Firstly, to review the literature on treatment models related to the TRP approach and on flourishing and SUD. Secondly, to evaluate the TRP, by assessing its effectiveness as an approach to recovery and analysing the participants' experience of the intervention.

The primary hypothesis was that participating in TRP training programme reduces substance misuse, as measured by the Treatment Outcomes Profile (TOP) form (Marsden et al., 2008) (see Appendix A) compared to those receiving 'substance misuse management approaches as usual'. This term is used as it is recognised that those with SUD typically use a mixture of approaches to address their substance issues, including 12 step programmes, key-work sessions, motivational interviewing, self-control and cognitive behavioural therapy techniques.

Secondary hypotheses were:

1. That participating in the TRP increases flourishing measured by the flourishing scale (Diener et al., 2010) (see Appendix B), increases elements of recovery capital (specifically; housing, employment, quality of life, physical and psychology wellbeing) as measured by TOP form (Marsden et al., 2008) and decreases impulsivity as measured by the impulsivity section (see Appendix C) of the Low Self-Control Measure (LSC) (Grasmick, Tittle, Bursik, & Arneklev, 1993) compared to 'substance misuse management approaches as usual'.
2. That the changes achieved can be sustained for 3 months.
3. That there is no difference in outcomes between TRP participants self-referred or those referred through drug services.

4. That there is an association between reduced substance misuse and increased flourishing, and there is an association between increased flourishing and reduced impulsivity.

### **Objectives of the Studies**

The specific objectives were to:

1. Review the literature on current approaches to contextualise how this approach, developed from practice-based evidence, complements existing evidence-based models and approaches and identify any gaps in the evidence base.
2. Undertake a systematic review of gaps in the evidence base relevant to the intervention (this systematic review is undergoing a final review with the European Journal of Applied Positive Psychology).
3. Design and run a preliminary pilot study (PPS), using a randomised controlled structure to:
  - a. Evaluate the effect of the TRP on reduction of alcohol, opiates, crack, cocaine, amphetamines and cannabis use amongst participants in the immediate treatment group compared to the wait-list group, who acted as a control group just receiving ‘substance misuse management approaches as usual’.
  - b. Evaluate the effect of the TRP on levels of flourishing, recovery capital (physical and psychological health, quality of life, employment and housing status) and impulsivity amongst participants in the immediate treatment group compared to the wait-list control group receiving ‘substance misuse management approaches as usual’.
4. Design a cohort study to evaluate the outcomes for all participants who received the intervention. Participants in the PPS wait-list group received the intervention

after PPS was completed. The cohort was therefore made up of all participants in the PPS. The study evaluated:

- a. The change in usage of alcohol, opiates, crack, cocaine, amphetamines and cannabis over a 3 month period.
  - b. The change in flourishing, impulsivity and recovery capital (as defined above) over a 3 month period.
  - c. Any difference in outcomes between participants who are self-referred or referred from drug services.
  - d. Any statistical association between levels of flourishing and drug usage and between levels of flourishing and impulsivity.
5. Undertake a qualitative study to evaluate participants experience of the intervention and their experience of applying the tools subsequently.

### **Conflict Issues and Reflexivity**

In the earlier sections of the thesis, the traditional stylistic practice of using the 3<sup>rd</sup> person has been employed. For this section, as for other related ones later on the subject of reflexivity and the epistemological approaches that influenced the research, I have often used the 1<sup>st</sup> person instead of the 3<sup>rd</sup>. This seems more appropriate to describe statements of personal reflection and allow for closer identification with the process, rather than an abstracted perspective of referring to myself as ‘the researcher’. Subsequent, less reflexive focused sections will revert to the use of the 3<sup>rd</sup> person.

It is important to note at this stage of the thesis my relationship with the intervention which is the subject of the research. It is widely acknowledged that researchers often research into fields that are of particular interest to them, but in this case, my role as researcher coincides with my role as the designer of the intervention. This is not uncommon for new approaches, well-known examples include Miller’s work on

Motivational Interviewing (1983) and Kabat-Zinn's initial studies into his adoption of mindfulness-based practices in a clinical setting (Kabat-Zinn, 1982). However, this designer/researcher relationship does raise some important conflict of interest issues, as noted by researchers, where the level of investment I have as the designer of the intervention and any conscious or unconscious desire for positive responses, might influence my ability to maintain an unbiased perspective throughout all stages of the research (Pannucci & Wilkins, 2010). Additionally, as noted by others, there can be a range of effects exerted on participants' reports by the desire to please or avoid upsetting, researchers/designers (Mazor, Clauser, Field, Yood, & Gurwitz, 2002).

Using Green and Thorogood's (2004) standards of rigour, which include transparency, reliability of credibility, validity, comparability and reflexivity, as a guide, I present the potential issues I identified along with the proposed solutions. I considered this aspect of the research process to be of vital importance, as I felt addressing these issues prior to the instigation of the research process was essential to ensure equipoise and an ethically sound basis to the studies.

### **Dual Role of Designer and Researcher**

There are a number of well documented conscious and unconscious biases that can affect human behaviour and cognition of both the researchers and participants that I felt I needed to be aware of and guard against in the research process (Norris, 1997). This section details the ones, through discussion and reflection, appeared to be of primary concern in this project. The section that then follows identifies the steps taken to address these issues.

Researchers can be affected by many types of bias to varying degrees, however, when evaluating a self-designed intervention, as in this case, there is an even greater potential for researcher influence due to the stronger emotional investment I have in the

outcomes. (Pannucci & Wilkins, 2010). Therefore, I felt that identifying and addressing the presence and influence of these factors should be of paramount importance at the earliest stages of the projects' inception. This type of bias can best be categorised as a version of the social desirability bias, where an individual desires to present the best version of themselves, or their work, to others (Nederhof, 1985). This raises the possibility of my conscious or unconscious selection or reporting bias influencing the research process in a number of ways, for example in the selection of participants or in reporting the outcomes to show the intervention in a more positive light than the actual data would suggest. It has also been identified by others that these effects have the potential to have a direct impact on the construction of questions, analysis and interpretation of the responses in qualitative studies (Nowell, Norris, White, & Moules, 2017). The process of thematic analysis used in this thesis' qualitative study involves an even more direct interaction between the participants' experiences and the researchers' world and their presuppositions, and as Braun and Clark suggest brings with it the potential for bias within that process (2006). They additionally suggest it is to an extent unavoidable, that no researcher is completely immune to their own worldview. Instead, their proposed solution, which I followed, (see later section) is to create a procedure to recognise and record these potential influences (2006), and to identifying the filters, constructs and epistemological framework that shaped my interpretations and understandings of the data, to provide reflexivity and ensure transparency of the results.

I also considered that there are also a number of possible biases affecting participant responses that could affect data and how it is then analysed. First, there is the potential wish of the participants to please the researcher. This can be understood as a combination of the acquiescence bias, the desire to respond to questions with a 'yes', the halo bias, where a positive regard for someone results in providing generally positive

opinions about that person and their work and social desirability effects (Mazor et al., 2002). This bias, therefore, has the potential to be even more influential in this case, with my dual role as researcher/designer, as the participants may feel that their responses will be perceived by me as direct comments on me or my work (Nisbett & Wilson, 1977; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

A second issue affecting data can be that of attrition, which is well reported in SUD research (Loveland & Driscoll, 2014), and described in more detail in the limitation section. It is also acknowledged that those achieving poor outcomes in a study may decide not to respond to requests for outcomes and progress. This could be both due to no longer engaging in the research due to lack of success (Hui, Glitza, Chisholm, Yennu, & Bruera, 2013) or due to the effect of the previously considered biases. Once again, my dual role here has the potential to increase the effect of the acquiescence and halo biases, where participants may want to avoid the sense of disappointing the researcher/designer.

It can be seen from the above that any combination of these biases and influences could result in a skewing of reported outcomes, with either positive responses being amplified and negative responses reduced. It is also clear that although these factors can occur in all research, in projects such as this, where my dual role may amplify any effect, it is essential to create strategies to effectively manage these concerns (Nisbett & Wilson, 1977; Podsakoff et al., 2003).

### **Ameliorating Conflict of Interest Issues - Reflexivity Procedures**

I was aware from the foregoing exploration of bias and influence that these effects could create the potential for a conflict of interest at any point, from design through recruitment, analysis and reporting within this research. As a result, from the start of the planning stages of the research process, I employed reflexive procedures and practices that were designed to address the potential effects of these particular challenges. I also

considered if these were best reported here, at the commencement of the thesis or later in the methodology section. However, due to the importance of potential conflict of issues to all aspects of this project, on balance, I felt it was most useful to detail these procedures and practices at this early stage, in order to set the reflexive frame used throughout the project. Following best-suggested practice in such situations (Curzer & Santillanes, 2012) I considered a range of options to manage these potential issues. The suggested first option was to avoid such situations by using external researchers or, if not possible, secondly to provide a way ‘blinding’ the participants to the researcher’s dual role. However, I considered that the lack of an evidence base for this approach, and therefore awareness in academic circles would be an obstacle to potentially recruiting another researcher to run the project.

The ‘blinding’ option was utilised as much as possible during the research, this included removing any mentions of my connection to the programme from all the course materials and having other practitioners run the intervention sessions. However, with the growth of the ability to access a range of information from the internet I recognised that some participants might identify my dual role as the researcher and the designer of other linked programmes. I had to assume, therefore, that some participants would be aware of this relationship, and decided that in the case of direct questioning by participants about my connection to the programme, I felt it would be unethical to not explain their dual role.

These issues are not uncommon, and in such cases Curzer & Santillanes (2012) suggest a third option, the requirement of being highly vigilant of the potential for conflict of interest at all points of the research, a perspective shared by others who recommend this issue is ‘best addressed through personal and organisational values and practices that strive for balance, integrity and transparency.’ (Clark, Choby, Ainsworth, & Thompson, 2015, p. 1) .

Following suggestions for best-practice I adopted a series of reflexivity procedures to identify and encourage my reflexive practice as a researcher (Greene & Thorogood, 2004; Rhodes & Coomber, 2010). My process of reflexivity involved the suggested practice of keeping a research journal (Charmaz, 2006) as part of an audit trail to ensure consideration of the aspects presented in the sections below. Fortunately, I have been involved in self-reflexive practice since the 1980s. It is an essential skill for working clinically, particularly as a sole practitioner rather than as part of a team, and for maintaining professional standards and development. My work as a coach and trainer has also supported my awareness of my and others' behaviours, through supervision and reflection. It also a central tenet of my work with NLP, LP and the TRP which all place much emphasis on the three main perceptual positions adopted to encourage a re-envisioning of the clients' map of reality, those of: self or first position, other or second position and disassociated observer or third position (Bandler & Grinder, 1979; Korzybski, 1951; Parker, 2013b).

Awareness of potential issues is key to reflexivity, and with my dual role of researcher and designer it was important to have external sources to provide extra perspectives for encouraging reflexivity. To develop a multi-perspective awareness the supervisory team also took a key reflexive role in questioning and focusing on any aspects of the research, or my thinking, that might benefit from an additional external perspective. This useful function was supplemented by the practice of having specific supervision, following a Gibbsian approach to reflexive practice (Gibbs, 1988). I undertook this with an experienced external coach, who was also a researcher, which provided me with an opportunity to discuss and reflect on my decisions and to also to help minimise any effect of these dual roles.

The main issues identified through that reflexive process are described using the headings personal, epistemological and methodological reflexivity, although there is some overlap between these divisions.

### **Personal Reflexivity**

This section considers how my personal world may have interacted with the research process. This world naturally consists of many aspects, including my beliefs, expectations, relationships with the programme along with influences of my personal life and life experiences during this time. I present these first as a starting point for the process of reflexivity.

Part of my interest in this field was driven by personal experiences of close friends and family members whose lives had been profoundly affected and, in some cases, ended by using drugs and alcohol. For some time I worked in the music industry, where substance use was rife, and it was easy to see how simple it could be to end up in a situation where substances became an issue of major concern in my life. I am aware that this experience influenced my desire to research into this field and help those who found themselves in this difficult position and to help them find solutions. I was also aware of my wish of wanting this project to succeed and provide help to those who need it, and how that might too induce potential issues of bias into the study. My music career was ended suddenly by a serious accident that severed my hand at the wrist and I was informed by multiple experts that once the cut was repaired, I would never move my fingers again, however, this prognosis only inspired me to find ways to prove it to be wrong. My subsequent recovery led me to research into alternative approaches to healthcare, the importance of therapeutic communications in healthcare and finding routes change in longstanding issues with poor prognosis. I recognised these experiences also led me to this research with this client group. However, although I do consider that change is possible

for most, I have also always been cautious about suggesting that change is possible for all, all of the time. This is because presumptions of change can sometimes be unintentionally disempowering for those unsure about their readiness for change or raise concerns about having 'failed'. Instead on reflection over time I have adopted the perspective shared by others that there are many aspects to successful change and context and timing are as important as the approach used (Prochaska & DiClemente, 1983). This helps me to remain hopeful of change and yet stay unattached from the need for it to occur, and this I hoped would reduce the influence of my experiences on those in the studies.

As emphasised above reflexivity in this area is of particular importance due to my dual role as designer and researcher. It has to be acknowledged that although the drive to undertake the research was stimulated by a desire to discover if the promising results I had observed first hand and in the preliminary study in Tower Hamlets could be reproduced, I had an expectation that it was likely to be so. This was undoubtedly also influenced by my experience over the previous twenty years of working with its sister programme (LP) and being part of the extraordinary personal stories of transformation that as so associated with that approach (Crawley et al., 2018). Developing an awareness of the influence of this expectation of positive results was a central focus of my self-reflective practice.

During the period of developing the programme I and researchers associated with it were subject to harassment and threats of harm from members of the ME/CFS community who felt our work was distracting from 'real' biomedical research (McKie, 2011), and this in fact partly informed my choice to work with SUD rather than those with ME/CFS, although this is a core client group of the LP. I was aware that this critical awareness of my work would mean that publishing clinical research would result in highly critical commentary on it, and as there has been a tendency to attempt to discredit my work, there was a concern that poor results may result in a further deluge of negative

activity. I realised that this put some pressure on me and the project. However, I spent some time reflecting on this personally and discussing it with my peers, supervisors and coach and came to the conclusion that if the approach had validity the results would show that; and if the result showed no effect that too would be valuable in identifying what elements might need to be changed to create a better programme that produced improved outcomes.

Moving away from that readily accessible ME/CFS client group to those with SUD created the largest challenge for the studies, and for me personally, that of recruitment. The unwillingness of drug services or charities to support recruitment for research required long hours of reflection on creating new ways to recruit, to re-communicate the project to stakeholders and a long period where it seemed unlikely it would ever be completed. To address this, I turned to the support of friends experienced in research and with my coach worked through options and my own personal state management to find a way through the difficulties the research presented.

Throughout the research process, which I found personally very challenging for the reasons above, I became aware of a number of interesting perspectives through self-reflection. I realised that I am used to the fast, responsive and flexible approaches to problem-solving that are built into the structure of my company's operational processes and my clinical practice. As a result, I found the slow pace I encountered in this research process in many areas, including recruitment and delayed responses from academic/ethics boards and panels fascinating and frustrating. I noticed this frustration was not very helpful and was a response I had noted in other similar paced situations. I also felt that having to deal with such systems required me to respond in a different way to usual, and something I could work on. I was also surprised at the lack of interest from drug services in supporting research into new approaches, when issues with low success rates of

treatment outcomes have been identified and with the reluctance of participants to complete and return data. It made me recognise once again that our individual understandings of the world are not always shared by others and led me to consider what unhelpful habitual ways of thinking I have that I've yet to identify for myself.

### **Epistemological Reflexivity**

Epistemological reflexivity allows the researcher to consider how their theoretical assumptions and perspectives might influence the research (Dowling, 2006) and has its roots in the works Gadamer (1989) and the development of philosophical hermeneutics.

My starting point here was the research questions, which broadly set out to evaluate if the TRP was more effective than treatment as usual (TAU) (the quantitative component) and to discover how it was experienced by participants (the qualitative component). Here there was an overlap with the issues noted in the section on my personal reflexivity, as the decision to research this subject was linked not only to my interests in change and health, but also directed by my relationship to the intervention as its designer.

There were a number of assumptions at play with these research questions. First, that it was possible to compare TRP to TAU and that both are well-defined and consistent separate conditions and second, that the participants would engage with the process enough to experience change and be willing to report it.

Underpinning the research were my assumptions from a critical-realist perspective (Bhaskar, 1975) that the participants' reported a version of their experience which they felt to be real, based on the context and time frames in which they experienced the approach and gave their data. This was supported by my work as a therapist and particularly my work in NLP where there is an assumption that there are as many different version of reality as there are people (Korzybski, 1951). Therefore, there would be some gap between my attempts to understand their reports of their experiences effectively from

my perspective as a researcher and the meaning they intended to convey. I also assumed that I would have enough reflexivity and support from others in developing this attribute, to be able to identify and remember that this gap exists.

I assumed that the participants, especially in the qualitative study, had experiences of other approaches for SUD which they were able to recall well enough to genuinely compare the TRP to them. This assumed that their recall would be unaffected by both their degree of cognitive recall due to substance use and the passing of time and that the approach previously tried was representative of that type of intervention, something that others have noted is not always the case (Dodes & Dodes, 2014).

My philosophical perspective of how we give meaning to events depending on context and our experiences recognises that being part of any study changes the context in which the intervention is perceived and how individuals may feel about their issues, a point previously explored by others (Moerman, 2002). In this way, the research process may influence the data produced. For example, having an opportunity to record substance use more regularly or to be self-reflective as to how an approach has impacted ones' substance use or quality of life may in itself create change that is an artefact of the research process rather than a result of the intervention. This again was something I considered and discussed in my supervision and coaching sessions. As a result of these sessions I worked to find acceptance with this aspect of research that was relatively out of my control.

It can be seen from this that there are multiple ways my epistemological perspective had the potential to influence the research process and to influence how I made sense of the phenomena presented. This was compounded by my dual role as researcher and designer, which had the possibility of bringing biases into both my and the participants' interpretation of experiences, as described above. In order to address this, I

engaged in the detailed reflexive practices previously described which were essential to ensure I was able to identify and challenge my assumptions. This was particularly important in the qualitative study where I consistently utilised the process of moving between my own perspective (1<sup>st</sup> position), into seeing it from their point of view (2<sup>nd</sup> position) and into that of an emotionally uninvolved observer/bystander (3<sup>rd</sup> position) (Bodenhamer & Hall, 1999).

In the process there were occasions where I was surprised by the findings, a feature I considered to be of value as it identified my assumptions and showed that the research was showing up unexpected information. This provided new opportunities to learn from the data, such as the unexpected association between impulsivity and flourishing and the sparse reports from the participants on the specific use of language in the process, that were valuable.

Finally, as part of my epistemological reflexivity, as Dowling (2006) suggests, it is important to consider how other methods might have produced different understandings and insights. As the studies adopted a mixed-methods approach this already brought a confluence of different perspectives, from a positivist one (in the quantitative studies) and phenomenological and interpretative ones (in the qualitative study) into the research. However, other approaches could have been adopted and would have been of interest, and a fuller identification of the results of the reflexivity processes involved in these considerations are explored more fully in the relevant method sections.

### **Methodological Reflexivity**

Although this section proceeds the methodological sections in the thesis, it seems to fit best within this consideration of reflexivity. It addresses the ways in which my, and the participants, assumptions and opinions may have influenced the design, sampling, management and analysis of the research. It also discusses my consideration of how my

world view may have affected my decision-making process in the studies and the steps I took to address them.

Recruitment of participants was a challenge throughout the research and as a result the pragmatic sampling process was driven primarily by availability of those who met the inclusion criteria. The sampling process may have been affected by biases within the participants, with a selective effect at work due to some being attracted and others repelled by an approach that was both new and related to ‘complementary medicine’ as reported by others (Nowak et al., 2015). To address this, I endeavoured to describe the approach in as neutral a way as possible, referencing the relevant evidence base, but, as many with SUD are looking for something new, there was the possibility that this helped as many as it hindered (UK Drug Policy Commission, 2012).

I noted that I had an assumption that participants would mostly report information accurately and designed the research with that in mind. As a result, a confirmed diagnosis reported by the referring drug service or the participants was considered adequate confirmation of their SUD, without the need for blood tests (the reasons for this are described more fully in the limitations section). I also assumed that their reports of substance use as recorded on the government standardised TOP forms would be an accurate record of their substance use. Both these approaches mirror standard procedure for diagnosis and recording substance use in drug treatment services. However, it is possible that this assumption opened up the potential for participants to attend the intervention without a diagnosis of SUD, or to misreport usage. This was an issue which has been found before in SUD (Czeizel, Petik, & Puho, 2004) but has also been identified for some time in self-report in other fields of research (Austin, Deary, Gibson, McGregor, & Dent, 1998; Fan et al., 2006). As a result, it was an issue that I considered many times during the studies. On reflection and through discussion, I felt the benefits of this extra

level of clarity of diagnosis or reporting, which would have exceeded normal practice in the drug services, as can be seen from the recent systematic review where all the studies on SUD relied solely on self-report (Parker, Banbury, & Chandler, 2018), would have created barriers to recruitment and increased attrition, which is a significant issue in SUD research (Loveland & Driscoll, 2014).

Similar issues around attrition affected the design of the qualitative study. The recruitment invitation was sent out to completers and non-completers, however only those progressing with the programme and completing all their forms responded. This potentially created a bias in the sampling of this group. This was something I was keen to avoid as gaining insight from those who didn't find the process useful would have been of particular interest. However, on reflection there did not seem to be a way to reach those non-completing that maintained equipoise.

The questionnaire in the qualitative study was based on questions originally used in the proof of concept study focus groups, which was the precursor to this study. In that environment it appeared to be valuable and well adopted by the participants. However, I did consider if the questions delivered in a focus group and online might be perceived differently. As a result, a series of reflexive discussions were instigated where the questions were reviewed by a panel of experts, drawn from the London Metropolitan University psychology faculty and those working in the drug services to ensure my assumptions and presuppositions were eliminated from the questions and that the questions would still be of value when collecting data through an online portal.

Additionally, in any questionnaire, there is a limit to how many topics can be covered, and the focus of the questions would have been driven by me and my research questions. As a result, even with open-ended questions, this provided the potential for some influence on the direction of the conversations and perspectives that arose from the responses. A

questionnaire benefits from ease of access and by their absence, avoids undue influence of group members or potential leading by an interviewer/researcher. This is of benefit in this case where my dual role could cause the ‘people pleasing’ biases discussed earlier to exert an influence; however, it also prevents a closer questioning or more in-depth discussion of points raised with the participants. This leaves those singular recorded responses of the participants the only data on which to base an understanding of their experience. In order to attempt to enter their world, without shaping it to fit mine, I practised a reflexive reading and re-reading of the text, only allowing myself to analyse what was written and working to suspend any intuited meanings I might have constructed from what I felt was absent. This is a familiar practice to me, as I consider it to be an essential part of working with clients; listening to them, opening and curiously, in order to understand what they mean without ‘mind reading’ (Haley, 1993).

Finally, my choice of Thematic Analysis (TA) as a methodology for the qualitative study, discussed in detail in the qualitative methods section, was driven by a number of assumptions and experiences. My extensive work with understanding and analysing the phenomena of complex data sets of a client’s life-issues led me to favour an approach that was broad enough to identify patterns across a data set and yet stayed close to the data to explore the richness the individuals’ reports of their experiences. Additionally, the TA approach supported my caution about over-interpreting participants experiences through my own filters, suitability for questionnaires (Braun & Clarke, 2006), a choice informed as described earlier by my dual role within the research.

### **Reflexivity Summary**

A researchers’ subjective experience and perceptions are considered by many to be an unavoidable artefact of the research process, with some even noting the researcher should be considered a research instrument (Burns & Grove, 1993). Awareness of this is

therefore is pivotal in developing robust research. It is hoped that it is apparent from this section that a range of reflexive practices and considerations, that have been an essential component of my clinical work for 3 decades, were employed consistently and provided the meta-frame, as suggested by Mills, Durepose and Weibe (2010), that was used throughout the entire research process, to address, as much as possible, these important research concerns.

## CHAPTER 2: CURRENT ISSUES, CONCEPTS AND APPROACHES WITHIN SUD, AND THE NEED FOR NOVEL APPROACHES

The TRP approach is a new intervention in the field of substance use. It was developed in a similar way to Motivational Interviewing (W. Miller & Rollnick, 1991), through practice-based evidence (Leeman & Sandelowski, 2012) and a qualitative inquiry into clients' experience. The structure of this chapter, therefore, follows Miller's (1983) direction to identify supporting academic theories for the practice-based evidenced intervention. It, therefore, presents a review of the literature on key concepts and evidence-based approaches in substance misuse treatment and identifies how the TRP approach relates to these.

### Key terms: SUD, Addiction and Recovery

There are a number of issues of debate concerning the key terms in the field, and as such require some clarification. The American Psychiatric Association has swung between the use of the terms 'addiction' and 'dependence' to describe alcohol and other substance misuse issues for some time, but seems to be currently refocusing on using the term 'addiction'. The 2013 version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) has removed the categories for substance abuse and dependence, and had planned to replace them with a new 'addictions and related disorders' category (American Psychiatric Association, 2010), eventually ending up with 'Substance-Related and Addictive Disorders' (American Psychiatric Association, 2013). The reasoning behind this change is stated as: "eliminating the category of dependence will better differentiate between the compulsive drug-seeking *behavior* of addiction and normal responses of tolerance and withdrawal that some patients experience when using prescribed medications that affect the central nervous system." (American Psychiatric Association, 2010, para. 5) (*italic emphasis added*). This is a very significant move which signals a

change in stance on the nature of SUD/addiction, moving it from one of physical or psychological need to (more aligned to the disease model) to one of behaviours (a motivational model) and will be discussed in more detail later.

It will be interesting to see how the drug services and service users take to this terminology change as currently the words ‘addiction’ and ‘addict’ are mainly avoided in drug services. This reluctance to use these terms is supported by research on the power of language in SUDs (Buchman & Reiner, 2009) and importance of labelling (Cummins, 2017; Rosenhan, 1973) where the absence of these terms is designed to promote inclusivity and avoid the negative perceptions and stigmas (Radcliffe & Stevens, 2008) that can be associated with such labels.

There is an increasing awareness of the potential impact of language on recovery expectations and success (Darlow et al., 2013; Nickel, Barratt, Copp, Moynihan, & McCaffery, 2017). This research interest supports the TRP perspective that language may be one of the key missing ingredients required to make sustained change, and this idea will be considered in some depth throughout this thesis. As the use of terms such as ‘SUD’ are a relatively recent addition to the therapeutic lexicon, many published papers use older style language such as ‘addicts, addictions, abusers, users, alcoholics, alcoholism, etc.’. When these are referred to in this thesis they will be placed in quote marks to identify them as the term used by the parties involved in the SUD world at that time, so keeping a sense of the meaning they may have intended by using those words but without necessarily concurring with those meanings.

Finally, a definition is required of a key term to this thesis, ‘recovery’. The UK Drug Policy Commission report, *A fresh approach to drugs*, describes it as:

*Recovery from problematic substance use is a process that involves not only achieving control over drug use, but also involves improved health and wellbeing and building a new life, including family and social relationships, education, voluntary activities and employment.'* (UK Drug Policy Commission, 2012, p. 114)

This definition encapsulates the key ideas of the 'user' being proactive in achieving control and that the goal of recovery is more than simply stopping drug use. It also identifies that to support and sustain real change, wider issues and elements need to be addressed.

### **The TRP approach**

The TRP is aligned with this holistic perspective towards recovery. The approach is discussed in detail in Chapter 4, but a brief overview is useful at this point. It is a training programme with three aims: first to teach an individual how to make more useful choices, especially around drug use; second to teach an individual to resolve issues in the other areas of their lives that have contributed to development of their current circumstances, through developing an awareness of those issues and creating behaviour change; and third, to encourage a sense of flourishing by developing a range of attributes including self-esteem, good relationships and a sense of self-empowerment.

### **Views of Substance Use**

There are many different perspectives on the causations and solutions to SUD including models of disease vs moral weakness, biochemical/genetic and behavioural/cognitive. However, as the TRP is a psycho-social approach the main focus of this review is to consider some of the main bio-psycho-social models in SUD to provide a comparative context. A brief discussion is included of some differing, but important, models (the disease model and AA) that may inform the opinions of those with SUD and

help understand the responses participants to the intervention. It is also worth holding in mind West and Hardy's comments on the important report by Lingford-Hughes, Welch and Nutt (2004), "What we know about effective treatment for addictions can be summed up relatively easily; we know surprisingly little." (2006, p. 24)

### **Pathology or Dysfunction - the Disease Model**

This identification of substance use as a disease, rather than a moral weakness, can be seen in the Rolleston committee report (Ministry of Health, 1926) and was promoted by the influential work of individuals such as Jellinek (1960) at Yale and the WHO.

This has led to research and an increased understanding of the processes, structures, especially the reward circuits, limbic system, nucleus accumbens (NAcc) and ventral tegmental area (VTA) (Kalivas & Volkow, 2011; Rauschecker, May, Maudoux, & Ploner, 2015; Weiss & Koob, 2001) and key neurotransmitters, especially dopamine (DA) and gamma-aminobutyric acid (GABA), particularly involved in SUDs and provides valuable information to shape the design of new approaches to SUDs. Unfortunately, this increase in understanding in the biochemistry has not been accompanied by a marked change of outcomes for those with SUDs. A number of pharmaceutical drugs have been developed based on this new knowledge, although Methadone, the most commonly used drug in heroin treatment, is not new, having been developed in the 1930s. Methadone's use highlights some of the criticisms of the pharmaceutical approach, with its well documented side effects (Donovan et al., 2013, p. 327), expense – reported as £17million (NICE, 2004, sec. 2.10) and £730 million (Gyngell, 2011) - and a tendency for users become 'parked' (Dawson, 2012) on the replacement drug, preventing recovery from reliance on substance use.

An evaluation of genetic predispositions to SUDs has also been driven by the disease model and family (Agrawal & Lynskey, 2008), adoption (Cadoret, Troughton,

O’Gorman, & Heywood, 1986; Goodwin, Schulsinger, Hermansen, Guze, & Winokur, 1973) and twin studies (G. Davies et al., 2011; Segal, 2011) have been undertaken which suggest genetic inheritance plays a role in SUD. However there is still debate as to how much of a role it plays: Nancy Segal, Professor of Psychology and Director of the Twin Studies Center, at California State University, Fullerton notes that ‘genes alone are never determinative of anything.’(2011, para. 4).

The model has been useful in developing an understanding of some processes involved in SUD issues. However it requires further questioning to distinguish whether it suggests SUD is a ‘medical disease’ like TB or Parkinson’s for example, a view supported by some authorities (Volkow, Koob, & McLellan, 2016; Wakefield, 2017), or one of ‘temporary change in functioning’ supported by others (J. B. Davies, 1992; M. D. Lewis, 2015; Peele, 2016), such as an anxiety disorder. This is a vital question, as answering it will have a significant impact on treatment design, expectations of the possibility of full recovery and the degree to which a patient might be encouraged to take a passive or active role in their recovery. The evidence for spontaneous and managed recovery suggests the balance is shifting to support the ‘temporary change in functioning’ model and helps align the medical model with the bio-psycho-social one (Gray, 2011; Robins, Davis, & Nurco, 1974; Chen, 2006; Arkowitz & Lilienfeld, 2008). The TRP approach is also aligned with this understanding of SUD and an awareness of the neurological systems involved in SUD is central to the design of the TRP. In the training these concepts are discussed, along with behaviourally-based techniques to help change the conscious usage of those pathways.

#### **AA, 12 Step Programs (TS), Mutual Aid and 12 Step Facilitation (TSF)**

As AA is the most well attended mutual aid fellowship (Alcoholics Anonymous, 2011) it will be discussed as representing this approach. Although popular it has many critics (Dodes & Dodes, 2014; B. A. Lewis, 1994) for its emphasis on the disease model,

judgement of those who fail to use the steps and passivity and the Cochrane review led by Ferri concluding that ‘No experimental studies unequivocally demonstrated the effectiveness of AA or TSF approaches for reducing alcohol dependence or problems’ (Ferri, Amato, & Davoli, 2006, p. 2) while others are more positive about its benefits. In designing a new approach, it is important to be aware of what might conflict with commonly held perceptions, and as TS is popular amongst those with SUDs, and those working with it, understanding its core concepts is valuable. It is also useful to attempt to discern what makes such approaches popular and how they create, or appear to create, successful outcomes, therefore what follows is a brief overview of the core elements and concepts of the TS model.

1) Mixed conceptual models: It is developed in part from the disease model, and embodies many of the core concepts of the medicalised model of addiction, yet paradoxically in the steps themselves (especially 2,3,5,6,7,11 and 12) a spiritual approach, with strong emphasis on higher powers as the route to recovery, appears to dominate.

2) Forgiveness and passivity: Many of the steps, if taken literally, identify the ‘addicts’ as impotent and place them in a passive role, as a victim of the condition. They also bring in the idea of the *ultimate* external agent, the ‘Power’ or ‘God as we understood Him’, being the one responsible for creating change. This may serve to provide a sense of understanding that, as becoming free of ‘addiction’ was something that was never in their power to attain, then they can forgive themselves for not succeeding in that impossible task.

3) Changed perspective: The ‘spiritual awakening’ prevalent in the steps (James, 1901; W. Miller, 2004) appears to be a very important part of many processes of transformation, one where people see themselves in a new light or gain a sense of their life’s purpose, often for the first time (Pardini, Plante, Sherman, & Stump, 2000).

4) Strategy, clarity and hope: The presence of ‘steps’ suggests that there is a clear path to follow that will ultimately lead to recovery.

5) Supportive community: The presence of a sponsor, like-minded souls and a non-judging community (De Botton, 2013) providing activities that do not revolve around intoxication (B. A. Lewis, 1994).

The debate about the usefulness of TS continues in academic circles. Some elements that form part of TS, such as the concept of mutual support, are considered to have value (De Botton, 2013; UK Drug Policy Commission, 2012) and fit well with the current recovery model. However, other ideas about the lack of the possibility of recovery, or the need to subscribe to a belief in a higher power, and may fit less well within the rational or choice-based model (Dodes & Dodes, 2014; B. A. Lewis, 1994). As it is such a popular approach and many of the participants in the mixed-methods study were involved in TS, a detailed description of where the TRP model is aligned and strongly differs from these elements will be presented within Chapter 4.

### **Psycho-Social, Cognitive, Behavioural, Motivational Models**

Although there are some benefits from understanding of SUDs as a disease or as a biochemical process it is also apparent that there are some deficits in this worldview; as Lewis notes, “drug addicts can and do recover, their decisions to take drugs or to quit are executed voluntarily. Diseases don’t work that way.” (M. D. Lewis, 2011, p. 150) and this highlights the importance of the psychosocial perspective on SUD. This section provides a broad overview of some of the perspective’s major theories.

One of the central areas of confusion and interest in SUD is encapsulated in these two sets of studies. First (Cloud & Granfield, 2008; Franklin, Trepper, McCollum, & Gingerich, 2011; Russell et al., 2001; Sobell, Ellingstad, & Sobell, 2000) found that a large proportion of those addicted to alcohol, heroin, cocaine, nicotine and gambling

eventually stop, often without outside help. And yet conversely the Cochrane review headed by Hajek (2005) that looked at smoking and the study by Mann & Längle (2005) into alcohol found that users found developing a ‘non-addicted’ pattern of use difficult. This raises key questions as to why certain people develop SUDs while others do not and why some of those who develop SUDs go on to resolve it themselves while others try endlessly and never free themselves from it.

A consideration of these varying theories, and linked approaches, shows the potential value of some of the elements of their perspectives, as well as highlighting some of their constructs that do not seem so useful or are not supported by the research findings.

For simplicity the overview of the field follows an adapted version of West and Hardy’s (2006) broad categories:

1. Choice theory
2. Impulsivity
3. Instrumental Learning and Neuroplasticity

All three are fundamentally concerned with issues of choice, and to what extent those with SUDs currently have a choice to use or not use. This is an important issue in relation to psychosocial approaches, as to create successful change using these interventions, the degree to which there is a ‘sense of there being a choice’ will influence the possibility and quality of change (Dilts, Hallbom, & Smith, 2012; Parker, 2011). This next section presents an overview of how the concept of choice, a key part of the TRP intervention, is portrayed in the various psycho-social model.

### **Choice Theory: Conscious and Less Conscious Choice**

This theory focuses on the portion of the spectrum of choice where actions are derived from primarily conscious choices. The Rational Informed Stable Choice model (RISC), developed from Becker and Murphy’s Theory of Rational Addiction (1988) is at

one end of this spectrum. It considers the concept that ‘addiction’ is a choice, as supported by proponents of this theory and other commentators (Gray, 2011; Skog, 2000). However, it is strongly questioned by those who argue that tendencies towards impulsivity drive ‘addictions’ (Ida, 2010; Tomassini et al., 2012; Zohar, 2010), and that it runs counter to the well-established evidence of the conditioning that results from any frequently used behaviour. Others including policymakers, the general public users and drug workers find it conflicts with their beliefs of the nature of ‘addiction’ (Heyman, 2009; Kurti & Dallery, 2012), and the TRP does not share its view that ‘addiction’ is a conscious choice.

However, the theory highlights the important issue of how to make the message about the potential for choice palatable for individuals with SUDs. Any approach to creating choice in SUDs will need to find an effective way to address this concept without breaking rapport by seeming to suggest they are responsible, or to blame, for their SUD, a factor which has been shown to have a negative effect on outcomes in SUD (Pickard, 2017).

Other approaches consider that SUD is the result of choices, but ones made at a less-conscious level than supposed in the previous section. For simplicity they are presented in four categories:

1. Stress model of ‘addiction’ and the self-medication model
2. Decision-making theories
3. Trans Theoretical Model (TTM)/cycle of change
4. The Abstinence Violation Effect, Motivational Interviewing (MI) and Cognitive Behavioural Therapy (CBT)

As they account for much of current treatment approaches for SUD they will be considered in some depth.

**Stress Model, the Self-Medication Model and Dual Diagnosis**

The stress and self-medication models can be seen both as stand-alone models and ones that can be used in conjunction with other ideas. For example, the stress model combines with the RISC which proposes that the ‘addict’ uses to relieve stress in some way either by increasing pleasurable sensations or by removing awareness of other unpleasant symptoms, thoughts or stimuli. This linkage is supported by evidence (Farrell et al., 2001) that individuals are predisposed to become ‘addicted’ if they suffer from unpleasant affective states or psychiatric disorders. However, the individuals’ experience of the drug use making a positive difference in their life may not be entirely accurate. West and Hardy (2006) report that smokers cite stress relief as a motivating factor to smoke, yet smokers actually have higher stress levels than non-smokers or those who have never smoked. It has also been found that smoker’s stress levels reduce when they give up and increase if they relapse into smoking again (Schepis, Tapscott, & Krishnan-Sarin, 2016). Alcohol use is also linked to stress (Virtanen et al., 2015) and although drinking may appear to temporarily reduce stress, there can be a rebound effect when the drink wears off and the stressors issues remain unresolved. Additionally, there can be serious effects on quality of life as a result of over-using alcohol that can also increase stress and anxiety.

The stress and self-medicating models suggest that the emotional issues create the drug use, and this is supported by some research showing high stress levels of those with SUD two years prior to developing their issues (Hassanbeigi, Askari, Hassanbeigi, & Pourmovahed, 2013). Their findings suggest stress is a significant factor in the development of SUD and a predictor of relapse in individuals. The study also shows that there is a decreased ability to employ successful coping mechanisms compared to the

control group, a finding supported by others (Blaine, Seo, & Sinha, 2017; Maisto et al., 2017).

These models are valuable in recognising stress as a factor in the development and maintenance of SUDs. However, they do not provide a complete explanation as although it may be common, pre-addiction stress is not present in every case, and not all those suffering stress develop addictions.

These models also raise the question of how dual diagnosis cases can be effectively approached. Estimates vary from 80% (Weaver et al., 2003) to 32% (Schulte, Schulte, Meier, Stirling, & Berry, 2008) of clients in drug and alcohol services (DAS) have dual diagnosis (DD) (most often anxiety, depression or trauma). However, less than 50% of services report evaluating clients for DD, use joint protocols (DAS: 55%, Mental Health Services (MHS): 48%) or shared care arrangements (DAS: 47%, MHS: 54%) and only 25% of DAS and 17% of MHS employed dual diagnosis specialists (Schulte et al., 2008). These figures suggest that in spite new policy directives, there is a lack of structure in services working together and suggest appropriate solutions to SUDs need to include tools for effectively resolving the stress of using and returning to a life without drugs.

With the prevalence of both stress and DD issues in SUD, developing an approach, such as the TRP, that can provide solutions for improving self-management of mental wellbeing would be of value. Additionally, as it is aligned with the government agenda of increased patient activation (Hibbard & Greene, 2013) it might provide one of the missing elements for developing more sustained successful exits from drug services.

### **Decision-Making Theories**

This section covers a board range of interlinked ideas concerning how we make effective or inaccurate decisions. Due to the wealth of ideas and theories in this field, including, expectancy theories, System 1 and 2, biases, identity shift, self-efficacy, and

unstable preferences and conflicts theories an overview is presented that highlights some of the major contributions.

Expectancy theory considers the effect an individual's expectations and predictions have on how they respond to a forthcoming situation (Field & Cox, 2008). The predictions, however, are not always accurate as they are based on the beliefs, rather than accurate evaluations about what is likely to happen in a given situation. This is due to the heuristic process that develops beliefs by allowing the individual to find evidence that supports the model of reality that their belief suggests is correct (Boudon, 2001; Dilts et al., 2012; Wise, 2007).

A similar process has been described by Kahneman's work (2011) on the two brain systems used in processing information. He identifies the fast, subconscious System 1 and the slow, logical, conscious System 2. System 2 decisions tend to be better as they are based on good quality cognitive evaluation, but System 1 is used in preference, due to its speed, especially for things that an individual is familiar with or think they know the answer to. Using System 1 opens individuals up to unreliable shortcuts in evaluation and intuitive judgements.

This switch from using the slow but more accurate System 2 to the more rapid, but less accurate System 1, results in beliefs having a powerful 'blinding' effect on an individual's evaluations and decision-making processes.

Cognitive bias theory (Wiers, Gladwin, Hofmann, Salemink, & Ridderinkhof, 2013) (a pattern of making judgments about people and situations that may not be totally logical but based on biases in our attention and memory processes) dovetails with heuristic theory (an individual's information-processing shortcuts) and expectancy theory as they are all mechanisms by which individuals predict what is likely to occur, so they can respond most appropriately to it. This means that, on the whole, individuals do not

even recognise their beliefs as beliefs at all. As a result, they may not recognise they are calculating expectancy from a biased model of the world, and so it could be argued that choices that they make based on beliefs are not very rational or conscious choices (Dilts et al., 2012; Kahneman, 2011).

As with all these shortcuts and approximations there is the potential for errors of judgement and prediction. Smokers, although aware there are good and bad outcomes of smoking, have a higher incidental recall of the positive outcomes (West & Hardy, 2006), and cognitive biases have been widely reported in addiction issues (Bickel, Quisenberry, Moody, & Wilson, 2014; Wiers et al., 2013). These findings once again suggest a model of some degree of unconscious choice needs to be considered to explain how SUDs become established.

A more positive cognitive shift can also occur where the conflict between the problems caused by behaviours and how an individual with SUD feels about themselves and their lives can result in a tipping point for behavioural change (Johansen, Brendryen, Darnell, & Wennesland, 2013; M. H. Kearney & O'Sullivan, 2003).

These theories suggest that increasing self-efficacy is important in terms of recovery. Developing the belief that it is possible and belief that it is possible now are considered to be essential components of making any successful sustained change (Bandura, 1997; Chen, 2006; Dilts et al., 2012). Research into the linkage between self-efficacy (Niaura, 2000) and stopping smoking and reduced chance of cravings (Gwaltney et al., 2001), and between continued alcohol use and low self-efficacy (Brown, 2015) supports this perspective. This suggests that approaches, such as the TRP, that help to develop an awareness of these classes of unhelpful neurological shortcuts, to encourage positive expectancy elements, and to keep new behaviours consistent, may have an important role in SUD treatment.

**Trans Theoretical Model (TTM)/Cycle of Change**

Developed by Prochaska and DiClementi (1983) in the late 1970s the TTM or cycle of change model is one of the most commonly used models to map and encourage the recovery process in SUDs. It is positioned to consider the whole range of choice arguments, from fully conscious choice to unconscious choice and suggests the individual moves at varying speed through five phases of change:

The Precontemplation stage: No intention to change in the next 6 months

The Contemplation stage: Intention to potentially change in the next 6 months

The Preparation stage: Intend to act in the next 30 days

The Action stage: Have changed in the last 6 months

The Maintenance stage: Sustained change for more than 6 months

There is some confusion as to where this stage leads to, and often an added stage 'relapse', which is not present in the original model, is added to descriptions of the model, and the need to restart the cycle again. The purpose of this cyclical depiction might be to build rapport with the experience of the individual with SUD who has experienced this common journey of getting ready to change, changing and then relapsing. However, the powerful and negative metaphor of a continual churning cycle of hopefulness being replaced by hopelessness is probably an unintended but very visible message of this model.

Relatively recently a new stage the termination stage, or exit stage, has been added to the model to address this (West & Hardy, 2006).

There has been criticism of the model for the use of the concept of 'stage' recognising it as an arbitrary distinction. Those planning to stop in the next 30 days are in the preparation stage, but those who are planning to stop in the next 31 days are in the pre-contemplation stage (Herzog, 2005; S. Sutton, 2001) and as Bandura (1998) points out,

the observation that some of those addicted are readier for change than others is not a surprising suggestion.

Additionally, although there is much research involving this model (Nigg et al., 2011), there is little evidence that moving people through the stages actually makes change more likely (Cahill, Lancaster, & Green, 2010; Riemsma, Mather, & Walker, 2003).

The benefits (Armitage, 2009) of the model are that it gives a seemingly scientific set of assessment tools combined with some achievable soft outcomes - moving from one stage to another such as pre-contemplation to contemplation can be non-threatening to a client with well-established SUD, and show an 'easy' win and a sense of progress, in spite of these changes from one stage to another having no proven value (Cahill et al., 2010; Riemsma et al., 2003). There is a third benefit suggested by West and Hardy (2006) in that it provides a more comfortable labelling system; naming someone as a 'pre-contemplator' is more comfortable than naming them 'someone who is not planning on changing'.

Despite these criticisms, a recognition of where an individual is in their change journey is widely considered useful in finding the best way to help (Haley, 1993a). As a result, discussions about readiness for change are included in the TRP's recruitment process.

### **The Abstinence Violation Effect, Motivational Interviewing (MI)**

When an individual attempts to change, sustains it for a while and then goes back to that behaviour, or to use the medicalised term 'relapses', it can create a number of responses. Some use the experience to learn what works for them, and this strengthens their ability to maintain the change next time. However, others feel they have failed, and the experience can affect their sense of self-efficacy, increase feelings of guilt and powerlessness, which in turn can cause them to give up on any possibility of change as a

hopeless cause (Flanagan, 2013; Pickard, 2017). This is common to many change processes, and in SUDs is called the ‘Abstinence Violation Effect’ (Orford, 2001a), and is one that any therapeutic approach will need to address when working with those who have had previous unsuccessful treatment experience.

To deal with the negative affective states, expectancies and attributions, that can accompany relapse, the relapse prevention model was born. From this model, the MI approach was developed, which was first described by Miller (1983) and further developed by Miller in conjunction with Rollnick (1991). Miller acknowledges the influence of his client-focused counselling training with Carl Rogers on MI’s design. He also reports how MI was derived from ‘pragmatic empiricism’ (W. Miller & Rollnick, 2009, p. 134) whilst working with those with ‘alcoholism’, with Miller ascribing the development of MI to the process of following unexpected results of treatment studies rather than a clear theoretical base. Miller has written more recently about the ‘spirit’ of MI (2009) being core to its effectiveness, and describes that spirit as not attempting to force change but assisting the client to uncover his own choices. This has resulted in a set of core strategies that are more persuasive than coercive, running counter to the previously dominant paradigm for helping those with SUDs to change (J. S. Stewart, 2012) with the aim to develop the client’s self-motivation, so that become the agent of their desired change.

This internally directed approach has much in common with the co-operative approach promoted in the TTM, and as a result these two approaches are often delivered as an integrated change process, although MI originators are keen to distinguish MI from TTM (W. Miller & Rollnick, 2009).

A meta-analysis (Rubak, Sandbaek, Lauritzen, & Christensen, 2005) of 72 RCTs involving MI showed it outperforming traditional advice. However, an earlier meta-

analytic and qualitative inquiry (B. L. Burke, Dunn, Atkins, & Phelps, 2004) and a more recent Cochrane review of 59 RCTs on MI and drug and alcohol use (Smedslund et al., 2011) raised questions concerning its effectiveness relative to other approaches. More recently concerns have been raised about uneven effect sizes and variability in clinical trials, involving MI and other approaches, in a review considering the evidence base for SUD interventions over the last four decades (W. Miller & Moyers, 2015).

The popularity of MI suggests that developing an approach that focuses on the importance of the language of change, and strengthening an individual's motivation in a compassionate and accepting environment, would be of use and well accepted by those with SUD.

There are the similarities and differences between the TRP approach and the well-evidenced intervention of MI which are detailed in Chapter 4.

### **Cognitive Behavioural Therapy (CBT)**

CBT is widely used in many areas of psychological practice including SUD treatment. It is described by the National Association of Cognitive-Behavioral Therapists as:

A general classification within psychotherapy and includes a number of related approaches Rational Emotive Behaviour Therapy, Cognitive Therapy, Rational Behaviour Therapy, Rational Living Therapy, Schema Focused Therapy, and Dialectical Behaviour Therapy. ("NACBT," n.d., p1)

Some other authors (Benjamin et al., 2011) suggest other influences are visible particularly conditioning, social learning, cognitive and self-talk theories, modelling and problem-solving. These concepts developed the approach of CBT which helps to rationally reappraise the decisions an individual has made, to reconsider the reasons for

those decisions and consider what might be better interpretations or responses to those events.

An extensive evidence base for CBT has been developed for a wide range of psychological issues, as can be seen from the review of 269 meta-analyses (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012). This concludes that CBT appears to best evidenced for anxiety disorders and general stress, bulimia, somatoform disorders, and anger control problems, but also includes a longer list of conditions, including SUD, that are evidenced to also respond well.

Other CBT/SUD studies, including numerous large scale trials, quantitative reviews, longitudinal studies and meta-analytic reviews, with key and recent examples briefly reviewed below, have contributed to the development of a strong evidence base for this approach in the field:

An RCT of CBT programme for reducing opiate use and increasing methadone maintenance (Pan et al., 2015) found CBT better than standard approaches at reducing usage and stress but did not increase treatment retention.

A review of CBT for cannabis use (Sherman & McRae-Clark, 2016) reported the evidence base suggests a combination of the behavioural therapy approaches of CBT, MET and contingency management, which rewards desired behaviours, produces the best outcomes. It also adds that contrary to other studies (Babor, 2004) the duration of the CBT appears to have little effect.

An RCT of CBT for alcohol misuse (Easton, Crane, & Mandel, 2017) showed reduced alcohol use compared to standard drug counselling. In addition the sample group of domestic violence offenders also reduced their offending compared to standard drug counselling. This highlights the value of the scope of the approach.

A meta-analysis of adult and illicit drug use in adults (Magill & Ray, 2009) concluded the utility and efficacy of CBT across a wide range of drug use, with the largest effects observed in cannabis users. It also noted the effects were statistically significant effect but small in size across the studies reviewed, and a reduction in effect at 12 months.

A review of CBT for SUD (McHugh, Hearon, & Otto, 2010) found the intervention showed efficacy in controlled trials. However, the authors noted issues with the heterogeneity of the delivery of the modality and the challenges raised by variable delivery and suggested there was a need to identify which elements of the interventions should be combined have the greatest effect.

Newer methods of delivery, such as web-delivered CBT, which can remove barriers to access, are also producing positive results with alcohol and other drug issues compared to non-web based treatment as usual (Acosta et al., 2017; Cogle et al., 2017; Johansson et al., 2017).

Critiquing CBT, Gilbert (2009) urges some caution of over-reliance on CBT noting that in spite of its recent dominance in psychotherapy, with proponents citing the wealth of evidence supporting CBT, the NICE guidelines do not support the superiority of CBT over all other interventions, except with respect to some anxiety disorders.

A Cochrane review on psychosocial interventions in SUD (Klimas et al., 2013) refrains from a conclusion on CBT due to the paucity and low quality of studies in the field. Others suggest there are issues concerning the variability in how CBT is practiced and differs from its original formulation (Gilbert, 2009; Gipps, 2012; Pilgrim, 2011). Some studies note that the reports of the efficacy of the approach are also accompanied by reports of issues of treatment retention, common in this field (Aharonovich, Nunes, & Hasin, 2003; Barrowclough et al., 2009). These and other studies finding mindfulness recovery approaches attaining better outcomes than CBT (Garland, Roberts-Lewis,

Tronnier, Graves, & Kelley, 2016), CBT having less effect and retention in black and/or Hispanic compared to non-Hispanic White samples (Windsor, Jemal, & Alessi, 2015) and the ‘successful completions’ statistics remaining around 22% (NDTMS, 2016) raise questions about whether anything can be added to the psychosocial repertoire in addition to CBT.

There are some similarities and differences between the TRP approach and the widely used CBT, which are detailed in Chapter 4.

### **Summary of Choice Theory**

This section has considered the ‘rational choice’ and the ‘choice made on flawed data or errant interpretations’ theories of SUD. These choice models have different emphasises but still conceive ‘addiction’ as a process of the choice weighing up the pros and cons of action based on what is perceived to be the best outcome at the time. The benefits of the model are that it allows for the possibility of creating new choices which could interfere with and de-stabilise the established drug use pathways.

However, this idea of choice, whether unconscious or conscious, does not fit with the experience of many addicts of feeling compelled to use drugs (M. D. Lewis, 2011; West & Hardy, 2006). It also runs counter to some of the newer findings in neuroscience. These include the developing understanding of the influence of neuroanatomical mirror neurone pathways on generating behaviours which operate on reactive rather than choice based protocols, and the growing recognition that many choices are made a number of milliseconds before we are consciously aware of them (Obhi & Haggard, 2004; Soon, Brass, Heinze, & Haynes, 2008).

These findings form part of the evidence for the final perspective of SUDs considered here, that of the ‘less choice based’ approaches, beginning with the concept of impulsivity.

### **Impulsivity**

There is a general lack of agreement (Burnett Heyes et al., 2012) about a definition for impulsivity but the International Society for Research defines it as:

*...action without adequate thought... without regard to the negative consequences of these reactions. (“International Society for Research on Impulsivity,” 2014, p. 1)*

The causes of impulsivity are similarly debated (Santisteban & Arce, 2006) but a recent consensus has emerged that describes two core processes involved in impulsive drug use, a heightened predilection to approach drugs and a decreased capacity to inhibit that ‘approaching drugs’ behaviour (Gullo, Loxton, & Dawe, 2014; Gullo et al., 2017).

### **Impulsivity and SUD**

Many authors such as Gullo et al. (2017) stress the importance of impulsivity as a factor in SUD as a reliable predictor of current and future problems with substance use. Its presence in children is associated with a future of substance use even after controlling for other markers of SUD risk, including low IQ, socioeconomic status and parental history of SUD (Gullo et al., 2014). There is also an association between a failure to complete treatment and impulsivity and for methamphetamine and cocaine-dependent patients (Winhusen et al., 2013). Decision making (DM), which is linked to impulsivity (Franken, van Strien, Nijs, & Muris, 2008), is also associated with alcohol dependence (Gullo et al., 2017; Leamy, Connor, Voisey, Young, & Gullo, 2016; Tomassini et al., 2012). These observations underline the value of researching impulsivity in the cause or maintenance of SUD. However, debates exist concerning the stability or variability in impulsivity in an individual (K. M. King, Patock-Peckham, Dager, Thimm, & Gates, 2014), which due to its established association with SUD, are important to consider. A mainly stable view of impulsivity can be observed in Barratt’s well-validated impulsivity scales (Barratt, 1975),

which request responses from a long time frame, e.g.; ‘I change jobs or hobbies or residences’ and presuppose the permanent nature of this trait, and Ebstein’s research (1997) into the ‘adventure gene’ (Lusher, Chandler, & Ball, 2001), perspectives that King et al. note underlie many recent studies (2014). A more variable perspective on impulsivity has been supported by studies showing a ‘maturing up’ reducing impulsivity levels and their tendency to use alcohol (Littlefield, Sher, & Steinley, 2010). This is also seen in research which finds impulsivity reduces post-adolescence (Steinberg et al., 2008) and evaluations of the speed of changes in impulsivity which have been identified to occur with a short time frame of 4 weeks (Littlefield et al., 2015). These findings suggest that impulsivity is not static, which suggests there would be value in developing approaches, such as the TRP, to help individuals learn to change their levels of reactivity and impulsivity, with the hope of changing substance use.

### **Free Will and Free Won’t**

Whilst choice theory raises ethical dilemmas about whether an ‘addict’ is truly choosing to use drugs, impulsivity theory raises other ethical questions about the idea of free will, or the lack of it (Volkow & Koob, 2015). Research observing LRP (lateralised readiness potential) (I. Fried, Mukamel, & Kreiman, 2011; Meiran, Pereg, Kessler, Cole, & Braver, 2015; Soon et al., 2008) identified pre-choice cortical activation before conscious awareness of deciding to make a specific movement; others discovered this activity occurred in the motor cortex an average of 350 ms before any conscious awareness of deciding to make that movement, (Libet, Gleason, Wright, & Pearl, 1983) and these observations raise the issue that if it is not ‘us’ choosing to move, then what is controlling our ‘voluntary’ movements.

A range of studies however suggest (Haggard & Eimer, 1999; Libet et al., 1983; Obhi & Haggard, 2004; Schultze-Kraft et al., 2015) that there is still a window of

opportunity to interrupt or abort the unconsciously planned movement with conscious decision, replacing the idea of ‘free will’ with the so-called ‘free won’t’. This helps identify why developing awareness of these unconscious processes and interrupting those patterns within that window of opportunity are important elements of the TRP approach to SUD.

### **Summary of Impulsivity**

The evidence suggests that impulsivity is an important area to study and to help individuals with SUD make change in. As a result, the TRP has a strong focus on helping change impulsivity and is one of the specific measures used in the TRP PPS. However, concepts of impulsivity also match many individual’s sense that their substance use is outside their control, therefore this concept needs to be carefully communicated to service users, focusing on the changeability of impulsivity rather than it simply being the signifier of an unavoidable future of drug use.

These considerations lead to the next section on learning, which can be viewed as both a potential entry route to drug-using behaviours as well as providing a possible exit strategy towards recovery.

### **Instrumental Learning and Neuroplasticity**

Instrumental learning provides a framework for understanding how addictions can occur without much involvement of conscious decision-making processes. West and Hardy (2006) note that as studies show how motivating the reward of food or drugs can be in animals, a more primitive system that predates our development of conscious decision-making process may be at work in SUD.

The presence of both positive reinforcement through the hedonic pleasure provided by the drug (Gigengack, 2014; O’Brien, Childress, McLellan, & Ehrman, 1992) and the negative reinforcement of withdrawal once the body has adapted physiologically to the

drug (Koob, 2015) provide effective and repeated opportunities for instrumental learning in the development and maintenance of addictions (Koob & Volkow, 2016). Other theories attempting to explain the development of addiction more completely, such as the opponent-process theory of addiction (Solomon & Corbit, 1973) and the mesocorticolimbic system focused incentive sensitisation theory (T. E. Robinson & Berridge, 2008) have developed from this model. Research (Koob, 2015; Weiss & Koob, 2001), identifying the possible neurobiological mechanisms (neurotransmitter, hormones and nucleus accumbens and amygdala), supports the model, whilst others question the model and cite the research from animal models that does not support it (Mazur, 2012; J. Stewart & Wise, 1992).

Advances in the understanding of how neuroplastic processes work to shape the influence of nerve pathways, and the physical arrangement of neurones at the synaptic level, depending on their use, adds an important new perspective on the non-static physicality of the nervous system. These findings developed from Raisman's original research move the field away from the concept of the unchangeable 'circuit board' brain, to one that reacts and re-organises itself in response to demands and usage. This provides a valuable model to explain how habitual use of a substance will encourage the development and influence of neurological pathways that will serve to further support and sustain that habit (Kalivas & Volkow, 2011; Koob & Le Moal, 2005; Koob & Volkow, 2016; O'Brien, 2009). It is also useful to explain how the same neuroplastic processes provide a mechanism for the creation of pathways that move away from addiction and to replace those old habitual pathways with new ones with the potential to increase an individual's choice and behaviours to no longer use drugs.

### **Self-Cure**

The efficacy of this approach is difficult to accurately measure due to the lack of studies on the subject, which is possibly due to the practical difficulties of accessing such a diverse population who by definition are unlikely to be engaged with services. If the results of a Guardian survey (J. Mann, 2014) of 1008 UK adults are representative of the population, it suggests that a large percentage of adults experiment with drugs (69%), most are likely to start at 19 and finish by 26. However, 87% of those who experimented would not consider taking drugs in the future, and as most are able to avoid developing a ‘drug habit’ a problem severe enough to lead them to attend drug services, then it could be argued that self-care might be the most effective, and most adopted approach.

This ability of an individual to self-manage their own recovery is reported by many authors. It can be placed within both the health belief (Hochbaum, Rosenstock, & Kegels, 1952) and self-regulation model (Crockett, Raffaelli, & Shen, 2006; Wills, Sandy, & Yaeger, 2002) and raises a direct challenge to the static impulsivity and disease models of addiction. Critics argue that self-cure may simply be that the abnormalities normalised, that the individual was not addicted, or suggest it identifies a more complex model, one where there are two types of people; those actually addicted and those who just use regularly but are not addicted (West and Hardy 2006).

The self-cure concept is aligned with the self-coaching and self-empowerment concepts adopted by the TRP, which attempt to assist the individual to become re-engaged and central to their recovery journey.

### **Integrative Models**

Although there are some approaches, such as TS, which subscribe predominately to one particular model from the diverse range presented above, there is also a growing drive to approach the complexity of addictions with a more integrated and inclusive

approach. They consider the addiction to have a multifactorial aetiology with neurophysiological, societal, cognitive and behavioural aspects and include Orford's excessive appetites (2001b), West's synthetic theory (2008), Positive Psychology, NLP and the TRP model.

The potential benefits of a more integrated approach include the possibility of utilising models or research which would not normally be included in a more secular model. This more inclusive framework provides access to ideas and professionals from different backgrounds and models and an opportunity to continue to expand and develop, rather than having to defend the model as new information becomes available.

Two of these models are considered in some depth; the positive psychology approach to SUD, which matches the design of the TRP quite well, and the model that informed some of the linguistic elements of the TRP's design, that of NLP (Neuro Linguistic Programming) which is not part of mainstream research on the whole and has a troubled academic reputation, important issues that will be critically appraised.

### **Neuro Linguistic Programming (NLP)**

NLP has had a mixed reception, being popular with the public but mainly discounted by mainstream psychology (Karunaratne, 2010). This section discusses the issues that have created this situation and considers what is required from the field to develop credibility. Developed in the 1970s by a team lead by Bandler, Grinder and Pucelik (Grinder & Pucelik, 2013), it began as a modelling project, attempting to identify common patterns of intervention and thought processing in a range of psychotherapists and academics (Perls, Satir, Erickson, Bateson, Korzybksi, Rogers and Watzlawick) (Bandler, Grinder, & DeLozier, 1975; DeLozier & Grinder, 1987; Grinder & Pucelik, 2013).

These diverse original influences have resulted in some variance in definitions of NLP depending on the focus of the authority, Grimley notes 14 in his paper on ‘what is NLP?’ (2016). The Concise OED’s definition is: ‘a system of alternative therapy intended to educate people in self-awareness and effective communication, and to change their patterns of mental and emotional behaviour.’ (Soanes & Stevenson, 2006).

### **Research, Criticism and Debate**

Bostic St Clair (Grinder & Pucelik, 2013) posits that the looseness in formulation of NLP may have provided some scope for creativity, with every session typically tailored to that client in that moment, rather than reproducing generic intervention strategies. However, this also created a lack of standards of training and delivery in practice (Grimley, 2016) and this variability produces serious research methodology issues and difficulty in evaluating NLP as a single field.

This uncertainty has been added to by the results produced by the earliest attempts to evaluate NLP (Einspruch & Forman, 1985, 1988; Sharpley, 1984, 1987), which found little supportive evidence of a presumed link between eye movements, language and mental processing. However some commentators consider these studies to have methodological and conceptual flaws (Gray, Wake, & Cheal, 2012) noting the narrow research focus into particular aspects of NLP that were not considered central to it by experts in the NLP field, such as eye movements, and a lack of understanding of what was being measured. However, this arguably poorly constructed research became part of an initial evidence base that was referenced and directed future studies (Gray et al., 2012).

A more robust research approach has resulted in a range of published papers, (Arroll et al., 2017; Bigley et al., 2010; Cheal, 2007; Genser-Medlitsch & Schütz, 2004; Gray et al., 2012; Grimley, 2016; Hollander & Malinowski, 2016; Karunaratne, 2010; Kudliskis, 2013; Kudliskis & Burden, 2009; Linder-Pelz, 2010; Ojanen, 2005;

Sahebalzamani, 2014; Sahi & Määttä, 2013; Sterman, 1991; Stipancic, Renner, Schütz, & Dond, 2010; Sturt et al., 2012, 2012; Tosey & Mathison, 2003; Wake, Gray, & Bourke, 2013; Wake & Leighton, 2014; Witt, 2008) which begin the overdue process of creating an evidence base. A recent meta-analysis (Zaharia, Reiner, & Schütz, 2015) which considered trials of NLP as a psychotherapeutic intervention, whilst recognising, ‘there is a major lack of high-quality data from observational, experimental studies or randomized trials on this field...’ concludes ‘Our meta-analysis review found evidence to support the positive effects of this form of psychotherapy (Zaharia et al., 2015, p. 361).

In spite of this small but growing evidence base, NLP appears to have become stigmatised, as noted by the authors of a paper on NLP’s brief phobia cure for heights (Arroll et al., 2017) who reported that their paper was originally rejected by a well-respected journal, along with the advice to remove the references to NLP in order to achieve publication (Arroll & Henwood, 2017). The authors reported that when this singular change was made, publication was achieved. This has the potential to create a vicious circle where NLP can be dismissed as an approach for having no evidence base, but is obstructed in creating an evidence base, in which it is explicitly named, because it isn’t considered a valid approach.

Much of the criticisms of NLP appear to stem from the difficulties (Grimley, 2016) in creating robust research in fields currently without established academic structures, credibility or funding. This creates obstacles for evaluation of the efficacy of these approaches and continues the cycle of reliance on anecdotal reports by proponents and dismissal by detractors for lack of an evidence base. One proposed solution is for those involved in NLP to engage more in research (Grimley, 2016) together with a more substantial interest in research from the mainstream academia, but that interest appears to have not yet recovered from the un-promising findings and issues of the earliest research.

### **Positive Psychology**

The integrative approach of positive psychology (2000), which combines the scientific research method with diverse ideas including, amongst other things, an evaluation of ancient Buddhist meditative practices, became formalised during Seligman's presidency of the American Psychological Association in the late 1980s. Seligman and fellow researchers, especially Csikszentmihalyi, noted that much of the research had been driven by a need to understand psychopathology, yet very little research has been done in what makes a 'good life' (Seligman & Csikszentmihalyi, 2000). They argued that although undertaking psychopathological research was important, it was to some extent focusing on an unrepresentative minority of the population. They considered that there would be value in studying how the well-being of the majority of the population could be increased in addition to efforts to understand and take care of those with psychopathology. Proponents also stress that the approach is not intended to replace non-positive psychology – referred to as 'psychology as usual', avoiding the potentially pejorative term 'negative psychology'- but is "intended as a supplement, another arrow in the quiver" (Seligman & Pawelski, 2003, p. 159)

Some have argued that not enough credit has been given to humanistic psychology as the forerunner and major influencer of positive psychology and point to the fact that Maslow originally used the term 'positive psychology' as a chapter title in 1951 (Rich, 2001). However, prominent authors in the field recognise that, "Positive psychologists did not invent positive emotion or well-being or good character" (Duckworth, Steen, & Seligman, 2005, pp. 633–634).

This recognition is echoed in many papers and books in the field including in Vaillant's work on AA where he notes that;

*Alcoholics Anonymous (AA) works because it discovered the use of positive emotions as a therapeutic tool 50 years before academic psychology discovered Positive Psychology. (2014, p. 1)*

Others criticise the movement from a number of perspectives; suggesting its premises are based on circular reasoning, where people who are by 'nature optimistic, amiable and untroubled by worries or doubts are happiest, when happiness is defined as a state of being optimistic, amiable and untroubled by worries or doubts.' (A. Miller, 2008, p. 205). Others are concerned that it insists 'everyone be happy' (Ehrenreich, 2010) or that positive psychology has become indistinct from self-help/positive thinking and has lost its focus on scientific evidence (Coyne & Tennen, 2010). These assertions are ones that proponents argue as unsubstantiated simplifications of their perspective (Seligman, 2011), or misrepresentations of their position (Aspinwall & Tedeschi, 2010). The latter noting that the perspective the Coyne paper presents as representing positive psychology is the antithesis of that actually held by positive psychology, which aims to bring rigorous research into the field. It concludes, re-iterating that the narrow focus of that paper (into approaches to cancer) is unrepresentative of the research into positive psychology and health and conclude that more rather than less research, as suggested by Coyne et al (2010), is needed. On reading these exchanges, the rebuttals that Coyne's, Ehrenreich's or Miller's perspectives, are reducing the positive psychology arguments to unrepresentative simplifications, seem to appear valid. Additionally, it is hard to see how the calls for less research help clarify the usefulness or not of the approach. However, there is some evidence that opinions not based on research evidence are driving some of these arguments, as Seligman refers to Ehrenreich as Barbara ('I Hate Hope') Ehrenreich (Seligman, 2011). In turn, Ehrenreich appears to blame positive psychology, amongst

others, for the economic downturn in her book 'Bright-sided: How the Relentless Promotion of Positive Thinking Has Undermined America' (2009) whilst attacking Seligman and his morals (Van Nuys, 2010).

### **Positive Psychology and Links to Other Approaches**

Supporters of the field point to the origin of much of the criticism being due to a blurring of the lines between the adoption of some of its ideas by the general public for self-improvement and the movement as a scholarly discipline (Krentzman, 2013).

Although there is a drive to differentiate the movement from the field of 'self-help' (Seligman, 2011), it is also argued by researchers working in both fields that they have some aspects in common with other approaches (Cheal, 2007; Parker, n.d.). Examination, for example, of two core interventions, the 'three good things' (Seligman, Steen, Park, & Peterson, 2005) and the 'best possible future self' (L. A. King, 2001), evidence that they appear in many other approaches, predating their descriptions in positive psychology.

'Three good things' is a technique of refocusing on what has been good and being grateful for it. It has a strong forebear in gratitude practices; giving of thanks, saying of grace or being grateful are practices core to many of the world's religions, including Buddhism, Daoism, Confucianism, Christianity (the Eucharist is derived from a Greek word for thanksgiving), Judaism, Hinduism. Similar ideas also appear in earlier therapeutic textbooks, notably in NLP and brief solution-focused books in the 1970s as 'reframing', (Bandler & Grinder, 1979), as a key part of working with inner conflict (Andreas & Andreas, 1989) and a specific practice (Yapko, 1998). The 'best future self', imagining your future with everything having gone as well, can be seen in many other approaches that predate its appearance in Positive Psychology, including Erickson's pseudo-orientation-in-time process, first published in 1934, (Erickson, 1980b), the coaching 'miracle question' (de Shazer, 1979) and the NLP 'what if?' frame and 'future pacing'

practice (Bandler & Grinder, 1979). Many of the key constructs of positive psychology also have strong similarities with previously described ideas and 'flow' is one such example. Introduced by Csikszentmihalyi (1991) 'flow' is described as a state of such absorption that the individual loses their sense of themselves and is identified by experiencing a number of the following:

1. Clear goals that, while challenging, are still attainable.
2. Strong concentration and focused attention.
3. The activity is intrinsically rewarding.
4. Feelings of serenity; a loss of feelings of self-consciousness.
5. Timelessness; a distorted sense of time; feeling so focused on the present that you lose track of time passing.
6. Immediate feedback.
7. Knowing that the task is doable; a balance between skill level and the challenge presented.
8. Feelings of personal control over the situation and the outcome.
9. Lack of awareness of physical needs.
10. Complete focus on the activity itself.

This description shares many similarities with that of the phenomenon of hypnotic trance states or 'naturally occurring trances' described in Erickson's non-authoritarian work, in Rossi's volumes of his collected papers (Erickson, 1980a) which include:

1. Changed, and often limited, focus of attention
2. Sense of absorption in event/memory
3. Sense of disassociation from the immediate environment
4. Lack of awareness of time
5. Lack of awareness of physical needs, or one's body

## 6. Immersion and enjoyment in internal experience

With the defining characteristics of a ‘positive intervention’ that is ‘an intervention, therapy, or activity primarily aimed at increasing positive feelings, positive behaviors, or positive cognitions, as opposed to ameliorating pathology or fixing negative thoughts or maladaptive patterns’ (Sin & Lyubomirsky, 2009, p. 469) as a guide, aspects of many approaches from more mainstream and alternative perspectives including CBT, brief solution orientation psychotherapy, Ericksonian psychotherapy and the TRP could be considered to be within the gamut of positive interventions (Karwoski, Garratt, & Ilardi, 2006; Korthagen, 2009; Linder-Pelz, 2010). These blurred lines of what is included within the field and the precise provenance of the ideas could be used constructively to provide a common language between researchers and a wide range of clinicians from different disciplines. The resulting dialogue may allow the extensive clinical experience of those delivering these and other positive intervention type techniques to be more accessible to those with a research interest of the positive psychology movement to create a valuable portfolio of robustly evidenced integrative therapeutic options.

### **Broaden and Build**

A key concept of positive psychology of value to those with SUD is the broaden and build theory (Fredrickson, 2004). This suggests, in a similar way to Kahneman’s (2011) theory of system 1 activation, that in fear, stress and urge type experiences our specific action tendencies and thought–action repertoires are limited, which makes choosing the best course of action faster and easier in time-pressured circumstances. These ‘urgent need’ responses are suggested to have their roots in earlier human evolution where the need to respond rapidly to sudden threats was common and advantageous. Switching to situations which involve experiences such as exploration, engagement, play and opportunity rather than ‘response to threats’ broadens the range of thought–action

repertoires available at that time. This, in turn, recruits activation in more areas of the brain with more opportunities through neuroplastic processes for new and more flourishing pathways, as Frederickson concludes, suggesting that positive emotions:

*broaden people's attention and thinking; (ii) undo lingering negative emotional arousal; (iii) fuel psychological resilience; (iv) build consequential personal resources; (v) trigger upward spirals towards greater well-being in the future; and (vi) seed human flourishing. (Fredrickson, 2004, p. 1375)*

Following this theory, those with SUDs are more likely to be reinforcing and developing pathways with limited behavioural choices and enhancing their experiences of negative emotions. This has the potential to increase a further downward spiral by attempting to resolve their increasing stresses and urges with the same limiting choices that help produced those stresses initially. Researchers (Andrei & Paraipan, 2015; R. J. Burke & Fiksenbaum, 2009; Garland et al., 2010; Krentzman et al., 2015) propose that finding ways to help an individual with SUDs develop more flourishing behaviours and pathways builds an upward spiral with an increased awareness of choices and resilience. Developing these attributes will assist them in moving on from the SUD, and it is a concept that is also central to the development of the TRP approach.

### **Positive Psychology and SUD Research**

To date, the research into positive psychology and SUD is limited but growing, as Krentzman notes in the review of the applications of positive psychology to SUDs (2013). She notes a lack of studies in clinical populations, with the sole clinical study also being the only one utilising an experimental group with a wait-list control group (Akhtar & Boniwell, 2010). It also notes a number of limitations with the studies including results from potentially non-generalisable samples (Caucasian college students or those in high-

income households), cross-sectional designs, and the issues that presents with drawing inferences of causation, small samples sizes and shortening of some measures.

The review notes that although a body of research exists in this field, considering altruistic behaviours, spirituality, focusing on increasing one's quality of life, gratitude and humour, much of it has not been connected specifically to this emerging application of the positive psychology approach (Krentzman 2013). Some of the key studies are briefly reported below:

Positive psychology-based research includes a number of evaluations of which character strengths appear to be most associated with low risk of problematic drinking (Logan, Kilmer, & Marlatt, 2010), recovery (McCoy, 2009), experimenting (Lindgren, Mullins, Neighbors, & Blayney, 2010). There is some debate, which matches the arguments about impulsivity having positive and negative aspects, as to whether strengths are purely positive, and that an over-use of a particular strength, such as curiosity, could in some circumstances, such as drug use, become problematic (Grant & Schwartz, 2011).

A series of evaluations of AA experience all suggested that AA participation may have a beneficial impact on positive psychology variables including, life satisfaction, purpose and flow. These included a consideration of AA a spiritually grounded model of recovery (Galanter, 2007) and AA as a source of positive emotions such as joy and developing altruistic qualities (Vaillant, 2014). A third study found a significant association between spirituality, purpose in life, gratitude and optimism, and attendance of AA approaches (Zemansky, 2006).

A further set of studies considered positive and negative effects of continuing or stopping smoking (Mojs, Stanisławska-Kubiak, Skommer, & Wojciak, 2008) or drinking (Ciarrocchi & Brelsford, 2009). The formers smokers were found to be happier than both smokers and non-smokers; and amongst the drinkers it was observed that drinking to

manage problems was not very effective, reducing positive affect and increasing negative affect.

An evaluation of familiarity, use and appropriateness of positive psychology techniques (Krentzman & Barker, 2016) amongst substance use counsellors identified two key issues. First, the concern of the counsellors of positive approaches potentially being substituted for required psychopathology approaches and second, the prevalence of some positive psychology type interventions being used as standard in the counselling sessions.

These studies identify that there is a growing interest in positive psychology within SUD, but the evidence base is currently small. It suggests the need for more robust research, with controlled trials, to fully evaluate the effects of this promising approach that has much to add to the recovery agenda.

### **Flourishing and SUD Research**

Flourishing (Diener et al., 2009; C. L. M. Keyes, 2002; Seligman, 2011) is a concept that encapsulates positive psychology's expansive perspective on alcohol and substance use, adding a consideration of complete mental health to previous primarily psychopathological views (Krentzman, 2013). It is defined as "filled with emotional vitality . . . [and] functioning positively in the private and social realms of their lives" (C. L. M. Keyes & Haidt, 2007, p. 6). 'Flourishing' is noted as being more than simply 'hedonic happiness' as it includes the importance of fulfilment in the development of 'the good life' (Seligman, 2011), a concept that embodies the stated aims of positive psychology (Schotanus-Dijkstra, Pieterse, et al., 2016). Seligman (2011) emphasises this noting that, statistically, parents are less happy than their peers who are childless, who often have more freedom, more disposable income and more time. However, when fulfilment is also factored in, and the contention is that children will increase parent's

fulfilment, it is argued that this combination of happiness and fulfilment result in a deeper sense of flourishing than could just be achieved through happiness alone.

Keyes further develops this by suggesting that mental health does not occur when an individual has no diagnosable mental illness. He notes that almost half of adults receiving mental health services every year do so when there is no diagnosable disorder (C. L. M. Keyes, 2005), and that the two are not just opposite ends of a bipolar dimension, but separate and correlated, unipolar dimensions. He suggests the mental illness dimension relates to the presence or absence of symptoms of psychopathology, such as major depressive episodes, SUD, etc., and the mental health dimension relates to the presence (flourishing) or absence (languishing) of well-being. He further suggests 'complete mental health' should be considered to be a combination of both these dimensions (the absence of mental illness and presence of flourishing) (C. L. M. Keyes, 2002).

This focus on complete mental health appears to fit well with the UK government agenda of building recovery capital (Cloud & Granfield, 2008) and the role of patient activation and self-management (Addicott et al., 2015) to sustain lasting recovery from SUD. Therefore it might provide additional solutions for improving the rates of those being discharged from UK drug services in a managed way, currently reported as 22% of those in contact with structured drug services (NTA, 2017).

Extensive work (Diener et al., 2009; Fredrickson & Losada, 2005; Huppert & So, 2013; C. L. M. Keyes, 2015; C. L. M. Keyes & Haidt, 2007; Venning, Wilson, Kettler, & Elliott, 2013) on defining and measuring flourishing has resulted in the 8 point flourishing scale:

1. I lead a purposeful and meaningful life
2. My social relationships are supportive and rewarding

3. I am engaged and interested in my daily activities
4. I actively contribute to the happiness and well-being of others
5. I am competent and capable in the activities that are important to me
6. I am a good person and live a good life
7. I am optimistic about my future
8. People respect me

(Diener et al., 2009, p. 154)

The recovery agenda (Strang, 2012) with its recognition that the factors which support abstinence, or restore functional substance use, need to be encouraged and measured as much as the change in substance use itself, fits well with the concepts of flourishing. However, there is very little research on measuring flourishing in SUD. Additionally, the relationship between flourishing and impulsivity, a factor that is considered to be important in the development and maintenance of SUD, appears to not have been researched, with a search for impulsivity AND flourishing returned no relevant results from PubMed and PsycINFO. This may be a result of the relatively recent recognition of the importance of researching flourishing generally, and specifically in the relationship to impulsivity issues.

As developing flourishing is a core element of the TRP approach, a systematic review, presented next, was undertaken to more fully evaluate the current evidence base on the value of measuring flourishing in SUD. This provided an opportunity to identify any gaps in the evidence base, which would then inform the design of the research with the aim of developing that evidence base.

### **CHAPTER 3: THE UTILITY OF MEASURING FLOURISHING IN SUBSTANCE AND ALCOHOL USE DISORDERS RESEARCH; A SYSTEMATIC REVIEW**

In the previous chapter the literature review noted the increasing research interest into positive psychology approaches for alcohol and substance use disorders. However, it also identified that a specific focus on identifying the value of measuring flourishing, a key concept in positive psychology, in these disorders, as opposed to the traditional measurement of psychopathology, has not been reviewed. A systematic review was therefore undertaken to examine the utility and value of measuring flourishing in the SUD field by identifying all peer-reviewed published studies, including quantitative and qualitative studies and related reviews, into flourishing and SUD using two major electronic databases (MEDLINE and PsycINFO).

#### **Specific Use of the Term ‘flourishing’**

The term flourishing is sometimes used interchangeably with well-being and happiness, and as a result, others note (Schotanus-Dijkstra, Pieterse, et al., 2016), research has often focused on the components of flourishing, the levels of hedonic well-being (the desire for pleasure and happiness) or eudaimonic well-being (the cultivation of personal strengths and contribution to the greater good), and less on the investigation of the comprehensive state of flourishing. This has resulted in findings that are difficult to compare due to the various operationalisations of ‘flourishing’ used. The focus of this review therefore, is to consider the use of the specific term ‘flourishing’, as opposed to less well-defined or more limited measures of well-being or its variants, in SUD, and the following two questions were considered:

What is the evidence that the concept of flourishing is used in the SUD field?

What is the evidence that measuring flourishing in the SUD field has any value?

### Materials and Methods

Two electronic reference databases (PubMed and PsycINFO) were chosen to capture a wide range of psychologically-based research and searched using full text keywords to increase the amount of results retrieved (Eady, Wilczynski, & Haynes, 2008; Montori, Wilczynski, Morgan, & Haynes, 2005; K. A. Robinson & Dickersin, 2002). The search terms initially used were:

- 1) Flourish\* (the use of wildcard symbol was used to capture data on ‘flourishing’ as well as ‘flourish’)
- 2) Substance
- 3) Alcohol
- 4) Addiction. Although this term is currently rarely used in the field it was included to identify relevant papers utilising this once common term
- 5) “Positive psychology”. As the first 4 terms produced few results a final more generic search term was added to avoid missing the inclusion of flourishing and SUD in other relevant papers.

The terms were used with two sets of Boolean operations of:

(1 AND 2) OR (1 AND 3) OR (1 AND 4)

and

(5 AND 2) OR (5 AND 3) OR (5 AND 4)

The criteria for inclusion in this review were set in order to capture a wide range of peer-reviewed published material in this relatively new research subject. Quantitative studies, including those with cross-sectional designs, qualitative studies, mixed-methods studies and reviews published in peer-reviewed journals were included. Articles that were primarily commentaries in studies were included, but books, undergraduate thesis, grey literature, newspapers and magazine articles were excluded (McGinn, Taylor, McColgan,

& McQuilkan, 2016; Sampson et al., 2009). No date limit was set on publication dates for inclusion. Results were required to include relevant uses of the word flourishing, in the context of languishing/flourishing mental health and records that did not meet this criterion were excluded (e.g.; the demand for drugs is flourishing; addiction is flourishing). Results, particularly some of those returned by search term 5, focusing generally on well-being, or solely eudemonic or solely hedonic well-being rather than the comprehensive state of 'flourishing' were excluded, for the reasons set out in the section on the specific use of the term flourishing.

This review's report conforms to the recommendations from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement (PRSIMA) (Moher, Liberati, Tetzlaff, & Altman, 2009) (see figure 3.1)

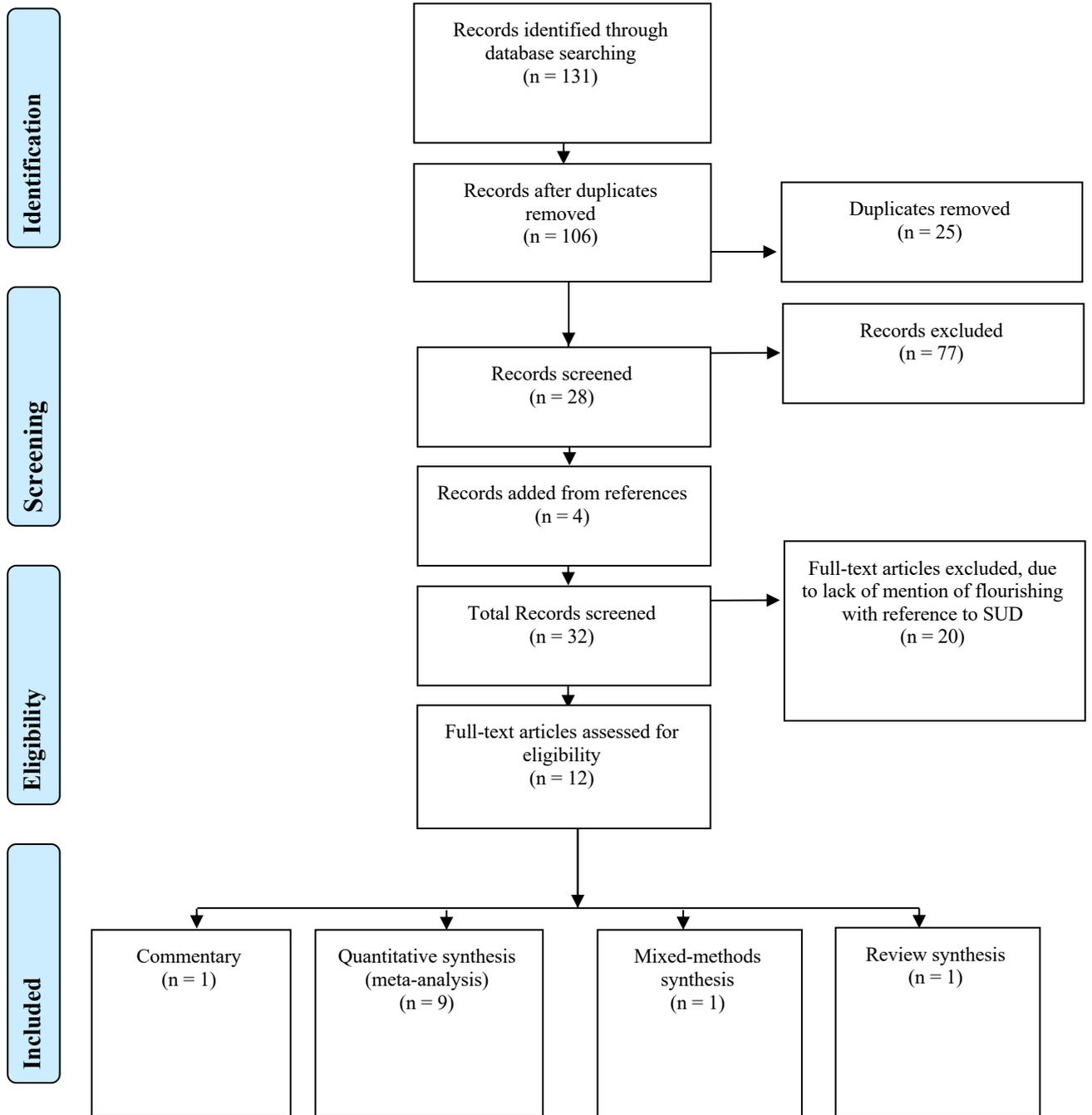


Figure 3.1: PRISMA 2009 Flow Diagram

### Literature Search Results

The reference database searches of terms 1 to 4 initially provided a small set of results (PsycINFO = 23, PubMed = 19). With the addition of term 5, subsequent searches yielded a further 89 results (PsycINFO = 76, PubMed = 13). This produced a total of 131 (PsycINFO = 99, PubMed = 32) (see figure1).

A filtering process was applied to exclude duplicates ( $n = 25$ ), and the remaining records 106 were screened for eligibility. Applying the inclusion criteria resulted in 28 studies being identified as potentially eligible; on examination of these studies, a further 4 studies were identified as potentially valuable through reviewing their references, producing 32 potentially relevant studies for potential inclusion.

Each paper was reviewed by the author to ensure the relevance of the word ‘flourishing’ related to SUD or alcohol use issues and was in the appropriate context for this study. A few studies (Akhtar & Boniwell, 2010; Best et al., 2016) were considered for inclusion which on close examination showed some similarities to the concept of flourishing, but as the term itself was absent it was decided that they did not meet the strict inclusion requirements for this review. 20 further papers were excluded at this stage.

The remaining 12 studies and reviews were assessed for quality using the NIIH study quality assessment tools (2014) first by the author, and then by Dr. Sam Banbury to ensure both assessments were replicable and reliable, as per the NIIH required structure; any areas identified by the tool as possible sources of bias were evaluated as to their potential effect on the results reported, and any rated as ‘poor’ were to be excluded at this point. Although all remaining papers passed this assessment (see Appendix D) and generally scored well when assessed for clearly stated study objectives, clearly defined populations, high participation rates, use of valid measures, inclusion and exclusion rates, and good acknowledgement of study limitations, there were a few identified limitations.

These limitations included some evidence of sampling bias and/or non-representative samples (although such limitations were noted by the researchers in those studies). Most studies were cross-sectional or single-time point measures which diluted or limited their ability to identify the strength of the findings or suggest causal relationships. Also, often there was no justification for sample size. This produced a final collection of 12 studies.

### **Review of the Studies**

#### **Study Design**

Of the 12 remaining results, 9 were quantitative studies, 1 was mixed-methods, 1 was a commentary and 1 was a review. All of the quantitative studies, with the exception of one empirical longitudinal study (McGaffin, Deane, Kelly, & Ciarrochi, 2015), were cross-sectional and none of the studies involved control groups or randomisation, favouring factor analyses, exploring utility of concept, the value of flourishing as a predictive tool of future health and associations between flourishing and a variety of outcomes.

The studies were undertaken in a number of countries; a review which assessed literature from multiple regions, 6 studies in USA, 1 in Canada and 1 in Netherlands, 1 in Finland and 1 in Australia (the commentary paper included in the review was on this Australian study). The earliest study had been undertaken in 2005, highlighting how recent a development this is in the field. The sample size for the mixed-method study was 9, for the other studies it ranged from 380 to 101,257 ( $M = 15,353$   $Md n = 1459$ ). Eight of the studies focused on adults; in the four other studies, one focused solely on adolescents, 12-18 years (C. L. M. Keyes, 2006), a second ranged from 15 years upwards (Gilmour, 2014) a third, was of undergraduates who ranged from 17-23 years (Barber, Bagsby, & Munz, 2010) and a fourth, of students enrolled in the first 2 years of college, did not report age ranges (Fink, 2014).

All studies, but two (Barber et al., 2010; Low, 2011), identified gender distribution in the samples, with a range reported from 44.4% female to 70% male. Race distribution in the samples was not widely reported, but when it was, showed 78% to 88.9%, reporting as 'white' or from non-underrepresented minorities.

It is of note that none of the quantitative studies reported here were set in a specific drug or alcohol service environment, with the Salvation Army study being the closest to that environment (McGaffin et al., 2015) and the mixed-methods study being set in a drug service but involving counsellors rather than service users (Krentzman & Barker, 2016). Other studied environments include remote ones, such as population database studies, a community developed in response to a TV reality programme and college campuses.

The reviewed studies fall into three main categories; (1) those exploring the validity of the construct that flourishing is separate from mental health in relationship to SUD and is relevant to SUD; (2) those exploring the value of measuring flourishing in those with SUD; and (3) those exploring service staff perspective on the use of flourishing.

### **The Value of Measuring Flourishing in Those with SUD**

These studies have been categorised according to their environmental setting.

#### **Database Studies**

A number of studies have utilised existing databases to examine the associations between flourishing and mental health, including SUD.

**Adolescent study.** A USA-based study (C. L. M. Keyes, 2006) evaluated the prevalence of conduct problems amongst adolescents ( $N = 1234$ ) including the use of alcohol, marijuana and inhalants. Data was provided by the Child Development Supplement (CDS) of the Panel Study of Income Dynamics (PSID), an ongoing survey begun in 1968 in the USA. The 12 subjective well-being measures (adapted from the

Midlife in US (MIDUS) survey), Child Depression Inventory (Kovacs, 2014), global self-concept scale (Marsh, 1990) and a questionnaire about relationships with others, were administered between 2003-2005 to youths between the ages of 12 and 18. The study found an inverse linear relation between mental health (flourishing) and conduct problems; as mental health increased, measures of psychosocial functioning increased and the prevalence of conduct problems including alcohol use, cigarette smoking, and use of marijuana decreased. The study also supports Keyes' earlier work on adults (2005), that posits that mental health and mental illness are separate dimensions, as although estimates of mental disorders in youth imply that 80% of youths are free of mental illness, only 40% of the adolescent population are in good mental health (flourishing). Although there are potential limitations of this study, including the self-reporting of substance use and symptoms, and the absence of corroboration by expert clinical judgments of the mental health diagnoses, it suggests that encouraging flourishing is a valuable goal in the prevention of substance and alcohol misuse.

**Netherlands study.** This recent study (Schotanus-Dijkstra, ten Have, Lamers, de Graaf, & Bohlmeijer, 2016) evaluated data from 4482 participants in the Netherlands Mental Health Survey and Incidence Study-2. Mental health (flourishing) was assessed using the Mental Health Continuum – Short Form (MHC-SF) (Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011) and DSM-IV mood, anxiety and substance use disorders were measured using Composite International Diagnostic Interview (CIDI) 3.0 (Kessler & Üstün, 2004) over a 3 year period. This study is significant as being the first to examine the longitudinal relationship between mental well-being and substance use disorders. It reported that the 3 year incidence of each mental disorder category was significantly lower for flourishers than for non-flourishers ( $p < .05$ ) with flourishing reducing the risk of mood disorders by 28% and anxiety disorders by 53%, but that

flourishing did not significantly predict reduced incidence of substance use disorders ( $p = .077$ ). These flourishing/SUD findings support the work of Low (2011) but are at variance with the other studies reported here. On further evaluation of this finding, by removing the influence of positive life events and social support from regression models, the authors noted an improved prediction of reduced incidence of SUD in those flourishing. They suggest that the inter-correlations between social support, positive life events and mental well-being explain these findings and could be important avenues for further research. The strength of the study's sampling method and longitudinal design were potentially limited by self-reporting, use of categories for mental disorders, incomplete recall and attrition levels due to the timescales required by a longitudinal study.

### **Novel Studies**

The Finnish Happiness-Flourishing Study was a large web-based cross-sectional study of 101,257 (Joutsenniemi et al., 2013) run in collaboration with the National Institute for Health and Welfare, a TV production company and medical publishing company. The study was designed to promote positive health in Finland and to evaluate confidence in the future, health-related behaviour and psychological distress. Participants used the Happiness-Flourishing Scale (Joutsenniemi, 2014) to identify their sources of happiness, and an online survey was used to assess confidence in the future, which is a dimension of optimism, a key element of flourishing (Peterson & Chang, 2003), smoking, alcohol consumption and binge drinking, along with other factors. The findings were that participants with high confidence in the future were less likely to be binge drinkers (men 0.57; 0.52 to 0.63; women 0.54; 0.50 to 0.57) than those with low confidence in the future. The study benefitted from a large sample but issues of self-selection of participants and self-reporting may need to be taken into account when considering the results.

### College Studies

Three studies considered the correlation of flourishing with mental health including substance use. Fink's study of 1,459 undergraduates from two year groups considered the predictive effect of various factors, including the emotional consequence of alcohol use, on mental health (measured with MHC-SF). The study noted that there was a significant ( $p < .01$ ) negative effect on the mental health score of students in one year group reporting more emotional consequence of alcohol, but that this association did not replicate in the other year's sample. The study noted that as a tool the MHC may not fully recognise the complexity of an individual's mental health state, it suggests that the finding that emotional consequences of alcohol use negatively predictive students' mental health should inform college administrators to consider alcohol-free programmes.

Low's study (2011) of 428 first year students also used self-reports and MHC-SF to measure flourishing and substance use; the study found 63.9% of students reported consuming alcohol, of these, average consumption was 3.3 ounces (SD = 5.8) of alcohol per week, with an average of 2.0 (SD = 2.6) drinks per sitting. 14.2% of students reporting binge drinking defined as 5 or more drinks at a sitting for men or 4 or more drinks for women. 8.7%, reported smoking marijuana on a weekly basis. There were no significant differences in alcohol consumption or marijuana use based on mental health category and a two-way chi-square analysis of binge drinking by flourishing status was not significant, indicating that bingeing and flourishing were not associated in this sample. Similarly, the correlation between binge drinking and the MHC-SF was nonsignificant ( $r = .032$ ,  $p = .52$ ). These finding are at odds with the majority of other studies reported here, with the exception of Schotanus (2016), and the study's author considers whether in a student sample alcohol consumption is so common that it isn't considered to be a marker of

mental health for that cohort, a factor which may be consolidated via the use of self-reporting measures.

The final study of 380 students, reported here, by Barber (2010) collected responses via an online survey and measured a positivity ratio (Fredrickson & Losada, 2005) of 19 different emotions and a trait-version of Measure of Affect Regulation Styles (Larsen & Prizmic, 2016) to evaluate 32 affect regulation strategies. The analysis used both discriminant function analysis (DFA) and analysis of variance (ANOVA) to examine affectivity group membership in relation to the affect regulation strategies. Results indicated two statistically significant canonical discriminant functions, the first accounting for 62.4% of the variance in affectivity distinguishing between languishing and non-languishing affective health, and the second accounting for 21.2% of the variance in affectivity group membership, and distinguished between individuals with flourishing vs. moderate affective health. The study concluded that those languishing were more likely to use 'avoidance strategies' like alcohol use, amongst other strategies, to 'get out of a bad mood' than those flourishing, who were more likely to try and understand a situation, focus on what was good in life, etc.

### **Salvation Army Study**

The Australian study (McGaffin et al., 2015) studied 'Flourishing after addiction' in 794 participants who attended a residential substance use programme, and followed them up collecting data at 3 and 6 months post-discharge. Compared to the general population (C. L. M. Keyes, 2005) they had higher rates of languishing at entry to treatment, but higher rates of flourishing at all other time points compared to community normative data. A Friedman two-way ANOVA was used to investigate differences in diagnoses over time. The results indicated that there was a statistical difference in the categorical mental health continuum scores at each assessment  $\chi^2 (2, N = 111) = 24.33$ ,

$p < .001$  and pairwise comparisons with the Wilcoxon Signed Rank test and a Bonferroni adjusted  $\alpha$  of 0.017 indicated that there were significant differences between baseline (Mean Rank = 1.71) and 3 month follow-up (Mean Rank = 2.18),  $p < 0.001$ , and baseline and 12 month follow-up (Mean Rank = 2.12),  $p < 0.001$ . There was no significant difference between the 3 and 12 month follow-up mental health diagnoses ( $p = 0.38$ ). A mixed-design ANOVA was used to investigate complete mental health and substance use (abstinent or using) at 3 month follow-up. The authors found a significant interaction between continuous mental health and substance use  $F(2, 218) = 4.92, p < .01$ , partial  $\eta^2 = 0.04$ , with mental health rating higher, and craving lower, amongst those abstinent compared to those using. The study was subject to high attrition rates in the 3 and 6 month follow-up common in this client population, and does not have a control group, but despite these limitations the study provides a valuable insight into mental health, flourishing and recovery. The authors report that in spite of the evidence of the comorbidity of substance use and mental illness, that this is the first study to investigate the prevalence of mental health in substance misuse. The commentary article by Keyes (2015) relates these findings to his, and others', work, and adds some further complexity to the field by positing that flourishing might be related to risk-taking behaviours that favour alcohol use in certain age groups, as mentioned by Low (2011), but protect against developing misuse in later years, suggesting that the role of flourishing in alcohol use might vary with stage of life or age.

### **Service Staff's Perspective on the Value of Flourishing**

This mixed-methods study (Krentzman & Barker, 2016) evaluated the extent of use of positive psychology interventions and concepts, including flourishing, within standard drug use counselling approaches and compared the perceived value of positive psychology approaches to pathology-based ones. The quantitative section utilised a

questionnaire of topics from both positive psychology and pathology-based approaches to identify how many times the themes were addressed directly with clients in the previous week. The qualitative section provided participants with quotations from positive psychology research on interventions and concepts prior to conducting face to face interviews. The quantitative data were analysed and showed that 45% to 64% (mean 52%, SD 7%) of topics discussed with clients were positively-based, suggesting approximately even usage of pathology and positive based themes. No significance was seen in a Pearson's correlation ( $r = -.56, p = .115$ ) between this variable and counsellors' years of practice experience, however, the size of the  $r$  value suggested more research with a larger sample might show clearer correlation. It was also noted that the correlation showed a negative relationship, with the use of positive themes was more associated with those who had been practicing for a shorter time, suggesting that as years of practice increase, time spent on positive themes decreases. A difference was also noted between counsellors in residential or outpatients settings, with the former being more likely to use positive topics (means of .60 vs. .48, respectively,  $t(7) = 5.73, p < .01$ ).

The qualitative interview data was transcribed and validated independently, then co-developed, by the two authors, who identified four themes; (1) treatment should go beyond initiating abstinence and help clients develop a good life in recovery; (2) counsellors are already using variations of these interventions; (3) positive interventions would be useful because of their potential for countering negative thinking and negative mood; and (4) reservations for using positive psychology interventions.

The study concludes that positive approaches are already widely used in SUD, although an awareness of their specific place as positive psychology interventions was not common, and that these ideas were seen to have value and could be adopted to an even greater extent. There was also some caution expressed that these approaches would not be

suitable as a complete replacement for pathology-based approaches as normal, whilst counsellors noted that the approach fitted well with their desire, noted in Krentzman's earlier paper (2013), for a more recovery-based agenda that extended beyond the goal of simply reducing usage.

### **Discussion**

This systematic review set out to identify the prevalence and utility of measuring flourishing in the substance use field. There are a number of clear conclusions that can be drawn from this review; firstly, there is sparse research into mental health (flourishing), as defined by Keyes as being more than the absence of mental illness (2002), and substance use, with only 12 papers relevantly addressing both those two concepts meeting the inclusion criteria. Secondly, with the earliest paper being published in 2005 (Keyes) this is a relatively novel conceptual approach within the evidence base, although the studies reported here already represent research into flourishing in three languages and eight countries. Thirdly, the existing evidence base is in its early stages of development with all but one of the studies being correlational, or looking for the associations between substance use and flourishing, and the only study (McGaffin et al., 2015) with participants from a specific clinical population of those with substance use, was a non-randomised, uncontrolled study.

The lack of randomised and controlled studies in this developing field limits the quality of the current evidence base and the ability to comment on cause and effect relationships between developing of flourishing through interventions and changes in substance or alcohol use. There are a number of further design limitations with the studies presented here; there are questions from the assessment of quality of the studies as to how the studies were calculated for power; the small sample of the mixed-methods study, and researcher influence inherent in qualitative studies' interviewing, coding and theme

selections; the selective nature of some of these samples such as ‘students in one of the top 25 liberal arts colleges’ (Low, 2011); and issues common to cross-sectional studies, although many reported here are of quite large samples, concerning how representative they are of the general population (Lindell & Whitney, 2001). However, in spite of these limitations, the overall quality of the studies can be assessed to be good as measured by the NIIH assessment tools (2014), and the majority of the studies in the review suggest a correlation between mental health, flourishing and recovery from substance and alcohol use.

In conclusion this review found that the research to date points to a developing field of interest in flourishing and SUD, from researchers and drugs counsellors which might provide some additional solutions for creating sustainable recovery for those with those with SUD.

This review goes some way to determine that it might be useful to measure flourishing more routinely in the field of substance use as a guide to the complete mental health, development of recovery capital (Cloud & Granfield, 2008) and patient activation and self-management (Addicott et al., 2015). These concepts of increased self-management and self-sustaining recovery are becoming increasingly important as a core part of the design of current and future drug and health services. Although some argue this may be partly due to funding and budgetary constraints (Blenheim CDP, 2016; Buck, 2015), the increase in flourishing achieved by an individual recovering a sense of self-efficacy and empowerment within the journey towards recovery, might, from the evidence reviewed here, also be an important factor in sustaining that recovery.

This suggests that developing a new approach that explicitly focuses on increasing flourishing within individuals with SUD appears to be welcomed by treatment professionals and might a valuable addition to the treatment options in the field, and

recommends that further development of and research into such approaches might be of value.

It also identifies a gap in the research that should be addressed by designing and running a preliminary pilot study (PPS) with a randomised controlled structure, within a clinical population of those using substances, of an intervention designed to increase flourishing, that is able to measure changes in flourishing and substance use, to evaluate the effectiveness of the intervention and any association between flourishing and substance usage.

## **CHAPTER 4: THE REDISCOVERY PROCESS**

Evaluating the intervention, The Rediscovery Process (TRP), with its focus on flourishing and SUD, provides an opportunity to address the research gap identified in the previous chapter. This chapter includes the brief descriptions of its origins and the model, with reference to the literature review from Chapter 2, an overview of the approach, together with a presentation of its evidence base, and a comparison with it and MI, CBT and AA.

### **Origin of TRP**

The TRP is a SUD specific version of another established program, the Lightning Process (LP) which had been used to improve outcomes for those with chronic health issues (Crawley et al., 2018; Crawley, Mills, Hollingworth, et al., 2013; Parker, 2012a). Both programmes were developed by the author from the results of an inductive experiential content analysis study, into understanding the underlying issues affecting responsiveness to change (Fraser & Galinsky, 2010; Rothman & Thomas, 1994).

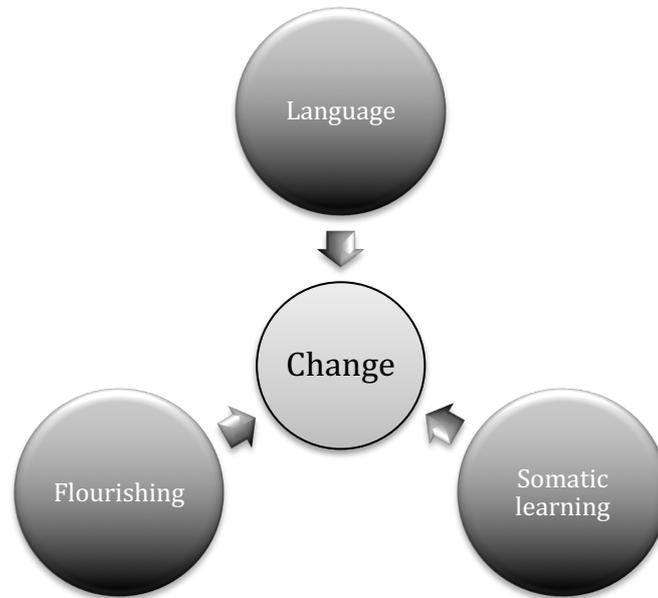
It can be noted therefore that there is the potential for a conflict of interest with this study. Following best practice (Curzer & Santillanes, 2012) options were considered to manage this potential issue. The first, to avoid such situations, was not feasible due to the subject chosen for this study. Instead the second option, of being vigilant of the potential for conflict of interest and having specific supervision to reflect on decisions, was adopted to minimise any effect of these dual roles.

### **The TRP Intervention**

The TRP is a training programme with three aims: first to teach an individual how to make more useful choices, especially around drug use; second to teach an individual to resolve issues in the other areas of their lives that have contributed to development of their current circumstances; and third, to encourage a sense of flourishing.

To provide some insight into its similarities and differences to other approaches and to provide context for the qualitative study, reported later, a brief overview of these elements follows.

### Themes in LP/TRP Model for Change



*Figure 4.1 Themes of the LP/TRP model for change*

Central to the intervention is a consideration of which neurological pathways an individual is activating, and whether they are contributing to the problem or assisting the development of pathways related to flourishing, an idea that is supported by research into positive psychology, synaptic neuro-plasticity, neuro-endocrinology and resilience (Barber et al., 2010; Burgdorf, M. Colechio, Stanton, & Panksepp, 2017; Carney, Cuddy, & Yap, 2010; S. Cohen & Pressman, 2006; Faymonville, Boly, & Laureys, 2006; Posner, Russell, & Peterson, 2005; Quoidbach, Berry, Hansenne, & Mikolajczak, 2010). Particular focus is placed on three conceptual themes of the TRP (see figure 4.1):

How language impacts neurological activity

Using somatic learning to assist changing habitual pathways

### Developing a sense of flourishing within the individual

A brief discussion of each theme follows, and fuller descriptions are provided in Appendices E and F.

### **Language**

The content analysis that was central to the development of the TRP identified two differences between the use of linguistic patterns (Parker, 2013b); the use of symptom-based compared to salutogenic language (Dennis, 2016; Eck, Richter, Straube, Miltner, & Weiss, 2011; Eck et al., 2011; Mathôt, Grainger, & Strijkers, 2017; Richter et al., 2014) and the use of language to express either a sense of agency and the temporariness of a situation or the sense of helplessness and its permanence (Parker, 2011), which reflect concepts identified in Seligman's ideas of learned helplessness (1975), Rotter's Locus of control (1966), the health belief model (Hochbaum et al., 1952) and self-regulation theory (Baumeister, Schmeichel, & Vohs, 2007), and Bandura's Self-efficacy (1977) and, as Bandura notes, the work of the pre-Socratic Greek philosopher Empedokles.

Techniques are taught to recognise and change these patterns in order to change neurological pathway activation. Clearly, an understanding of the effect of language on neurology is not entirely new, but the speed to which this specific language shift provides change is widely reported by participants with health issues (Reme, Archer, & Chalder, 2012), which suggested it might be of equal value to those to SUD.

### **Somatic Learning**

The cognitive and psychological components of this training programme are consistently combined with the more rarely used somatic learning developed from the research in the field of kinesics (Birdwhistell, 1955) and embodied cognition (Lakoff & Johnson, 1980; Varela, Thompson, & Rosch, 1991). For example, increasing the activation of the sense of being able to stop a behaviour (Craton, Lantos, & Leventhal,

2017; Goodill, 2005; McNeill, 1992) by use of specific familiar gestures such as the hand and arm movements often utilised when saying 'stop', or increasing emotional recall physical revivification of the experience (Davis, Senghas, Brandt, & Ochsner, 2010) in conjunction with a detailed remembrance of an event (Hamann, 2001). However, there are some issues with using embodied cognition. Some argue the evidence for embodied cognition is not strong enough to completely support the theory (Mahon & Caramazza, 2008). Others have concerns that using body movements in a training environment can be an unusual experience for the participant more used to traditional teaching modalities, and therefore has the potential to be challenging (Flanagan, 2013), although in clinical use of the TRP these concerns have not arisen. However, the planned qualitative inquiry's evaluation of participant experience will be of value in assessing the potential issues and benefits of this aspect of the approach.

### **Encouraging Flourishing**

A number of strategies are employed to encourage flourishing, these include developing an increased awareness and ability to interrupt ways of thinking or behaving that do not promote flourishing, identifying choices and developing self-coaching.

**Awareness.** The TRP introduces the concept of meta-cognitive self-appraisal (Toneatto, 1999, 2003) which is linked to the concepts of choice, impulsivity and the window of opportunity to interrupt unconscious pathways (Obhi & Haggard, 2004). This assists the individual to consider if they are activating emotional, cognitive and somatic states that will help move them towards their desired future, in this case towards recovery, or not.

This has much in common with ideas in Buddhism of 'being mindful'. However there is one key difference in that ideas of mindfulness often include noticing 'what is', positive or negative, without giving those events any value (Kabat-Zinn, 2003); the TRP

perspective agrees with this but adds to it, by suggesting the participant consider if where their attention is directed to in this moment is ‘life-enhancing’ or not (Parker, 2013b). This is intended to assist with making choices concerning continuing substance-using behaviours and other issues of emotion regulation that support the recovery agenda (UK Drug Policy Commission, 2012) idea of developing recovery capital in as many areas of their life as possible. However, although the intent is to notice the thoughts and to disengage or move on from them, some argue that an increasing an individual’s awareness of their thoughts can potentially lead to rumination (Grøtte et al., 2015; Kolubinski, Nikčević, Lawrence, & Spada, 2016), and one study suggests a linkage between rumination and SUD (Caselli et al., 2010). This issue is addressed in the TRP design by teaching the participants how to then shift their focus to a consideration of choice and then to an activation of a more desired state.

**Interrupt, redirecting focus and self-coaching.** Participants learn to interrupt those disempowering thoughts by delivering a ‘stop’, matched with congruent somatic movements (stance, gestures, voice tone). There are issues reported with simpler stop techniques (Aldao, Nolen-Hoeksema, & Schweitzer, 2010; Wegner, 1989) where it is noted that say “stop to x” makes an individual more likely to think of ‘x’. However, in the TRP the ‘stop’ is an interruptive first step of the process rather than an end in itself. It combines attention-demanding movements intended to occupy the processing resources of the conscious mind (Cowan, 2015; G. A. Miller, 1994) and provides an opportunity to enact the choice strategy, redirecting the individuals focus to more desired outcomes (Altmann & Trafton, 2007; Monk, Boehm-Davis, & Trafton, 2002; Monk, Trafton, & Boehm-Davis, 2008; Westbrook et al., 2010). This part of the approach identifies the need to interrupt pathways related to impulsive behaviours and to activate new more creative pathways as suggested by the broaden and build concept (Fredrickson, 2004).

The choice strategy involves stepping away and placing physical distance from the issue to consider the importance of change. It adopts ideas from somatic learning and adopting different perceptual positions which have been shown to have value in evaluating decisions (Grinder & Pucelik, 2013; Penner et al., 2016; Wagner-Moore, 2004; Wisco et al., 2015).

The final phase is to adopt a self-coaching role, (covered more fully in appendices F and G) which provides a mechanism to gain access to effective coaching by applying the skills of coaching to oneself, and identifying and re-vivification of appropriate desired states (Faymonville et al., 2006; Grinder & Bandler, 1981; Langer, 2009; Quoidbach et al., 2010; Speer, Bhanji, & Delgado, 2014; Speer & Delgado, 2017) whenever required. This has the potential to create a sense of empowerment by shifting the locus of control back to the client (Haynes & Ayliffe, 1991; Horvath & Yeterian, 2012), is linked to developing self-compassion (Neff, Kirkpatrick, & Rude, 2007) and increases the individuals sense of options (Fredrickson, 2004).

It is proposed that through using this sequence, and via instrumental learning and neuroplastic processes provided by repetition, the old 'problem' pathway can be 'hijacked' and rerouted, increasingly by default, to trigger new more helpful pathways (Briones et al., 2005; A. Hunter & Stewart, 1993; Murphy & Corbett, 2009; Vrensen & Nunes Cardozo, 1981). Although researchers support the perspective, having identified issues with conscious control in SUD (Bühringer, Wittchen, Gottlebe, Kufeld, & Goschke, 2008) and a number of studies have identified the value of teaching the individual with SUD how to shift their attention, often using mindfulness practices, providing a valuable route towards sustained recovery (Appel & Kim-Appel, 2009; Bowen et al., 2006; J. M. Robinson, Ladd, & Anderson, 2014; Witkiewitz, Marlatt, & Walker, 2005; Witkiewitz et al., 2005).

There are some issues with learning and adopting a new set of skills such as these, including; comprehension, especially with a client group unused to learning or potentially still under the influence of psychoactive substances or their side effects; the unfamiliar (Flanagan, 2013; Kang & Kim, 2015), and potentially unsettling, nature of receiving self-directed kindness; adopting the nuanced role of self-coaching when required; and the need to take responsibility for implementing the steps when unsupported and in a triggering environment.

Some argue that conscious control is difficult to achieve, especially when attempting to react against rapidly responsive unconsciously triggered pathways (Kunde, Kiesel, & Hoffmann, 2003; Libet et al., 1983; Soon et al., 2008). Others report that the evidence for mindfulness approaches in SUD is inconclusive, and these skills from mindfulness (Zgierska et al., 2009) and LP/TRP (Reme et al., 2012; Sandaunet & Salamonsen, 2012), are not easily adopted by all.

Evaluating how successfully this has been comprehended adopted by the participants and the changes it has made will be evaluated by the quantitative and qualitative studies of this project.

### **Additional Steps in TRP and Post Seminar Support**

Once the basic strategy has been mastered physical and mental repetition processes are taught to enhance the familiarity with the new neurology and to prepare for specific situations which have been identified as previous triggers for relapse; these include implementation intention (Gollwitzer, 1999), pseudo orientation in time (Erickson, 1954), future pacing (Grinder & Bandler, 1981) and brain rehearsal (Parker, 2013b) approaches.

The 3 consecutive day structure provides opportunities for deeper familiarity with the tools, focused coaching and feedback on progress. However, this structure can provide issues for some as Reme notes (2013); taking 3 consecutive days away from family or

work can be practically difficult; it can be perceived by some as too intense; it lacks the familiar reassurance of weekly contact; and for some there is a sense of pressure, that the learning has to be achieved with the 3 day time period or there will be no benefit.

To address some of these issues post-seminar support is provided. This includes drop-in group refresher sessions open to all graduates of the programme and freely accessible online audio programs that to re-cover the core concepts and skills of the program. Evaluating the success of these elements of the programme will be assessed via the by the quantitative and qualitative studies of this project.

### **LP and TRP Research and Critiques**

The research into the LP and TRP is in its infancy but forms the beginnings of an evidence base. The majority of the studies to date concern the LP but as the tools delivered in the TRP are identical to those delivered in the LP these studies are included here.

An initial survey (Parker, 2012a) evaluating response to the LP intervention was undertaken ( $n = 1297$ ) with 76.6% of respondents with a range of issues including CFS/ME, Chronic Pain, Fatigue, Anxiety and Depression reporting that they no longer had the issues they presented with by the end of the 3 day course (data was also analysed by condition). This survey captures data that suggests support for the anecdotal benefits of the LP. However, there are limitations in the methodology as it is unknown if all members of the sample had an expert clinical diagnosis or not, what percentage of participants during the time-period filled in the survey and is not a controlled or randomized study. Additionally, the participants may not be representative as they are self-selected and it does not report on long term duration of the effects.

A small-scale treatment evaluation of adolescents with chronic headaches ( $N = 12$ ) (Hagelsteen & Moen Reiten, 2015) measured pain using the Visual Analogue Scale (D. D.

Price, McGrath, Rafii, & Buckingham, 1983) and found that 75% of participants reported significant pain reduction and this trend was already evident after three months. It further noted that the majority had improved quality of life, were more active, more able to spend time with friends and attended significantly more at school. Prior to the intervention, only 25% reported that they 'always / almost always' were in school. At follow-up after one year, the situation changed, when 67% were 'always / almost always' in school. The results of the study, and the 12 months follow up data, add further to the evidence base but have to be considered within the methodological constraints of the study, with the sample being very small and lack of a control or randomisation.

An outcome measures, cross-sectional, study ( $N = 205$ ), using the RAND SF-36, was undertaken (Parker, 2012a). Repeated measures ANOVA using Time of Testing (3 levels; Pre-test, 6 weeks, 3 months) were used to analyse: health change, physical functioning, role limitations due to physical health, role limitations due to emotional problems, energy/fatigue, emotional well-being, social functioning, pain and general health. They showed a significant difference in all sub-scales of the RAND SF-36 ( $p < .0001$ ) indicating the LP does impact on all dimensions of health tested by the RAND SF-36. Significant improvement in health status persisted in all scales, except the emotion-related ones, at 6 weeks and 3 months ( $p < .0001$ ). The use of well-validated scales, the inclusion of 3 month follow up data, the larger sample group and well-reported analysis adds to the evidence base. The limitations in this study are the lack of control (and randomisation), a potentially unrepresentative self-selected sample group, the lack of certainty of the presence of an expert clinical diagnosis in all cases and the lack of information about what percentage of LP participants filled took part in the study.

A proof of concepts study in conjunction with the Multiple Sclerosis Research Council was designed to consider the validity of the Lightning Process as an approach to

provide benefit, or not, to those with MS. Participants ( $N = 11$ ), were recruited by MSRC. Rand SF36, Functional Assessment of MS scale (FAMS) and FSS Fatigue Severity Scale (FSS) questionnaires were completed at time intervals of: before attending the LP seminars; 6 weeks 3 months, 6 months and 12 months after attending the LP seminar. All sub-scales of the Rand SF-36 showed improvements across time of testing. The largest mean ranges of change were in role limitations due to emotional problems, energy/fatigue levels, emotional well-being and general health. A qualitative component identified comments such as “a calmer approach to life, no longer getting worked up about situations I cannot influence” and highlighted that some participants felt they could have got better results by applying the tools more consistently in the long term but had, for various reasons, not felt they had put the time and effort in that they needed to. All the subjective questionnaires returned demonstrated that volunteers had benefitted from attending the Lightning Process course. The MSRC commented that the results indicated that the Lightning Process provides measurable benefits to those with MS (Parker, 2012a).

As a proof of concepts study, with 12 months follow up data of individuals expertly diagnosed with the condition, this indicates further research into the LP as an intervention for MS would be of value. It is mainly limited by the small sample size, although a controlled element would also improve the quality of the study.

A qualitative study (Reme et al., 2012) evaluated the experiences of nine young people who had undergone the LP to treat chronic fatigue syndrome/Myalgic encephalomyelitis. Semi-structured interviews were undertaken with an opportunistic sample recruited through the Association of Young People with ME (AYME) website, of nine young people, aged 14–26. The study reported mostly positive experiences of the Lightning Process, with seven reporting being satisfied and much improved, and two reported dissatisfactions and no improvement. The theoretical rationale, practical

exercises, and the technique they learned were reported to be of particular help. The study also reported less helpful aspects being the intensity and short duration of the treatment with little follow-up, the sense of secrecy surrounding it, and feelings of being blamed if the treatment did not work. It concludes the majority of the young people participating in this study reported largely positive experiences of the Lightning Process, despite all having experienced unsuccessful treatments for CFS in the past and typically having lived with CFS for a number of years with significant disability. This qualitative study provides valuable insight into the client experiences of the intervention. It highlights the differences in experiences perceived by individuals receiving a standardised programme and identifies that a central LP concept, the importance of a 'no blame' culture with the LP materials, is not being communicated effectively to all participants. The study also has a number of quality issues; the selection of the sample via ME/CFS charities creates a population unlikely to be representative of those who have taken the LP (Sandaunet & Salamonsen, 2012), as those who experienced recovery from ME/CFS are less likely to continue to be members of such patient groups (Lian & Nettleton, 2015). It also contains a number of factual errors, such as inaccurately describing 'The more extreme position taken by the Lightning Process in denying the limitations of the illness' (p.509) and shows a failure to research into the role of the participant in the LP training and support options for those who find change slow or difficult to attain. These points might have been clarified by referencing any of the published materials on the intervention, which were notably absent from the bibliography.

A second qualitative study of CFS/ME patients' different experiences with Lightning Process recruited participants via National Research in Complementary and Alternative Medicine (NAFKAM) and their Registry of Exceptional Illness (RESF) and an online forum for CFS/ME. To obtain the broadest view of response to the LP,

individuals were requested to participate if they had had 1) reported significant improvement (this self-reported criteria varied) from the LP ( $n = 13$ ) or 2) No response ( $n = 6$ ), or adverse response ( $n = 3$ ), to the LP. Responses were sorted using ‘specialty sorted empirical’ grounded theory based process three themes of differentiation emerged; (a) the response to the theoretical basis and the basic principles of the LP, with an increased insight into the condition was identified with the positive response group (b) experiences of course leader, with establishment of a trust relationship identified with the positive response group and (c) the body’s response to the LP, with recognition of initial positive changes helping individuals further engage in the training programme. The study adds to an understanding of the participants’ experiences and helps to further identify issues for reflection and refine delivery seminars and training of practitioners. The study has some limitations in terms of generalisation by the purposeful extreme criteria for inclusion and as the researchers note, the potential for bias in the design of the questions and categorising of themes.

A proof of concepts study (Parker, 2013b) to evaluate the utility of applying the LP concept to SUD (the TRP) was undertaken with the Lifeline community drug service in Tower Hamlets. 22 participants with a variety of drug use issues including methadone, buprenorphine (Subutex), heroin, cannabis, cocaine, alcohol and ketamine were recruited to the study. On follow up at 3 months 91% ( $n = 20$ ) had reduced usage, reduced ( $n = 11$ ), abstinent ( $n = 9$ ), and 8% were un-contactable at follow up ( $n = 2$ ), as measured by the NDTMS Treatment Outcomes Profile (TOP) (Marsden et al., 2008) (Appendix A).

Measures of days at work, college or voluntary work were also recorded using the TOP forms, with only 3 being engaged in any of the activities prior to the TRP, and 16 involved in them at 3 months post-intervention. A qualitative element was also included in the study, which identified participants experience of improvements in self-esteem,

calmness, confidence, relationships, housing, optimism about future, quality of sleep, motivation, health and energy. Clients expressing positive experience of the intervention ‘I found the training empowering’, ‘Amazingly, it was really fun’ and ‘I really enjoyed it’.

The study is the first to evaluate the TRP, supports the finding of the studies into the other applications of the LP intervention. It adds to the quality of the evidence base by being run in a service environment, often with participants with long experience of drug treatment approaches and little recovery capital. It is limited by the absence of a control group, the small sample numbers, who were possibly unrepresentative of the drug service population, as they elected, or were suggested by key workers, to join the programme, but suggests further, randomised controlled research should be undertaken.

A commentary on current published research co-authored by a group of researchers and authorities on ME/CFS in Norway (Landmark et al., 2016) was published in the Journal of the Norwegian Medical Association. It concluded that although the LP has shown promising results, more randomised controlled trials are required.

In the UK the report on the SMILE (Specialist Medical Intervention and Lightning Evaluation) RCT (Crawley et al., 2018) run by the NHS and University of Bristol compared Specialist Medical care (SMC) ( $n = 49$ ) to SMC plus LP ( $n = 51$ ). It found participants allocated to SMC plus LP had better physical function at six months than those allocated to SMC with an adjusted difference in means 12.5 [95% CI 4.5, 20.5],  $p = .003$ ), and that that difference increased to 15.1 (95% CI 5.8, 24.4,  $p = .002$ ) at 12 months. It concludes finding that when the LP is provided for mild/moderately affected adolescents with CFS/ME in addition to specialist medical care it is effective.

The study also showed those in the SMC plus LP had better school attendance at 12 months than those allocated to SMC (adjusted difference in means 0.9 days of school per week [95% CI 0.2, 1.6]  $p = .018$ ). Those in the SMC plus LP had a greater

improvement in anxiety symptoms measured by both the HADS (-3.3, [95% CI -5.6, -1.0],  $p = .005$ ) and the SCAS (-8.7, [95% CI -16.9, -0.5],  $p = .039$ ) scores at six months, that continued at 12 months. There was also evidence that there was less depression among participants allocated to SMC plus LP than those allocated to SMC at 12 months (adjusted difference in means in HADS depression score -1.7 [95% CI -3.3, -0.2]  $p = .030$ ).

Pain scores were lower in participants allocated to SMC plus LP compared with those allocated to SMC at both six and 12 months, but confidence intervals were wide.

It also reported that there was good evidence that SMC plus LP was more cost-effective than SMC alone. This considered the reduced costs of using the NHS as a result of improvement (which was not shown by the study) and improvement in health related quality of life (which was shown by the study), measured by QALYs, derived from the EQ-5D-Y.

Notably none of the participants in the SMILE trial had any serious adverse events attributable to either treatment arm, which is a valuable finding for assessing benefits to risk ratios for such a new intervention.

There were some limitations to the trial; due to the structure of the trial, where the two arms compared were SMC or SMC plus LP the study can only comment that LP is effective in addition to specialist medical care and not whether it is effective on its own; as the study only recruited children aged 12 and over who were not housebound and who spoke English, it is not generalisable and cannot suggest whether LP is effective, acceptable or feasible for those who are severely affected, less than 12 years old or do not speak English.

The results of the SMC were similar to adults receiving GET or CBT. In the SMC plus LP the results are similar to paediatric trials of those getting CBT, however in those trials, results were not maintained at 6 and 12 months (Lloyd, Chalder, & Rimes, 2012;

Nijhof, Bleijenberg, Uiterwaal, Kimpfen, & van de Putte, 2012; Nijhof et al., 2013), whilst participants in the SMC plus LP arm maintained or increased improvements compared to SMC alone at 12 months.

Further research is needed to understand why LP is more successful than well-evidenced CBT and GET at improving outcomes at six and 12 months and which aspects of the LP contribute to its effectiveness, however, this study adds considerably to the quality of the evidence base for this approach.

### **TRP and Mindfulness**

Although Mindfulness and the TRP have some key similarities, a difference in the end desired state can be identified in how these two approaches are often practised. Mindfulness is often described as an approach of noticing and disengaging from anything distracting from being present, along with a non-judgmental acceptance of these present-moment experiences in order to attend to the present once again (Kabat-Zinn, 2003). The TRP approach adds to this perspective by suggesting it is possible to disengage from those distracting states and then purposely direct attention to access a preferred state by choice, returning to the present but attending to it in a particular and deliberate way (Parker, 2013b). The example of lack of confidence serves to identify this difference. In mindfulness practice, as it is often practised, the individual notices the lack of confidence and disengages and returns to the present. However, in the TRP, the individual notices the lack of confidence and deliberately shifts to a state of confidence and returns to the present in a state of confidence (Parker, 2013b).

This approach offers solutions for the additional challenges (Cloud & Granfield, 2008) that can arise for those recovering from SUD once the drug use issues reduce. For example, managing relationships and interacting with people without the buffering effect of the substance can be challenging. These kinds of interactions have been identified as

producing extremes of emotion, including fear, anger, loss of self-confidence, which have the potential to trigger a relapse as a way of managing the stress of the situation (McIntosh & McKeganey, 2000). The TRP posits that discovering ways to effectively shift into more helpful affective states starts to create a reliable route from difficulty to flourishing, as suggested by broaden and build concepts (Fredrickson, 2004). As this change, if repeated, will be supported by mechanics of neuroplasticity, these new states can become more stable and more easily accessible.

There are some questions raised about the ability of all individuals to purposely shift their focus (Larson, Clayson, & Clawson, 2014; Wiers, Field, & Stacy, 2016) and that redirecting one's focus of attention might be a form of unhealthy thought inhibition or repression (Erdelyi, Goldberg, Kihlstrom, & Evans, 2014; Izenberg, 2015). However, others suggest it can be achieved by repetition (Quach, Gibler, & Mano, 2017) and that becoming present is not equivalent to repression (Delmonte, 1990).

### **Similarities and Difference Between MI, CBT and TRP**

Approaches which consider the cognitive domain of therapeutic change, such as the TRP, MI and CBT, have been derived in part from previous shared models, built from skilled and open-minded observations of how humans behave (Hofmann & Asmundson, 2008; W. Miller & Rollnick, 2009). As a result, they are likely to share some theoretical and clinical elements and can be observed to have some aspects in common. However, due to their difference in perspective and origins, they also have areas where they diverge. This section highlights some of their shared elements and distinguishing differences. Throughout this section, the TRP term or concept is (*presented in bracketed italics*).

One key concept shared by CBT and the TRP is NATs (*patterns*), the idea that thoughts produce feeling, the importance of beliefs in limiting or supporting behavioural or cognitive changes, and of working to encourage change at a cognitive level. The

questions and framing of MI (W. Miller & Rollnick, 1991) such as the idea of self-activating change (*self-coaching*), desired change (*the first self-coaching question*) and non-judgemental approach, share much in common with the TRP approach. The key MI assumption that client has resources they need to make change and that empathy (*rapport*) is central to effective change communication are also essential concepts in the TRP, as is a clarity in questions and attention to the language of the clients' responses. The primary difference is the intended outcome of MI, which is to explore and resolve a client's ambivalence towards behaviour change. This is stated as, MI 'does not involve teaching new skills, re-educating, counterconditioning, changing the environment, or installing more rational and adaptive beliefs' (W. Miller & Rollnick, 2009, p. 6). The TRP differs by helping the individual develop a new strategy to create change, and especially changes in state, moment by moment (Reme et al., 2012). However, whilst developing that state changing strategy a similarity with some of the tenets of MI, including its reliance on eliciting the clients' own knowledge of effective solutions, can be observed.

Miller and Rollnick note that their MI approach is not the same as CBT. Citing that whilst CBT teaches new skills, counter-conditioning and the installation of more rational and useful beliefs, MI works to bring out the inner knowledge of the interviewee in a collaborative conversation between the interviewer and interviewee. However, it is acknowledged that it is often used in conjunction with CBT (Jones et al., 2011). Miller (2009) also makes the same argument about the relationship between TTM and MI, stating that TTM is designed to provide a model for change whereas MI is purely designed to help people become more motivated to make change.

CBT and the TRP also diverge in a number of key ways. There is some variability reported (Magill & Ray, 2009; Pilgrim, 2011; Shafran et al., 2009) in the way CBT is practised, with different focuses and styles as it encompasses a number of techniques.

However, the TRP is a specific, set intervention that is taught to all participants in a consistent way, through the use of standardised training and training materials. The CBT's use of schemas, which have been created in response to detailed observations of general populations (Haarhoff & Thwaites, 2015) has a correlate in the TRP (*patterns*). However, the usage of such patterns in the TRP differs in that it focuses not on a pre-understood schema but attempts to help the client discover what their specific and individualised way of thinking/operating is. Once the schemas or TRP patterns have been identified their use differs. CBT focuses on becoming aware and cognitively understanding the patterns, with homework, analysis and evaluation of the patterns (Dryden & Branch, 2011). The TRP approach differs in that it does not suggest the individual analyse, document or understand it. Instead, they are only required to identify the starting point of the pattern, to disengage from it, and follow the TRP structure to move towards choice, self-coaching and ultimately a changing of state. Within this section of the TRP approach other interventions uncommon in CBT also appear – the use of physical movement, the marking 'states' or 'roles' in physical space, the activation of inner self-coaching. Additionally, this all delivered in a way intended to promote a sense of humour and intrigued engagement within a 'training rather than therapy' framework.

The final difference is the particular focus on the individuals' use of language, and how specific language triggers specific neurology (Eck et al., 2011). A comparative example of these two different styles of language is present in Appendix H.

### **TRP and AA/TSF**

As one of the main models in SUD it is valuable to briefly compare how the two models are similar and different, using the framework presented to critique AA in Chapter 2.

The medical model: AA still adheres to a medical model of addiction as a disease (Dodes & Dodes, 2014); the TRP model directly moves away from this model and instead subscribes to a more behavioural model of SUD (B. A. Lewis, 1994), to support the individuals sense of empowerment in recovery.

Forgiveness, Higher Power and Passivity: Both models encourage forgiveness for individuals the past and present actions; the AA additionally suggests seeking forgiveness from others (Alcoholics Anonymous World Services Inc, 2002). The role of the external 'higher power' in AA can provide a sense of forgiveness for past failures, as it was never within the individual's power their resolve their 'addiction'. The TRP does not concur with this perspective, and views the agency for change as being within the individual (B. A. Hunter, Jason, & Keys, 2013).

Spiritual aspects: original AA concepts focus around God and spiritual awakening. The TRP does not contain a spiritual or religious conceptual focus, but does consider, in common with other approaches (Arnold, Avants, Margolin, & Marcotte, 2002; Corey L. M. Keyes, 2015; McCoy, 2009; McGaffin et al., 2015), that some degree of personal transformation to be an important part of recovery. However, as more modern interpretations of the AA have redefined the spiritual perspective as one of transformational empowerment, there can be more agreement between the two models, depending on how it is practised.

Strategy, clarity and hope: both approaches recognise that creating a simple structure for an individual to follow could be of great benefit. The clarity and senses of systematic progress that this brings, along with the development of hope and optimism in the future are important parts of both models (Akhtar & Boniwell, 2010; Langer, 2009; McCoy, 2009; Weis, 2010).

Supportive community: the presence of a supportive community has been identified as an important element in a AA's success (De Botton, 2013); in the TRP this role is reported to be provided partly by the trainer and the internalised coach (Reme et al., 2012), although it is recognised in TRP that having a supportive community in addition to these internalised tools is often very valuable.

Focus groups identified that many TRP participants have had experience, both positive or negative, with AA. They reported that it was relatively easy to fit these are sometimes differing philosophical conversations together, noting that it was quite common for people to selectively pick and interpret the steps to suit their own journey (Parker, 2013a).

### **Conclusion**

This critical appraisal of the evidence base supporting the TRP, and evaluation of how it provides a different approach to SUD, identifies its potential to address the gap in the evidence base on SUD and flourishing. A mixed-methods approach was undertaken to evaluate the efficacy of the TRP and the participant's experience of it, the methodology of these studies is reported in the next chapter.

## **CHAPTER 5: QUANTITATIVE STUDIES - RESEARCH METHODOLOGY**

Two quantitative studies were undertaken. The first study, the preliminary pilot study, utilised a randomised controlled structure to evaluate the effect of the intervention compared to substance management misuse approaches as usual, using a wait-list control and intervention group.

After this section of the study was completed, those in the wait-list group also received the intervention.

The second study, a cohort study, evaluated the outcomes for all the participants who received the intervention, (i.e. from both intervention and wait-list group) over a three-month post-intervention period.

### **Background and Nomenclature of Preliminary Controlled and Cohort Studies**

Since 2007 there has been a drive towards registration of all RCTs prior to publication (Elliott, 2007) with bodies such as ISRCTN registry ('ISRCTN registry', 2019). This is in part due to issues that have arisen concerning withholding publication of RCT due to poor results or changing their hypotheses to fit unexpected outcomes.

On consideration of the appropriate nomenclature for this study, it was decided that the previous study in Tower Hamlets drug services, which due to its small number of participants was published as a grey publication and not peer-reviewed, should be treated as a proof of concept study. Therefore, this study was defined as a preliminary study and included a randomised controlled section to perform a preliminary evaluation of this intervention as suggested by guidance by researchers (Abbott, 2014). As a preliminary study, registration was not required as set out by the guidelines for prior or retrospective RCT registrations ('ISRCTN registry', 2019). However, full ethical approval for the study was obtained from the LMU ethics board, along with logging of hypotheses and measured outcomes to ensure a high level of robustness and transparency.

Once the control period was completed the study moved onto an uncontrolled cohort study. It may be noted that a longer wait-list time frame of 3 to 6 months would have provided even more robust control data, however authorities have reported how high rates of attrition 'are a central feature of substance use disorders' (Cohen et al., 2013, p. 160; Northrup et al., 2017) and the drug services researchers and managers presented a compelling case for keeping a short wait time to maximise data returned. They advised appointments booked 12-36 weeks in advance were poorly attended, and as their services were only commissioned to provide care for a 16-week period, contact with participants past that period would be difficult and unusual. As a result, the compromise of an effective, although shorter than ideal, 1 month wait-list time was chosen. Whilst not ideal, research has nevertheless shown that this is a reasonable research methodology, particularly for studying hard to reach groups or interventions that can be completed within a short timescale (Lancee et al., 2019; Moljord et al., 2015; Tolin, Maltby, Diefenbach, Hannan, & Worhunsky, 2004).

This reduced the ability of the PPS to assess change that would have been available through a longer controlled period. Therefore, the uncontrolled cohort study was designed to manage the attrition issues raised by the experts consulted, whilst keeping participants within the study and so continue providing data about their experiences of the intervention. This cohort consisted of all those who had attended the intervention and allowed for an evaluation of longevity of the effects of attending the intervention, whilst reducing the attrition levels that could result from a longer controlled period. The potential issues raised by these design decisions are discussed more fully in the Limitations chapter and to further develop the project's contribution to the evidence base for the intervention, the data provided by these quantitative studies were also supported by the analysis of the

qualitative study. This provided the opportunity for a multi-faceted perspective on the intervention by use of this mixed-methods approach.

### **Participants**

Participants were 72 adults who presented with a range of formally diagnosed poly and single substance misuse issues. This convenience sample included 42 females and 30 men with a mean age of 34.60 (10.24) and was referred through a substance use service ( $n = 17$ ) or were self-referred ( $n = 55$ ).

Participants were required to be in the contemplation or action stage of change (DiClemente, Bellino, & Neavins, 1999). Those with significant mental health issues that affected their comprehension, such as psychosis, were excluded, however those with dual diagnosis, often found in SUD (Antai-Otong, Theis, & Patrick, 2016; Camacho et al., 2016; Conway, Swendsen, Rounsaville, & Merikangas, 2002; Gournay, 2016), were not excluded, as the TRP trainers were trained in managing these issues. Clients whose English was insufficient, or who did not have the capacity (Department of Health, 2005) determined through a conversational approach and discussion about the cognitive requirements of the intervention, were also excluded.

To avoid contamination of the samples those from the self-referral group were excluded if they were currently in active treatment with a drug and alcohol service.

### **Clarity of Diagnosis**

All participants in the study were asked if they had been diagnosed with substance use issues to ensure the homogeneity of the population in the studies. However, there are potential issues with the validity of this diagnosis, which has been identified by many other researchers, as summarised by Bobak who reports, ‘measurement of alcohol consumption is notoriously difficult; this study, similarly to most other studies, relied on participants’ self-report.’ (Bobak et al., 2016, p. 28). Testing for drugs is not routinely

employed used in drug services (NHS, 2017) due to a number of reasons. First, drugs will be broken down and removed from the body with time: alcohol, for example, is removed at 1 unit per hour, on average (NHS, 2018), therefore heavy use of 14 units in one day (the suggested weekly limit (NHS, 2018)) would not be detectable by a blood test the following day. Second, a key goal of the government drug treatment agenda (Cloud & Granfield, 2008) is to remove the barriers to accessing drug services. As a result, during the admission process for drug services, it is standard practice to accept self-reports of substance use issues or of diagnosis as accurate and testing for drug use is not required to access drug services (NHS, 2017). More evidence for this method for confirming substance use issues can be found in the systematic review into measuring Flourishing in SUD by the author (Parker et al., 2018). In that paper, none of the included studies used testing or formal medical diagnosis and all used self-report scales or structured interviews to identify substance usage. In the UK, drug services utilise the TOP form, used in this study to record substance use, as it is considered to be the most accurate way to determine usage (NDTMS, 2017). It is, of course, subject to reporting validity issues, as it relies on self-report from the person with substance use issues, however, this is a well-recognised issue affecting self-reporting in other fields of research (Austin, Deary, Gibson, McGregor, & Dent, 1998; Fan et al., 2006). A final complicating factor is that it is also common for those with SUD to be currently in recovery and non-using, yet still defined as having a SUD. These factors, and the changes in DSM-5 combining ideas of substance abuse and dependence into one disorder, result in formal diagnosis being standardly made through the assistance of patient self-report (“Drug addiction,” 2018).

In the service user arm of the studies, the direct referral from services working with those with SUD provided the best support for the diagnosis, with the self-service arm, there was a greater reliance on their report of a clinical diagnosis. One suggested

option to increase the clarity of diagnosis would have been to contact GPs. However, there are a number of issues with this approach. First, our drug service partners advised that those with SUD were used to the standard practice of accepting their reports of drug use and diagnosis as evidence of usage. They suggested that recruitment might become increasingly challenging if questions were asked that might suggest we did not trust the participants' responses about drug use. Secondly, the often-chaotic lifestyle of those with SUD with infrequent GP contact and the fact that GPs are not always informed of drug service use meant that GPs may be less able to confirm the existence of the condition accurately than the person with SUD. Third, there was an issue of data protection, where permission would need to be specifically granted to contact the GP concerning their medical records in compliance with the GDPR Act 2018 (HM Government, 2018). As a result, it was felt this option would add to recruitment barriers and not necessarily substantially improve the validity of diagnosis, so it was not implemented.

With these issues in mind, it was decided to accept individuals' reports of drug use issues, backed up by TOP forms, although it was acknowledged that this had the potential to create a population that was not homogenous, an issue that is discussed more fully in the Limitations chapter. This is the type of challenging issues commonly facing researchers in this field and reported by others who have had to adopt similar pragmatic strategies in order to work with those with SUD (Loveland & Driscoll, 2014; Mckowen et al., 2017). However, it does follow the approach adopted by the UK drug services and UK drug treatment monitoring services and forms the basis of the Public Health England reports on the outcomes of those with drug use issues (NDTMS, 2017).

### **Recruitment, Attrition and Conflict of Interest Issues**

Throughout the study recruitment was a challenge. An initial treatment population was planned of 100 in each arm. This number was more than was required to adequately

power the study in order to accommodate expected high attrition rates commonly found in SUD research (Loveland & Driscoll, 2014; Mckowen et al., 2017). However, in spite of excellent contacts within the drug treatment services nationally, and four years of meetings, networking and talks by the author to encourage participation there was a reluctance from drug services and charities to partner the research or provide participants. As a result, even though recruitment was kept open for three years, only 72 participants matching the inclusion criteria were able to be recruited to the study.

In discussion with those working within drug treatments and from an overview of the issues facing drug treatment services during the course of the research, certain factors may have been significant in this difficulty of recruitment.

Firstly, there were off the record reports of a reluctance to engage with a ‘commercially’ designed programme (i.e. not designed with the NHS, PHE or an academic institution) together with a concern about delivering an intervention with a limited evidence base to their clients and therefore possibly affecting their outcomes or deleteriously affecting their public reputations. This issue of a reluctance to engage in research into novel approaches unfamiliar to established institutions been the subject of a systematic review (Veziari, Leach, & Kumar, 2017). It concluded that multiple barriers exist, some of which are defined as issues of ‘capacity’, those that could be changed with more resources, and others as issues of ‘culture’. This latter group were considered as being less amenable to change and were more linked to the perceived conflict between the held values of the existing academic structures and the new approaches. Secondly, public reports of a reduction in funding for drug treatment (Blenheim CDP, 2016; Buck, 2015) combined with an urgent refocusing of resources in complying with Care Quality Commission (CQC), which has identified ‘Almost two-thirds of providers were not meeting the requirement for providing safe care and treatment’ (CQC, 2017, p. 1).

Many steps were taken by the researcher to increase the recruitment stream, however with the current issues within drug services and the reluctance to focus outside of the current demands of stakeholders and pressing administrative and financial needs made recruiting more to the project an extremely difficult task. Other researchers in the field have noted similar difficulties with recruitment and reported high levels of attrition (Loveland & Driscoll, 2014; Mckowen et al., 2017). They also suggest that comparisons with studies in other fields where recruitment does not suffer from the same complex issues, can fail to understand the ratio of effort to sample size, with Loveland and Driscoll (2014) noting that in their study in the 6 days between initial contact and assessment there was a 45% attrition rate and in the 8 days between assessment and treatment enrolment there was a 32% attrition rate. A further 37% left or were removed from treatment before 30 days. Additionally, others report that attrition rates of 80% at 3 months to be common (Hansen, Tobler, & Graham, 1990; Loveland & Driscoll, 2014; Mckowen et al., 2017). However, in this research, the attrition levels, discussed more fully later (p.248), were comparatively smaller than those reported in these other studies, suggesting that the methodology applied here was successful at reducing more extreme levels of attrition often found.

As detailed in the earlier section on potential conflict of interest (p. 30) it was important to identify issues of potential influence and bias that might affect the validity of the study. Addressing any potential influence particularly due to the dual role of researcher/designer on both the researcher's role and the participants' responses were a priority in ensuring transparency and robustness of the research process (Greene & Thorogood, 2004). To reduce any influence of the researcher/designer on the participants, experienced practitioners were recruited to run the intervention sessions and data was collected by indirect means (online forms, post or by telephone by keyworkers). In

addition, a series of reflexivity procedures were undertaken to ameliorate any potential issues due to this dual role and these are detailed extensively in the earlier chapter identifying the potential for bias (p.34).

### **Materials**

The primary and secondary outcome measures for both studies were collected by standardly used validated self-evaluation forms detailed below.

#### **Treatment Outcomes Profile Form**

The Treatment Outcomes Profile (TOP) form (see Appendix A) (Marsden et al., 2008) data collection tool developed by the National Treatment Agency in collaboration with National Addiction Centre, Institute of Psychiatry, Kings College, London is used by Public Health England to gain insight into the effectiveness of service delivery and the behaviours and quality of life of the drug using population. It has 4 sections that measure changes in drug use and other dimensions that provide valuable information to the drug treatment researchers and drug policy makers. The items that appear in the TOP form have been psychometrically evaluated and demonstrated an acceptable level of reliability and validity (Marsden et al., 2008). The twenty outcome measures have met inter-rater reliability criteria and the authors also reported that the intraclass correlation coefficients for Cohen's kappa for dichotomous measures and scale measures were equal to or greater than 0.61 and 0.75, respectively and that judged by effect size and smallest detectable difference, there were satisfactory validity assessments and change sensitivity of scale items. However, there has been some criticism of the value of the form, particularly in reference to section 2 and 3 below (Unell, 2016) and the accuracy of self-reporting with this particular client group (Powell, Christie, Bankart, Bamber, & Unell, 2011).

Section 1 of the form collects data on the frequency of specific drug usage (alcohol, opiates, crack, cocaine, amphetamines, cannabis and 'other problem

substances’). These were used as the primary outcome measures of change in substance use levels.

Section 2 and 3, provide data on criminal activity and injecting behaviour and levels of risk from injection. As this was not the data the study was focused on collecting, and in order to avoid issues reported with overloading respondents with the amount of responses required (Fowler & Cosenza, 2009) or exposure to trigger words (Richter et al., 2014), these sections were removed from the study’s copy of the TOP form sheet.

Section 4 on ‘Health and Social Functioning’ records data on physical and psychology health, quality of life, employment, current educational courses attendance and housing. In discussion with one of the service partners it was noted that with respect to employment, the form only captured data from paid work but not from voluntary work. They and others (Roth & Best, 2013) had noted that identifying ‘days in voluntary work’ was a valuable aspect of recovery capital to record and suggested we capture this data too. As a result, an additional, identically framed, question (named 4h) was added to this section to record this data. This provided 8 sub-sections (see Appendix A) and responses from this section were used as the secondary outcome measures of change in psychological health, employment paid or voluntary/educational attendance, housing and psychological health and due to the forms extensive use in SUD it provides a useful measure of these elements of recovery capital (Cloud & Granfield, 2008).

### **Flourishing Scale**

This scale (see Appendix B), developed by Diener and his colleagues (2010), is a 8-item measure of an individual’s self-perceived success in important areas such as relationships, self-esteem, purpose, and optimism. The items are measured on a 7 point Likert scale, where: 7 = Strongly agree, 6 = Agree, 5 = Slightly agree, 4 = Neither agree nor disagree, 3 = Slightly disagree, 2 = Disagree and 1 = Strongly disagree. This scale was

particularly selected for its linguistic design, as all items are phrased in a positive direction. The scale provides a single psychological well-being score between 8 (Strong Disagreement with all items) and 56 (Strong Agreement with all items). High scores signify that the individual views themselves in positive terms in these important areas of functioning. The measure has good psychometric properties with the Cronbach's alpha of .87 (Diener et al., 2010). Although some argue that the research on the scale doesn't separate eudaimonic and hedonic wellbeing well enough and add the scale hasn't been tested widely enough on a non-white USA based population (Coyne, 2013; Ehrenreich, 2010), although validation does now exist for the scale for use in many countries/cultures including Japan, New Zealand, China, Portugal (Hone, Jarden, & Schofield, 2014; Silva & Caetano, 2013; Sumi, 2014; Tang, Duan, Wang, & Liu, 2016), as it is recognised as one of the key tools for measuring change in flourishing, the flourishing scale was selected to measure this variable.

### **Impulsivity Measures**

Impulsivity was measured using the impulsivity section (see Appendix C), the first of six sections, of the Low Self-Control Measure (LSC) (Grasmick et al., 1993). Respondents were asked to rate their agreement with four statements concerning: acting on the spur of the moment, ignoring the future, now-focused pleasure-seeking and prioritising the short term over the longer term. Responses are recorded on a 4-point scale where 4 = strongly agree, 3 = agree somewhat, 2 = disagree somewhat, and 1 = strongly disagree.

The LSC is well validated, with a strong Cronbach's alpha of .79, although it has recently received some criticism over the reliability of the totalled single low-self-control figure and its value in predicting criminal behaviour (Conner, Stein, & Longshore, 2009; Piquero & Rosay, 1998). These criticisms are less relevant to this project as the value of

the sub-sections continues to be supported and it has not been used, in this project, as a predictor of criminality. Two key factors that suggested its selection were its simplicity and ease of use and its avoidance of leading questions that presupposed impulsivity is unchangeable.

Responses from this measure were used as the secondary outcome measures of change in impulsivity.

### **Procedure**

The service-referred sample was recruited through the research partner substance service, Cumbria Alcohol Drugs Advisory Service (CADAS) in Carlisle and Barrow-in-Furness. Key-workers attended a seminar about the study, delivered by a TRP trainer, and were asked to refer clients that met the criteria into the study. Self-referral participants were recruited by advertisements on social media platforms (see Appendix I) offering an intervention for those with substance use issues, delivered in London and Bristol, as part of a research study and were assessed for suitability by phone by the researcher. All participants received the Participant Information Sheet (PIS) and consent form prior to joining the study (see Appendix J and K).

Those eligible were randomly assigned to one of two groups on recruitment, an 'immediate intervention group', which received the TRP seminar immediately and a 'wait-list' control group, which waited a month before taking the TRP seminar. Both groups continued to receive services and support of their drug/aftercare services (if engaged with them) or any other organisations (such as mutual fellowships) during the research period. The randomisation was initially planned to be performed using a block allocation (size = 4), but due to slowness of recruitment, with rates of 2 participants recruited per month and the resulting issues with attrition due to long post-

recruitment/pre-seminar waiting periods, a pragmatic solution of randomisation to the next available seminar was introduced (Hotopf, 2002; Kahan, Rehal, & Cro, 2015).

Registered TRP trainers delivered the seminars on the participating services' premises and in training rooms in Bristol and London for those self-referring in those regions. 'Contamination' between the two treatment groups was considered to be unlikely as although there might be some limited contact between participants from different groups, the skill set learnt in the seminars would be difficult to pass on in simple conversation and without the aid of a trainer.

Intervention and wait list group were both informed of their course dates. Data were collected from both groups at this point (T1). The immediate intervention group received the TRP training within a week, and both groups provided data one month after that training (T2). The wait-list group did not receive the TRP during that time, and so provided the 1 month of control group data to analyse against the intervention data. (See figure 5.1).

It may be noted that a longer wait-list time frame of 3 to 6 months would have provided even more robust control data, however authorities have reported how high rates of attrition 'are a central feature of substance use disorders' (L. Cohen et al., 2013, p. 160; Northrup et al., 2017) and the drug services researchers and managers presented a compelling case for keeping a short wait time to maximise data returned. They advised appointments booked 12-36 weeks in advance were poorly attended, and as their services were only commissioned to provide care for a 16 week period, contact with participants past that period would be difficult and unusual. As a result, the compromise of an effective, although shorter than ideal, 1 month wait-list time was chosen.

At the end of the control period, the wait-list group received the intervention and the study continued to the cohort phase which collected data on a within groups basis.

Data from that wait-list group had been already collected at pre-intervention (T2) and were collected 1 month after attending the TRP seminar (TW2), and from both groups at 3 months after attending the TRP seminar (T3). This produced data from 3 time points pre-intervention, 1 month and 3 months after intervention which provided data to evaluate if the effects of the intervention were maintained over time.

The data were collected via a range of options (by post, face to face with key-workers or online) to suit the clients' needs, and there were no payments for taking part in the study.

For details of online collection structure, design and its adherence to BPS guidelines for Internet Mediated Research (IMR) (British Psychological Society, 2013) please see Appendix L.

During the study, the researcher kept information on a secure database on participants attendance of the seminars and the progress of data collection. If a participant failed to attend the seminar a single further opportunity to attend was offered. If they did not attend that offered seminar or were unresponsive to any contact they were considered a non-completer. If, after four attempts to contact them to collect data, they were unresponsive, they were considered to be a non-completer of treatment.

For both the safety of other participants and in order to gain value from the seminar participants were also informed they would be excluded from the seminar if they were too intoxicated, in the trainer's opinion, to be able to focus on the training. How to determine this subjective opinion was discussed in depth in the TRP practitioners training sessions; the consensus was their experience as trainers with professional experience of sober and 'high' individuals equipped them to recognise what state someone needed to be in to learn. If a participant was too intoxicated a distress protocol (Draucker, Martsolf, & Poole, 2009) was enacted (see Appendix M). This distress protocol was also enacted in

cases of emotional distress. A debrief form (Appendix N) was provided for those who left the study before its completion.

### **Ethical Considerations**

The project received ethical approval from the London Metropolitan University (Appendix O) and received no funding, with the trainers donating their time free of charge and Phil Parker Training Ltd and CADAS donating training space.

## CHAPTER 6: QUANTITATIVE STUDY: DATA AND ANALYSIS

The data from the quantitative studies were analysed using SPSS v25 1) as mixed analysis to compare the effects of the intervention on the immediate intervention group and the one month wait-list group (between groups) at baseline and 1 month (within groups); 2) as mixed analysis to compare the effects of the referral route into the study (between groups) on outcomes, at baseline and 1 month (within groups); 3) as a repeated measures analysis, within groups, to identify if the effects of the intervention were sustained over a 3 month post-intervention period; 4) as an analysis of correlations between impulsivity, drug use and flourishing.

Descriptive statistics including means and standard deviations were calculated and the resultant data were tested to determine if it were normally distributed. Transformations of non-parametric data were undertaken but in all cases, normality was not achieved, this resulted in two sets of tests, parametric and non-parametric, being considered for each of the above analyses. For analysis 1 and 2) for normal distributed data mixed design 2 by 2 anovas were planned, for non-normally distributed data Mann Whitney U tests were conducted. For analysis 3) one-way repeated measures anovas were planned for the normally distributed data, with post hoc t-tests, and Friedman's tests were planned for the non-parametric data with post hoc analysis by Wilcoxon signed-rank tests. For analysis 4) Pearson's or Spearman's test of correlation were planned for normal or non-normally distributed data, respectively. The level of rejection of the null hypothesis was  $p < .05$  unless otherwise indicated. The results of the analysis are detailed in the chapters that follow.

### Power

Calculating power in studies where there is little published data on previous studies, such as in this case, is recognised to provide research challenges (Röhrig, du Prel,

Wachtlin, Kwiecien, & Blettner, 2010). Power was calculated using g-power (Faul, Erdfelder, Buchner, & Lang, 2009). As the pilot study showed a large effect so an estimated effect size of 0.80 was used, with an  $\alpha$  error probability set to 0.05, and power of 0.80 and g-power returned a calculation of a total sample size of 60, shared equally between the immediate intervention and control group with an actual power of 0.80. The calculation for the cohort study used similar settings which produced a sample size of 10; further calculations with reduced effects size of 0.20, with a  $\alpha$  error probability set to 0.05, and power of 0.80 and g-power returned a calculation of a total sample size of 42, shared equally between the immediate intervention and control group with an actual power of 0.80.

### **Participant numbers and missing data analysis**

156 participants were initially recruited between January 2013 and July 2017, as presented in the Consort flow chart (figure 6.1); 73 were then unresponsive to any further communication; of the remaining 83 in contact, 8 did not fit the inclusion criteria, 3 were unable to attend due to timing issues and none refused to participate. The study was halted due to the time restraints inherent in the PhD structure. 72 participants (male = 30, female = 42, mean age = 34.88  $SD$  = 9.04) entered the study and were randomly assigned, as described in the methodology section, to either the immediate intervention ( $n = 40$ ) or 1 month wait-list group ( $n = 32$ ). Of those allocated to the immediate intervention group, 7 did not receive the complete intervention, with 3 not attending due to illness and 1 due to bereavement; a further 3 did not complete the course for reasons unknown, thus 33 participants received the intervention.

At one month follow up a further 2 participants were unable to be contacted reducing the number of participants at follow up to 31.

The wait-list ( $n = 32$ ) was slightly smaller than planned for due to room availability and referral issues from the community drug service, a function of some of the issues experienced in real-world research, and a further 3 participants were lost to 1 month follow as they were unable to be contacted, reducing the number of participants at follow up to 29.

This provided a sample size of 60 (male = 23, female = 37, mean age = 34.8  $SD = 10.68$ ) within the intervention group ( $n = 31$ ) or wait-list control group ( $n = 29$ ) who had completed data at both baseline and 1 month time points.

Once the control phase was completed, the wait-list group attended the intervention and they, and the immediate intervention group, were evaluated at 1 and 3 months afterwards. On moving to the intervention stage ( $n = 29$ ), 1 did not complete the course, resulting in 28 participants, from the original wait-list group, receiving the intervention. At one month follow up a further 6 participants from this group were unable to be contacted reducing the number of participants at follow up to 22.

This group combined with the original immediate intervention group resulted in data from a total of 53 participants who had all received the intervention being analysed at 1 month after intervention.

At three months follow up a further 8 participants were unable to be contacted reducing the number of participants at follow up to 45 (from an original group of 69).

This high level of attrition observable at the earliest stages and at all subsequent stages of data collection, led to the decision to adopt a complete case (CC) analysis in preference to the intention to treat strategy initially planned for the study. This approach is recommended in cases of substantial attrition as it provides a more representative analysis of the actual data of the participants in the study, and avoids issues of unrepresentative data generated by multiple imputations that replace completely absent sets of data from

non-respondents (Mukaka et al., 2016). It was acknowledged that there are implications in terms of reducing the power of the study through the reduction in participant numbers and potentially introducing bias, and type I errors, by excluding those who found no benefit and therefore elected to be non-respondents (Gupta, 2011; Re, Maisel, Blodgett, & Finney, 2013), however on balance it was considered to be the best pragmatic approach to the attrition issue which is a common obstacle in SUD research (Greenfield et al., 2014).

### **Reliability of the Measures**

A Cronbach's alpha test was undertaken to assess the reliability of each of the measures used.

The Low self-control scale (Grasmick et al., 1993) returned a Cronbach's alpha value of 0.691 suggesting good reliability; the Flourishing scale returned a Cronbach's alpha value of 0.931 suggesting good reliability; the scale measures of the TOPs from returned a Cronbach's alpha value of 0.755 suggesting good reliability.

For ease of interpretation, the analysis for each hypothesis and the qualitative inquiry have been reported in separate chapters.

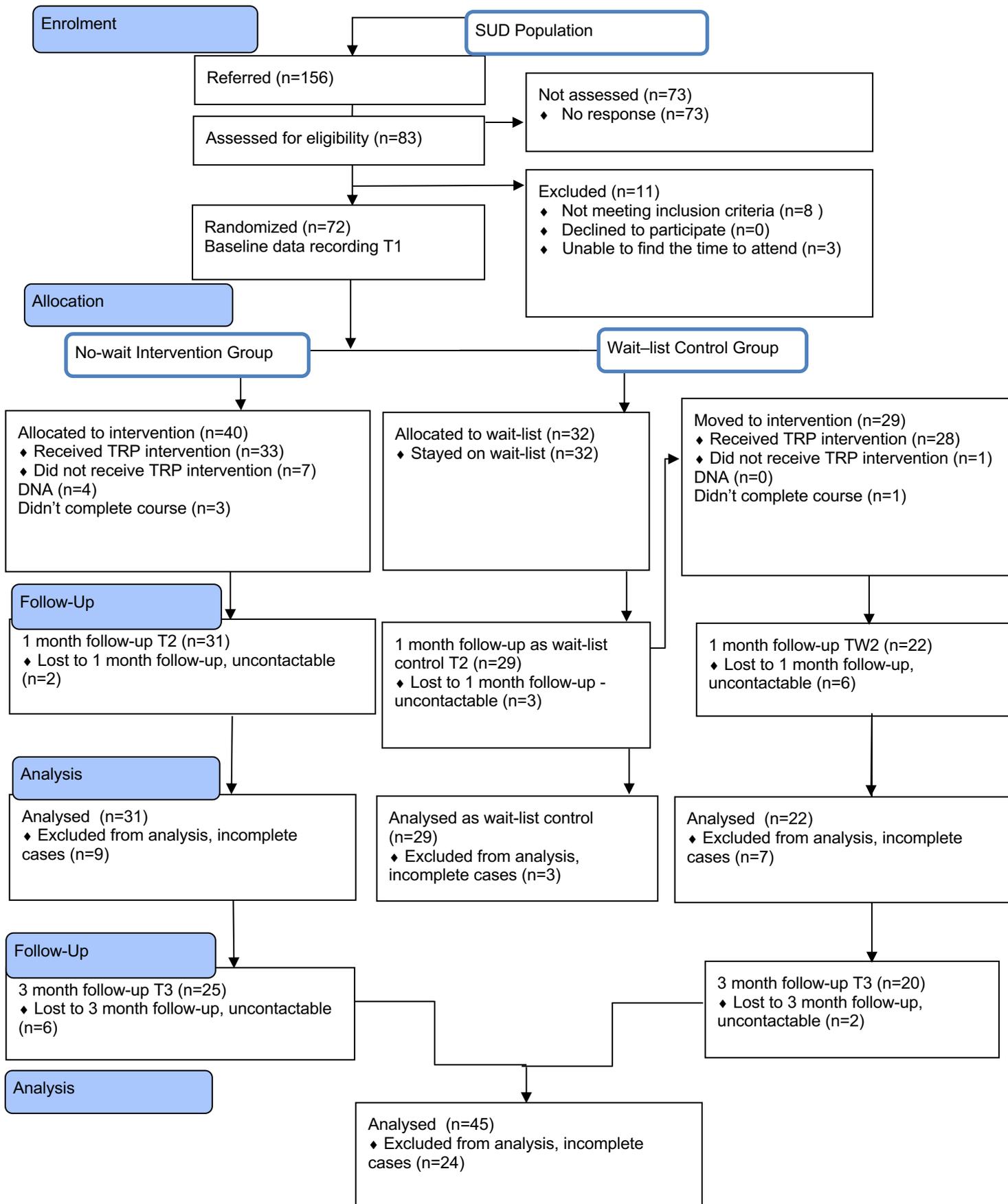


Figure 6.1 Consort flow chart with numbers

## CHAPTER 7: ANALYSIS OF THE PRIMARY OUTCOME – CHANGES IN SUBSTANCE USE

This section of the analysis tested the primary hypothesis that participating in TRP training programme decreased substance use, compared to ‘substance misuse management approaches as usual’. The data on substance used was analysed separately for each drug type at two time points, baseline and 1 month, for both the intervention ( $n = 31$ ) and wait-list control group ( $n = 29$ ).

### Drug Categories Recorded

The 60 participants, were categorised by their drug use, following the PHE data collection categories (NDTMS, 2016), with the addition of the no-substance use reported category, for those currently not using at the time of the baseline data collection. 28 (46.7%) reported alcohol only use, a further 15 (25%) reported non-opiate and alcohol use, 9 (15%) reported not currently using, 4 (6.7%) reported using only opiates and 4 (6.7%) reported using only non-opiates, minimal data was obtained on the category ‘other’ substances and this was therefore excluded from all further analyses. Substance use was also recorded and analysed based on specific substance used by an individual (Table 7.1). This under-representation of certain drug used resulted difficulties in analysing data for some of the drugs groups.

Table 7.1

*Numbers of Participants using Substances for Control/Intervention Period*

	Alcohol	Opiates	Crack	Cocaine	Amphetamines	Cannabis
Number	52	4	2	11	4	13

**Sample Characteristics and Analysis of Changes in Alcohol Use During the  
Control/Intervention Period**

Alcohol was the most commonly used substance ( $n = 52$ ) and accounted for most of the useable data on drug use for the study's sample. The days of alcohol used were multiplied by unit used to calculate means for monthly alcohol use, in units, and are reported in Table 7.2.

Table 7.2

*Means and standard deviations (SD) of monthly days used and alcohol units for intervention and wait groups at baseline and 1 month.*

Time point	Intervention Mean Days	SD	Intervention Mean	SD	Wait Mean Days	SD	Wait Mean	SD
Baseline	13.9	11.2	162	214	16.7	10.6	209	218
1 Month	10.0	9.7	81.8	108	17.3	10.3	200	184

A Shapiro-Wilk's test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group at both time points.

The immediate treatment had a skewness of 1.63 ( $SE = 0.42$ ) and a kurtosis of 2.09 ( $SE = 0.82$ ) at baseline and a skewness of 1.42 ( $SE = 0.42$ ) and a kurtosis of 1.08 ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of 1.73 ( $SE = 0.43$ ) and a kurtosis of 3.22 ( $SE = 0.85$ ) at baseline, and a skewness of 1.05 ( $SE = 0.43$ ) and a kurtosis of 0.61 ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on alcohol use at baseline and 1 month. It indicated that alcohol usage was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 184.23$ ), but at 1 month alcohol usage was reduced very significantly for those in the intervention compared to the control group ( $Mdn = 139.23$ ),  $U = 246.0$ ,  $p = .003$ . These results are presented in Appendix Q, table Q.1 and Q.2

This significant result confirmed the primary hypothesis that the intervention was more effective at reducing drug misuse, with respect to alcohol use, than substance misuse management approaches as usual.

#### **Sample Characteristics and Analysis of Changes in Opiates Use During the Control/Intervention Period**

The number of opiate users was small ( $n = 4$ ), and the data was non-parametric. It was decided that no useful information could be derived from such a small sample and no tests were performed on this data set. As a result, it was not possible to confirm or refute the primary hypothesis, the intervention was more effective at reducing drug misuse, with respect to opiate use, than substance misuse management approaches as usual.

#### **Sample Characteristics and Analysis of Changes in Crack Use During the Control/Intervention Period**

The data for crack users suffered from similar issues to the opiate users, with numbers of users being extremely small ( $n = 2$ ), with one user in each of the groups as a result the data was therefore non-parametric. It was decided that no useful information could be derived from such a small sample and no tests were performed on this data set. As a result, it was not possible to confirm or refute the primary hypothesis, the

intervention was more effective at reducing drug misuse, with respect to crack use, than substance misuse management approaches as usual.

### **Sample Characteristics and Analysis of Changes in Cocaine Use During the Control/Intervention Period**

The number of cocaine users was relatively small ( $n = 9$ ) and the data was non-parametric. Means for monthly cocaine use, in grams use were calculated and are reported in Table 7.3.

Table 7.3

*Means and standard deviations (SD) of monthly cocaine usage in grams for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	0.65	2.30	3.52	12.52
1 Month	0.061	0.20	3.49	11.70

A Shapiro-Wilk's test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group at both time points. The immediate treatment had a skewness of 4.15 ( $SE = 0.42$ ) and a kurtosis of 17.85 ( $SE = 0.82$ ) at baseline and a skewness of 3.76 ( $SE = 0.42$ ) and a kurtosis of 14.79 ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of 3.75 ( $SE = 0.43$ ) and a kurtosis of 13.50 ( $SE = 0.85$ ) at baseline, and a skewness of 3.90 ( $SE = 0.43$ ) and a kurtosis of 15.78 ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on cocaine use at baseline and 1 month.

It indicated that cocaine usage was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 2.03$ ), and at 1 month cocaine usage was not significantly different for those in either group ( $Mdn = 1.72$ ),  $U = 409.5$ ,  $p = .317$ . These results are presented in Appendix Q, table Q.3 and Q.4.

This non-significant result appears to reject the primary hypothesis that the intervention was more effective at reducing drug misuse, with respect to cocaine use, than substance misuse management approaches as usual, but has to be considered within the context of such a small sample and therefore the increased possibility of a type II error.

### **Sample Characteristics and Analysis of Changes in Amphetamine Use During the Control/Intervention Period**

The number of amphetamine users was small ( $n = 4$ ) as a result the data was non-parametric. For these reasons, no tests were performed on this data set. As a result, it was not possible to confirm or refute the primary hypothesis, the intervention was more effective at reducing drug misuse, with respect to amphetamine use, than substance misuse management approaches as usual.

### **Sample Characteristics and Analysis of Changes in Cannabis Use During the Control/Intervention Period**

The number of cannabis users was relatively small ( $n = 13$ ) and the data was non-parametric. Means for monthly cannabis use (spliffs) were calculated and are reported in Table 7.8.

A Shapiro-Wilk's test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group at both time points. The immediate treatment had a skewness of 3.20 ( $SE = 0.42$ ) and a kurtosis of 11.37 ( $SE = 0.82$ ) at baseline and a skewness of 2.92 ( $SE = 0.42$ ) and a

kurtosis of 25.47 ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of 4.96 ( $SE = 0.43$ ) and a kurtosis of 25.47 ( $SE = 0.85$ ) at baseline, and a skewness of 4.44 ( $SE = 0.43$ ) and a kurtosis of 8.33 ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011). As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on cannabis use at baseline and 1 month.

Table 7.4

*Means and standard deviations (SD) monthly cannabis usage, in spliffs, for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	7.87	19.59	7.69	31.75
1 Month	4.96	12.85	7.59	27.52

It indicated that cannabis usage was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 7.78$ ), and at 1 month cannabis usage was not significantly different for those in either group ( $Mdn = 6.23$ ),  $U = 426.5$ ,  $p = .600$ . These results are presented in Appendix Q Table Q.5 and Q.6.

This non-significant result appears to reject the primary hypothesis that the intervention was more effective at reducing drug misuse, with respect to cannabis use, than substance misuse management approaches as usual, but has to be considered within the context of a relatively small sample and therefore the increased possibility of a type II error.

## CHAPTER 8: ANALYSIS OF THE SECONDARY OUTCOMES – CHANGES IN FLOURISHING

This section of the analysis tested the hypothesis that participating in TRP training programme increases flourishing, compared to ‘substance misuse management approaches as usual’. The data on flourishing from participants ( $N = 60$ ) was analysed at two time points, baseline and 1 month, for both the intervention group ( $n = 31$ ) and wait-list control group ( $n = 29$ ).

### Sample Characteristics and Analysis of the Changes in Flourishing

Mean flourishing scores were calculated and are reported in Table 8.1.

Table 8.1

*Mean and standard deviations (SD) of flourishing scores for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	38.7	10.44	32.6	10.64
1 month	41.8	8.94	34.2	10.73

A Shapiro-Wilk’s test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group. The immediate treatment had a skewness of  $-4.70$  ( $SE = 0.42$ ) and a kurtosis of  $-0.75$  ( $SE = 0.821$ ) at baseline and a skewness of  $-1.08$  ( $SE = 0.42$ ) and a kurtosis of  $0.66$  ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of  $-0.67$  ( $SE = 0.43$ ) and a kurtosis of  $0.05$  ( $SE = 0.85$ ) at baseline, and a skewness of  $-0.52$  ( $SE = 0.43$ ) and a kurtosis of  $-0.41$  ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on flourishing at baseline and 1 month.

It indicated that flourishing was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 35.75$ ), but at 1 month flourishing had increased highly significantly for those in the intervention compared to the control group ( $Mdn = 38.13$ ),  $U = 244.5$ ,  $p = .002$ . These results are presented in Appendix Q, table Q.7 and Q.8.

This highly significant result confirmed the secondary hypothesis that the intervention was more effective increasing flourishing than substance misuse management approaches as usual.

## CHAPTER 9: ANALYSIS OF THE SECONDARY OUTCOMES – CHANGES IN IMPULSIVITY

This section of the analysis tested the hypothesis that participating in TRP training programme decreases impulsivity, compared to ‘substance misuse management approaches as usual’. The data on impulsivity from participants ( $N = 60$ ) was analysed at two time points, baseline and 1 month, for both the intervention group ( $n = 31$ ) and wait-list control group ( $n = 29$ ).

### Sample Characteristics and Analysis of Changes in Impulsivity

Means for impulsivity scores were calculated and are reported in Table 9.1.

Table 9.1

*Means and standard deviations (SD) of impulsivity scores for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	11.1	3.07	11.2	3.00
1 month	9.29	3.20	11.3	2.51

A Shapiro-Wilk’s test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were approximately normally distributed for both the immediate treatment and the control group. The immediate treatment had a skewness of  $-3.71$  ( $SE = 0.42$ ) and a kurtosis of  $-0.623$  ( $SE = 0.821$ ) at baseline and a skewness of  $0.36$  ( $SE = 0.42$ ) and a kurtosis of  $-0.85$  ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of  $-0.51$  ( $SE = 0.43$ ) and a kurtosis of  $0.14$  ( $SE = 0.85$ ) at baseline, and a skewness of  $-.06$  ( $SE = 0.43$ ) and a kurtosis of  $-1.05$  ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

A mixed-design 2 by 2 ANOVA was used to assess the effect of receiving the intervention or being part of the control group as a between-subjects factor, with measuring impulsivity at baseline and 1 month as the within-subjects factor.

The results showed that there was no significant main effect over the two time points on the combined impulsivity scores of all participants ( $F(1, 58) = 3.93, p = .052, \eta_p^2 < .063$ ) and no significant main effect of group ( $F(1, 58) = 2.66, p = .11$ ) on impulsivity scores. However there was a significant interaction between time and control/intervention group for impulsivity scores ( $F(1, 58) = 5.99, p = .017, \eta_p^2 = .094, d = 0.70$ ). Mean scores decreased for the intervention group and increased for the control group, as reported in Table 9.1. Follow up paired sample t-tests showed that impulsivity scores in the IIG were significantly lower at 1 month ( $M = 9.29, SD = 3.20$ ) than baseline ( $M = 11.10, SD = 3.07$ ),  $t(30) = 2.68, p = .012, d = .58$ . There was no significant difference,  $t(28) = -.43, p = .67$  between baseline ( $M = 11.16, SD = 3.00$ ) and 1 month ( $M = 11.34, SD = 2.51$ ) impulsivity scores for the WLG. Independent sample t tests were conducted to explore differences in impulsivity scores between the groups at both time points. There was no significant difference between the IIG ( $M = 11.10, SD = 3.07$ ) and WLG ( $M = 11.15, SD = 3.00$ ) groups at baseline  $t(58) = -.074, p = .94$ . At 1 month impulsivity scores for the IIG ( $M = 9.29, SD = 3.20$ ) were significantly lower than in WLG ( $M = 11.34, SD = 2.51$ )  $t(58) = -2.76, p = .008$  hedges  $g = .71$

This highly significant result confirmed the secondary hypothesis that the intervention was more effective at decreasing impulsivity, a major contributory factor to SUD, than substance misuse management approaches as usual.

## **CHAPTER 10: ANALYSIS OF THE SECONDARY OUTCOMES – CHANGES IN RECOVERY CAPITAL**

This section of the analysis tested the hypothesis that participating in TRP training programme increases elements of recovery capital, compared to ‘substance misuse management approaches as usual’. Elements key to recovery capital were recorded on the tops forms; they included psychological health, physical health, quality of life (QOL) scores; information about days at work, college or volunteering and housing issues or risk of eviction were also recorded, although problems with housing or eviction did not generally appear to be an issue for this sample group and therefore there was little data to analyse.

The data on elements of recovery capital from participants ( $N = 60$ ) was analysed at two time points, baseline and 1 month, for both the intervention group ( $n = 31$ ) and wait-list control group ( $n = 29$ ).

### **Sample Characteristics and Analysis of Changes in Psychological Health During the Control/Intervention Period**

Means for psychological health scores were calculated and are reported in Table 10.1.

Table 10.1

*Mean psychological health scores for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	11.3	4.52	11.0	5.16
1 month	13.1	4.92	9.93	4.17

A Shapiro-Wilk's test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group. The immediate treatment had a skewness of  $-0.24$  ( $SE = 0.42$ ) and a kurtosis of  $-0.63$  ( $SE = 0.821$ ) at baseline and a skewness of  $-1.20$  ( $SE = 0.42$ ) and a kurtosis of  $0.66$  ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of  $-0.24$  ( $SE = 0.43$ ) and a kurtosis of  $0.18$  ( $SE = 0.85$ ) at baseline, and a skewness of  $-0.02$  ( $SE = 0.43$ ) and a kurtosis of  $-0.72$  ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

The data on psychological health was non-parametric. As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on psychological health at baseline and 1 month.

It indicated that psychological health was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 11.13$ ), but at 1 month psychological health had increased highly significantly for those in the intervention compared to the control group ( $Mdn = 11.58$ ),  $U = 242.5$ ,  $p = .002$ . These results are presented in Appendix Q, table Q.9 and Q.10.

This highly significant result confirmed the secondary hypothesis that the intervention was more effective at increasing elements of recovery capital, in this case psychological health, than substance misuse management approaches as usual.

### **Sample Characteristics and Analysis of Changes in Physical Health During the Control/Intervention Period**

Means for physical health scores were calculated and are reported in Table 10.2. A Shapiro-Wilk's test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group.

Table 10.2

*Means and standard deviations (SD) of physical health scores for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	11.5	4.93	11.8	5.44
1 month	13.1	4.13	10.3	5.11

The immediate treatment had a skewness of  $-0.45$  ( $SE = 0.42$ ) and a kurtosis of  $-0.78$  ( $SE = 0.821$ ) at baseline and a skewness of  $-1.02$  ( $SE = 0.42$ ) and a kurtosis of  $0.06$  ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of  $-1.02$  ( $SE = 0.43$ ) and a kurtosis of  $0.62$  ( $SE = 0.85$ ) at baseline, and a skewness of  $-0.33$  ( $SE = 0.43$ ) and a kurtosis of  $-0.59$  ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

The data on physical health was non-parametric. As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on psychological health at baseline and 1 month.

It indicated that physical health was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 11.67$ ), but at 1 month physical health had increased significantly for those in the intervention compared to the control group ( $Mdn = 11.78$ ),  $U = 303.5$ ,  $p = .03$ . These results are presented in Appendix Q table Q.11 and Q.12.

This highly significant result confirmed the secondary hypothesis that the intervention was more effective at increasing elements of recovery capital, in this case physical health, than substance misuse management approaches as usual.

**Sample Characteristics and Analysis of Changes in QOL During the  
Control/Intervention Period**

Means for QOL scores were calculated and are reported in Table 10.3. A Shapiro-Wilk's test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group. The immediate treatment had a skewness of -1.14 ( $SE = 0.42$ ) and a kurtosis of 0.92 ( $SE = 0.82$ ) at baseline and a skewness of -0.85 ( $SE = 0.42$ ) and a kurtosis of -0.20 ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of -1.02 ( $SE = 0.43$ ) and a kurtosis of -0.20 ( $SE = 0.85$ ) at baseline, and a skewness of -0.33 ( $SE = 0.43$ ) and a kurtosis of -0.59 ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

Table 10.3

*Means and standard deviations (SD) of QOL scores for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	13.7	5.05	11.9	5.58
1 month	13.6	4.29	10.5	4.72

The data for QOL was non-parametric. As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on psychological health at baseline and 1 month.

It indicated that QOL was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 12.87$ ), but at 1 month QOL had increased highly significantly for those in the intervention compared to the control group ( $Mdn = 12.13$ ),  $U = 274.0$ ,  $p = .009$ . These results are presented in Appendix Q table Q.13 and Q.14.

This highly significant result confirmed the secondary hypothesis that the intervention was more effective at increasing elements of recovery capital, in this case QOL, than substance misuse management approaches as usual.

### **Sample Characteristics and Analysis of Changes in Days at Work During the Control/Intervention Period**

Means for days at work scores were calculated and are reported in Table 10.4. A Shapiro-Wilk's test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group. The immediate treatment had a skewness of 0.65 ( $SE = 0.42$ ) and a kurtosis of -1.35 ( $SE = 0.82$ ) at baseline and a skewness of 0.54 ( $SE = 0.42$ ) and a kurtosis of -1.53 ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of 1.00 ( $SE = 0.43$ ) and a kurtosis of -0.10 ( $SE = 0.85$ ) at baseline, and a skewness of 1.16 ( $SE = 0.43$ ) and a kurtosis of 0.39 ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

Table 10.4

*Means and standard deviations (SD) of days at work scores for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	8.13	10.16	6.79	8.28
1 month	7.48	9.00	6.86	8.80

As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on days at work at baseline and 1 month.

It indicated that days at work was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 7.48$ ), and at 1 month days at work was

not significantly different for those in either group ( $Mdn = 7.18$ ),  $U = 444.5$ ,  $p = .936$ .

These results are presented in Appendix Q, table Q.11 and Q.12.

This non-significant result does not support the hypothesis that the intervention was more effective at increasing elements of recovery capital, in this case days at work, than substance misuse management approaches as usual.

### **Sample Characteristics and Analysis of Changes in Days at College During the Control/Intervention Period**

Means for days at college scores were calculated and are reported in Table 10.5. A Shapiro-Wilk's test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group. The immediate treatment had a skewness of 3.10 ( $SE = 0.42$ ) and a kurtosis of 8.50 ( $SE = 0.82$ ) at baseline and a skewness of 3.73 ( $SE = 0.42$ ) and a kurtosis of 12.71 ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of 4.48 ( $SE = 0.43$ ) and a kurtosis of 20.88 ( $SE = 0.85$ ) at baseline, and a skewness of 3.84 ( $SE = 0.43$ ) and a kurtosis of 14.34 ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

Table 10.5

*Means and standard deviations (SD) of days at college scores for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	0.41	1.34	1.00	3.94
1 month	0.13	0.50	0.17	0.66

As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on days at college at baseline and 1 month.

It indicated that days at college was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 0.7$ ), and at 1 month days at college was not significantly different for those in either group ( $Mdn = 0.15$ ),  $U = 446.5$ ,  $p = .918$ . These results are presented in Appendix Q table, Q.13 and Q.14.

This non-significant result does not support the hypothesis that the intervention was more effective at increasing elements of recovery capital, in this case days at college, than substance misuse management approaches as usual.

### **Sample Characteristics and Analysis of Changes in Days at Volunteering During the Control/Intervention Period**

Means for days volunteering were calculated and are reported in Table 10.6. A Shapiro-Wilk's test ( $p > .05$ ) (Razali & Wah, 2011; Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal QQ plots and box plots showed that the scores were not normally distributed for both the immediate treatment and the control group.

The immediate treatment had a skewness of 2.06 ( $SE = 0.42$ ) and a kurtosis of 3.22 ( $SE = 0.82$ ) at baseline and a skewness of 3.86 ( $SE = 0.42$ ) and a kurtosis of 16.73 ( $SE = 0.82$ ) at 1 month. The wait-list group had a skewness of 2.66 ( $SE = 0.43$ ) and a kurtosis of 7.60 ( $SE = 0.85$ ) at baseline, and a skewness of 2.13 ( $SE = 0.43$ ) and a kurtosis of 3.40 ( $SE = 0.85$ ) at 1 month (Cramer & Howitt, 2004; Doane & Seward, 2011).

As a result, a Mann-Whitney U test was used to assess the effect of receiving the intervention or being part of the control group on days volunteering at baseline and 1 month.

It indicated that days volunteering was not significantly different for those in either the control or intervention group at baseline ( $Mdn = 1.67$ ), and at 1 month days volunteering was not significantly different for those in either group ( $Mdn = 1.27$ ),  $U = 444.0$ ,  $p = .907$ . These results are presented in Appendix Q table Q.13 and Q.14.

Table 10.6

*Means and standard deviations (SD) of days volunteering scores for intervention and wait groups at baseline and 1 month.*

Time point	Intervention	SD	Wait	SD
Baseline	1.80	3.60	1.52	3.48
1 month	1.42	3.96	1.10	2.42

This non-significant result does not support the hypothesis that the intervention was more effective at increasing elements of recovery capital, in this case days volunteering, than substance misuse management approaches as usual.

### **Sample Characteristics and Analysis of Changes in Housing Issues and Eviction Risk**

#### **During the Control/Intervention Period**

The number of participants reporting acute housing issues was small ( $n = 4$ ) and non-existent for risk of eviction, for these reasons no tests were performed on this data set.

## CHAPTER 11: ANALYSIS OF THE SECONDARY OUTCOMES – LONGEVITY OF EFFECT

This section of the analysis tested the hypothesis that the changes achieved could be sustained. After the control period concluded, the wait-list group participants were given the opportunity to take the TRP intervention, resulting in a group ( $n = 45$ ) who had all attended the intervention and provided data at 3 time points, pre-course, 1 month post-intervention and 3 months post-intervention.

### Sample Characteristics

The same measures were used to collect data as in the intervention/control period which provided an opportunity to evaluate the longevity of the effects observed in the intervention/control period. As with the intervention/control period data, this data was analysed on a case controlled basis, for similar reasons, and was found to be non-normally distributed. In order to avoid overweighting the text with figures for the kurtosis, skewness and Shapiro-Wilks data for the three time points the relevant data have been presented in Appendix R.

As with the previous sample certain substances were much more commonly used than others, such as alcohol, and others were underrepresented, see Table 11.1.

Table 11.1

*Numbers of Participants using Substances for Pre-course – 1 Month – 3 Month Period*

	Alcohol	Opiates	Crack	Cocaine	Amphetamines	Cannabis
Number	39	2	1	8	4	8

### Analysis of Changes in Alcohol Usage at Pre-course, 1 Month and 3 Months

Alcohol was also the most used substance in this section of the study ( $n = 39$ ) and means for monthly alcohol use in units were calculated and are reported in Table 11.2.

Table 11.2

*Means and standard deviations (SD) of monthly alcohol use, in units, at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	184	214
1 month	144	385
3 months	121	183

As a result of the normal distribution, a non-parametric Friedman test of differences among repeated measures was conducted. It reported a statistically significant difference in alcohol use over the three time periods,  $\chi^2(2) = 11.60, p = .003$ .

Post hoc analysis with Wilcoxon signed-rank tests was conducted with a Bonferroni correction applied, resulting in a significance level set at  $p < .017$ . There was a significant difference between alcohol use at pre-intervention and 1 month post-intervention ( $Z = -2.509, p = .012$ ) and between pre-intervention and 3 months post-intervention ( $Z = -2.437, p = .015$ ), but no significant difference between 1 month and 3 month usage ( $Z = -0.102, p = .919$ ).

These figures show that alcohol usage significantly reduced after the intervention and the change was maintained at 3 months and support the hypothesis that the effects of the intervention, on decreasing alcohol usage, are maintained over time.

### **Analysis of Changes in Opiate Usage at Pre-course, 1 Month and 3 Months**

The number of opiate users was small ( $n = 2$ ) and means for monthly opiate use, in grams, were calculated and are reported in Table 11.3.

Table 11.3

*Means and standard deviations (SD) of monthly opiate use, in grams, at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	0.062	0.036
1 month	0.053	0.0360
3 months	No data	No data

The data was not normally distributed and no participants were using opiates at 3 months, as a result, a non-parametric Friedman test of differences among repeated measures was conducted. Although none of the participants was using opiates at the end of the study, due to the small sample size, the analysis reported no statistically significant difference in opiate use over the three time periods,  $\chi^2(2) = 3.00, p = .23$ . These findings do not support the hypothesis that the effects of the intervention, on opiate usage, are maintained over time.

### **Analysis of Changes in Crack Usage at Pre-course, 1 Month and 3 Months**

The number of crack users was small ( $n = 1$ ) and means for monthly crack usage in milligrams were calculated and are reported in Table 11.4.

The data was not normally distributed, as a result, a non-parametric Friedman test of differences among repeated measures was conducted. Although none of the participants was using crack at the end of the study, due to the small sample size, it reported no statistically significant difference in crack use over the three time periods,  $\chi^2(2) = 2.00, p$

= .37. These findings do not support the hypothesis that the effects of the intervention, on crack usage, are maintained over time.

Table 11.4

*Means and standard deviations (SD) of monthly crack use, in mg, at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	0.08	0.52
1 month	0	No data
3 months	0	No data

#### **Analysis of Changes in Cocaine Usage at Pre-course, 1 Month and 3 Months**

The number of cocaine users was small ( $n = 8$ ) and means for monthly cocaine use, in grams, were calculated and are reported in Table 11.5. The data was not normally distributed and, as a result, a non-parametric Friedman test of differences among repeated measures was conducted. It reported a statistically significant difference in cocaine use over the three time periods,  $\chi^2(2) = 6.07, p = 0.048$ .

Table 11.5

*Means and standard deviations (SD) of monthly cocaine use, in grams, at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	1.76	8.49
1 month	0.71	4.46
3 months	0.90	5.22

Post hoc analysis with Wilcoxon signed-rank tests was conducted with a Bonferroni correction applied, resulting in a significance level set at  $p < .017$ . There was a non-significant difference between cocaine use at pre-intervention and 1 month post-intervention ( $Z = -1.028, p = .043$ ) between pre-intervention and 3 months post-intervention ( $Z = -1.893, p = .058$ ), and between 1 month and 3 month usage ( $Z = -1.863, p = .063$ ).

These findings suggest an overall decrease in cocaine use over the three months (means at pre, 1 month post and 3 months post were 1.76, 0.72, 0.90 respectively). The post hoc tests were unable to identify at which period the most significant change occurred however, when the significance levels was adjusted to  $p < .05$ , the change between pre intervention and 1 month post-intervention was significant at that level.

These figures suggest that cocaine usage reduced after the intervention, however the lack of significance in the post hoc tests prevent full support of the hypothesis that the effects of the intervention, on decreasing cocaine usage, are maintained over time.

#### **Analysis of Changes in Amphetamine Usage at Pre-course, 1 Month and 3 Months**

The number of amphetamine users was small ( $n = 4$ ) and means for monthly amphetamine use in grams were calculated and are reported in Table 11.6.

Table 11.6

*Means and standard deviations (SD) of amphetamine use, in g, at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	0.71	3.30
1 month	0	No data
3 months	0.03	0.18

As a result of the non-normal distribution a non-parametric Friedman test of differences among repeated measures was conducted. It reported a statistically significant difference in amphetamine use over the three time periods,  $\chi^2(2) = 7.538, p = 0.023$ .

Post hoc analysis with Wilcoxon signed-rank tests was conducted with a Bonferroni correction applied, resulting in a significance level set at  $p < .017$ . There was a non-significant difference between amphetamine use at pre-intervention and 1 month post-intervention ( $Z = -1.826, p = .068$ ) between pre-intervention and 3 months post-intervention ( $Z = -1.826, p = .068$ ), and between 1 month and 3 month usage ( $Z = -1.000, p = .317$ ).

These findings suggest an overall decrease in amphetamine use over the three months (means at pre, 1 month post and 3 months post were .71, 0.00, 0.27 respectively). Although the small sample size makes any estimates identifying the time point of significant change unreliable, these findings support the hypothesis that the effects of the intervention, on amphetamine usage, are maintained over time.

#### **Analysis of Changes in Cannabis Usage at Pre-course, 1 Month and 3 Months**

The number of cannabis users was small ( $n = 8$ ) and the means for monthly cannabis use, recorded in spliff use, were calculated and are reported in Table 11.7.

The data was not normally distributed, as a result, a non-parametric Friedman test of differences among repeated measures was conducted. It reported no statistically significant difference in cannabis use over the three time periods,  $\chi^2(2) = 5.871, p = .053$ .

Although the  $p$  value for cannabis usage is notably close to the level required for significance, the small sample group makes drawing a strong conclusion for the result problematic. Therefore these findings do not support the hypothesis that the effects of the intervention, on cannabis usage, are maintained over time.

Table 11.7

*Means and standard deviations (SD) of monthly cannabis use, in spliffs, at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	8.96	26.47
1 month	4.40	15.23
3 months	4.13	12.49

### **Analysis of Changes in Flourishing at Pre-course, 1 Month and 3 Months**

The means for flourishing were calculated and are reported in Table 11.8. The data for flourishing was not normally distributed, as a result a non-parametric Friedman test of differences among repeated measures was conducted. It reported a statistically significant difference in flourishing over the three time periods,  $\chi^2(2) = 17.509, p < .001$ .

Table 11.8

*Means and standard deviations (SD) of flourishing at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	38	10.20
1 month	46	8.08
3 months	43	7.54

Post hoc analysis with Wilcoxon signed-rank tests was conducted with a Bonferroni correction applied, resulting in a significance level set at  $p < .017$ . There was a significant difference between flourishing use at pre-intervention and 1 month post-intervention ( $Z = -4.315, p < .001$ ) between pre-intervention and 3 months post-

intervention ( $Z = -3.669, p < .001$ ), and no significant difference between 1 month and 3 month scores ( $Z = -3.70, p = .71$ ).

These findings show that flourishing significantly increased (means at pre, 1 month post and 3 months post were 37, 42.9, 43.1 respectively) after the intervention and the change was maintained at 3 months, and support the hypothesis that the effects of the intervention, on increasing flourishing, are maintained over time.

#### **Analysis of Changes in Impulsivity at Pre-course, 1 Month and 3 Months**

The means for impulsivity were calculated and are reported in Table 11.9.

Table 11.9

*Means and standard deviations (SD) of impulsivity at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	11.0	10.20
1 month	8.00	8.08
3 months	8.00	7.54

The data for impulsivity was not normally distributed and as a result, a non-parametric Friedman test of differences among repeated measures was conducted. It reported a statistically significant difference in impulsivity over the three time periods,  $\chi^2(2) = 20.605, p < .001$ .

Post hoc analysis with Wilcoxon signed-rank tests was conducted with a Bonferroni correction applied, resulting in a significance level set at  $p < .017$ . There was a significant difference between impulsivity use at pre-intervention and 1 month post-intervention ( $Z = -4.252, p < .001$ ) between pre-intervention and 3 months post-intervention ( $Z = 4.485, p < .001$ ), and no significant difference between 1 month and 3 month scores ( $Z = 0.0, p = 1.00$ ).

These findings show that impulsivity significantly reduced (means at pre, 1 month post and 3 months post were 11.1, 8.4, 8.4 respectively) after the intervention and the change was maintained at 3 months, and support the hypothesis that the effects of the intervention, on reducing impulsivity, are maintained over time.

#### **Analysis of Changes in Psychological Health at Pre-course, 1 Month and 3 Months**

The means for psychological health were calculated and are reported in Table 11.10.

The data for psychological health was not normally distributed. A non-parametric Friedman test of differences among repeated measures was conducted. It reported a statistically significant difference in psychological health over the three time periods,  $\chi^2(2) = 27.684, p < .001$ .

Table 11.10

*Means and standard deviations (SD) of psychological health at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	10	4.12
1 month	15	4.35
3 months	15	4.40

Post hoc analysis with Wilcoxon signed-rank tests was conducted with a Bonferroni correction applied, resulting in a significance level set at  $p < .017$ . There was a significant difference between psychological health use at pre-intervention and 1 month post-intervention ( $Z = -3.954, p < .001$ ) between pre-intervention and 3 months post-intervention ( $Z = -3.616, p < .001$ ), and no significant difference between 1 month and 3 month scores ( $Z = -0.126, p = .90$ ).

These findings show that psychological health significantly increased (means at pre, 1 month post and 3 months post were 10, 15, 15 respectively) after the intervention and the change was maintained at 3 months, and support the hypothesis that the effects of the intervention, on increasing psychological health, are maintained over time.

#### **Analysis of Changes in Physical Health at Pre-course, 1 Month and 3 Months**

The means for physical health were calculated and are reported in Table 11.11. The data for physical health was not normally distributed and as a result a non-parametric Friedman test of differences among repeated measures was conducted. It reported a statistically significant difference in physical health over the three time periods,  $\chi^2(2) = 9.049, p = .011$ .

Table 11.11

*Means and standard deviations (SD) of physical health at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	11.2	4.43
1 month	13.8	3.92
3 months	13.2	4.40

Post hoc analysis with Wilcoxon signed-rank tests was conducted with a Bonferroni correction applied, resulting in a significance level set at  $p < 0.017$ . There was a significant difference between physical health use at pre-intervention and 1 month post-intervention ( $Z = -3.261, p = .001$ ) and no significant between difference pre-intervention and 3 months post-intervention ( $Z = -2.322, p = .020$ ), and between 1 month and 3 month scores ( $Z = -1.026, p = .30$ ).

These findings show that physical health significantly increased between pre- and 1 month post-intervention and the change, although reduced at 3 months was statistically

similar to the change at 1 month. It also shows that the change at 3 months was not significantly different for the pre-course measurement and so this partially support the hypothesis that the effects of the intervention, on increasing physical health, are maintained over time.

#### **Analysis of Changes in QOL at Pre-course, 1 Month and 3 Months**

The means for QOL were calculated and are reported in Table 11.12. The data for QOL was not normally distributed, and as a result, a non-parametric Friedman test of differences among repeated measures was conducted. It reported no statistically significant difference in QOL over the three time periods,  $\chi^2(2) = 2.316, p = .314$ .

Table 11.12

*Means and standard deviations (SD) of QOL at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	12.6	4.77
1 month	13.4	4.95
3 months	11.4	6.54

These findings do not support the hypothesis that the effects of the intervention, on QOL, are maintained over time.

#### **Analysis of Changes in Acute Housing Issues and Risk of Eviction at Pre-course, 1 Month and 3 Months**

The means for acute housing issues were calculated and are reported in Table 11.13. The data for acute housing issues was not normally distributed, and as a result, a non-parametric Friedman test of differences among repeated measures was conducted. It reported no statistically significant difference in acute housing issues over the three time periods,  $\chi^2(2) = 2.000, p = .368$ .

Table 11.13

*Means and standard deviations (SD) of acute housing issues at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	0.02	0.15
1 month	0	No data
3 months	0	No data

There was not enough data to perform any useful test on risk of eviction.

These findings do not support the hypothesis that the effects of the intervention on the prevalence of acute housing issues or risk of eviction are maintained over time.

#### **Analysis of Changes in Days at Work at Pre-course, 1 Month and 3 Months**

The means for days at work were calculated and are reported in Table 11.14. The data for days at work was not normally distributed, and as a result, a non-parametric Friedman test of differences among repeated measures was conducted. It reported no statistically significant difference in days at work over the three time periods,  $\chi^2(2) = 2.587, p = .274$ .

Table 11.14

*Means and standard deviations (SD) of days at work at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	8.49	9.56
1 month	9.27	9.53
3 months	9.33	10.23

These findings do not support the hypothesis that the effects of the intervention on number of days at work are maintained over time.

### **Analysis of Changes in Days at College at Pre-course, 1 Month and 3 Months**

The means for days at college were calculated and are reported in Table 11.15. The data for days at college was not normally distributed, and as a result a non-parametric Friedman test of differences among repeated measures was conducted. It reported no statistically significant difference in days at college over the three time periods,  $\chi^2(2) = 0.333, p = .846$ .

Table 11.15

*Means and standard deviations (SD) of days at college at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	0.40	1.21
1 month	0.56	3.00
3 months	0.38	1.50

These findings do not support the hypothesis that the effects of the intervention, on number of days at college, are maintained over time.

### **Analysis of Changes in Days Volunteering at Pre-course, 1 Month and 3 Months**

The means for days volunteering were calculated and are reported in Table 11.16.

Table 11.16

*Means and standard deviations (SD) of days volunteering at pre-course, 1 and 3 months.*

Time point	Mean	SD
Pre-course	1.02	2.41
1 month	1.09	3.38

3 months	0.51	1.20
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The data for days volunteering was not normally distributed, and as a result a non-parametric Friedman test of differences among repeated measures was conducted. It reported no statistically significant difference in days volunteering over the three time periods,  $\chi^2(2) = 0.565, p = .754$ .

These findings do not support the hypothesis that the effects of the intervention on number of days volunteering are maintained over time.

## CHAPTER 12: ANALYSIS OF THE SECONDARY OUTCOMES – VARIATION OF RESULTS BY REFERRAL ROUTE

This analysis tested the hypothesis that there is no difference in outcomes between TRP participants self-referred or those referred through drug services. The data were collected over the 3 time points (pre-course, 1 month post-intervention and 3 month post-intervention) for all of those participants ( $N = 45$ ) who had received the intervention. It was analysed for effect by referral group (self-referred  $n = 31$ , referred by drug and alcohol service  $n = 14$ ). The large difference in group numbers and the significant Shapiro-Wilk's tests (see table R.3, Appendix R) distinguished the need for non-parametric tests for all measures.

### Analysis of the Variation of Results by Referral Route for Alcohol usage

The data for alcohol users made up the largest user group ( $n = 39$ ). The means for monthly alcohol usage in units for both the self and service referral groups were calculated and are reported in Table 12.1.

Table 12.1

*Means and standard deviations (SD) of monthly alcohol usage in units at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	195	213	150	225
1 month	97.6	143	290	745
3 months	117	155	131	260

The data was not normally distributed (see Appendix R) and as a result, a two-tailed Mann-Whitney U test was used to assess the effect of being referred into the study via a service or by self-referral on alcohol usage at pre-course, 1 month and 3 months post-intervention.

It indicated that alcohol usage between the two referral routes was not significantly different at pre-course  $U = 132.5, p = .15$  (self  $Mdn = 117$ , service  $Mdn = 28$ ), 1 month  $U = 173.5, p = .72$  (self  $Mdn = 40$ , service  $Mdn = 30$ ) or 3 months  $U = 158.5, p = .45$  (self  $Mdn = 44$ , service  $Mdn = 40$ ). The data is presented in Appendix S, tables S.1 and S.2

These findings suggest that any effect of the intervention on alcohol use was unaffected by referral route, and support the hypothesis that there is no difference in alcohol outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Opiate Usage**

The number of opiate users was small ( $n = 2$ ) and by chance, both users were in the self-referral group. For these reasons, no tests were performed on this data set.

#### **Analysis of the Variation of Results by Referral Route for Crack Usage**

The number of crack users was small ( $n = 1$ ) and as a result, it was decided there would be little value in performing analysis on this data set.

#### **Analysis of the Variation of Results by Referral Route for Cocaine Usage**

The number of cocaine users was small ( $n = 8$ ). The means for monthly cocaine usage in grams for both the self and service referral groups were calculated and are reported in Table 12.2. The data was not normally distributed (see Appendix R) and although all users were in the self-referral group a two-tailed Mann-Whitney U test was used to assess if there was any significant effect of being referred into the study via a service or by self-referral on cocaine usage at pre-intervention, 1 month and 3 months post-intervention.

It indicated that cocaine usage between the two referral routes was not significantly different at pre-course  $U = 148.5, p = .11$  (self  $Mdn = 0$ , service  $Mdn = 0$ ), 1

month  $U = 159.5$ ,  $p = .18$  (self  $Mdn = 0$ , service  $Mdn = 0$ ) or 3 months  $U = 148.5$ ,  $p = .11$  (self  $Mdn = 0$ , service  $Mdn = 0$ ). The data is presented in Appendix S, tables S.3 and S.4.

Table 12.2

*Means and standard deviations (SD) of monthly cocaine usage in grams at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	2.33	9.74	0	0
1 month	0.95	5.14	0	0
3 months	1.20	6.00	0	0

These findings suggest that any effect of the intervention on cocaine use was unaffected by referral route and support the hypothesis that there is no difference in cocaine usage outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Amphetamine Usage**

The number of amphetamine users was small ( $n = 4$ ). The means for monthly amphetamine usage in grams for both the self and service referral groups were calculated and are reported in Table 12.3.

Table 12.3

*Means and standard deviations (SD) of monthly amphetamine usage in grams at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	0.941	3.78	0	0
1 month	0	0	0	0
3 months	.035	0.20	0	0

The data was not normally distributed (see Appendix R) and although all users were in the self-referral group a two-tailed Mann-Whitney U test was used to assess if there was any significant effect of being referred into the study via a service or by self-referral on amphetamine usage at pre-intervention, 1 month and 3 months post-intervention.

It indicated that amphetamine usage between the two referral routes was not significantly different at pre-course  $U = 165, p = .24$  (self  $Mdn = 0$ , service  $Mdn = 0$ ), 1 month  $U = 187, p = 1.00$  (self  $Mdn = 0$ , service  $Mdn = 0$ ) or 3 months  $U = 181.5, p = .57$  (self  $Mdn = 0$ , service  $Mdn = 0$ ). The data is presented in Appendix S, tables S.5 and S.6.

These findings suggest that any effect of the intervention on amphetamine usage was unaffected by referral route, and support the hypothesis that there is no difference in amphetamine usage outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Cannabis Usage**

The number of cannabis users was small ( $n = 8$ ). The means for monthly cannabis usage, in spliffs, for both the self and service referral groups were calculated and are reported in Table 12.4.

Table 12.4

*Means and standard deviations (SD) of monthly cannabis usage, in spliffs, at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	7.74	19.7	12.7	42.2
1 month	3.35	10.5	7.64	25.3
3 months	5.47	14.2	0	0

The data was not normally distributed (see Appendix R), therefore, a two-tailed Mann-Whitney U test was used to assess the effect of being referred into the study via a service or by self-referral on cannabis usage at pre-intervention, 1 month and 3 months post-intervention.

It indicated that cannabis usage between the two referral routes was not significantly different at pre-course  $U = 169, p = .48$  (self  $Mdn = 0$ , service  $Mdn = 0$ ), 1 month  $U = 179, p = .72$  (self  $Mdn = 0$ , service  $Mdn = 0$ ) or 3 months  $U = 154, p = .14$  (self  $Mdn = 0$ , service  $Mdn = 0$ ). The data is presented in Appendix S, tables S.7 and S.8.

These findings suggest that any effect of the intervention on cannabis usage was unaffected by referral route, and support the hypothesis that there is no difference in cannabis usage outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Flourishing**

The means for flourishing for both the self and service referral groups were calculated and are reported in Table 12.5.

The data for flourishing was not normally distributed (see Appendix R) and therefore a two-tailed Mann-Whitney U test was used to assess the effect of being referred into the study via a service or by self-referral on flourishing at pre-intervention, 1 month and 3 months post-intervention.

It indicated that flourishing between the two referral routes was not significantly different at pre-course  $U = 175, p = .75$  (self  $Mdn = 38$ , service  $Mdn = 44$ ), 1 month  $U = 134, p = .16$  (self  $Mdn = 46$ , service  $Mdn = 39$ ) or 3 months  $U = 174, p = .73$  (self  $Mdn = 43$ , service  $Mdn = 45$ ). The data is presented in Appendix S, tables S.9 and S.10.

Table 12.5

*Means and standard deviations (SD) of flourishing at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	37.4	8.77	36	14.2
1 month	44.0	7.48	39.3	9.14
3 months	43.4	6.43	42	10.6

These findings suggest that any effect of the intervention on flourishing was unaffected by referral route, and support the hypothesis that there is no difference in flourishing level outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Impulsivity**

The means for flourishing for both the self and service referral groups were calculated and are reported in Table 12.6.

Table 12.6

*Means and standard deviations (SD) of impulsivity at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	10.9	2.87	11.7	3.29
1 month	7.71	2.55	10.6	2.58
3 months	8.41	2.35	8.36	2.77

The data for impulsivity was not normally distributed, (see Appendix R), and therefore a two-tailed two-tailed Mann-Whitney U test was used to assess the effect of

being referred into the study via a service or by self-referral on impulsivity at pre-intervention, 1 month and 3 months post-intervention.

It indicated that levels of impulsivity between the two referral routes was not significantly different between pre-course  $U = 158, p = .44$  (self  $Mdn = 11$ , service  $Mdn = 12$ ), or at 3 month  $U = 183.5, p = .93$  (self  $Mdn = 8$ , service  $Mdn = 8$ ), but was significantly different at 1 months  $U = 78, p = .004$  (self  $Mdn = 7$ , service  $Mdn = 1$ ). The data is presented in Appendix S, tables S.11 and S.12.

These findings suggest that changes in impulsivity between pre-course and 3 month appear to be independent of the referral route, but there might be an effect of the referral route on changes in impulsivity post-intervention at the 1 month point, with a decrease at 1 month in mean rank of self-referral group (pre-course = 22.2, 1 month = 19.8, 3 months = 23.1) compared to service referral (pre-course = 25.6, 1 month = 32.9, 3 month = 22.7). This partially supports the hypothesis that there is no difference in flourishing level outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Psychological Health**

The means for psychological health for both the self and service referral groups were calculated and are reported in Table 12.7. The data for psychological health was not normally distributed (see Appendix R), and therefore, a two-tailed Mann-Whitney U test was used to assess the effect of being referred into the study via a service or by self-referral on psychological health at pre-intervention, 1 month and 3 months post-intervention.

It indicated that psychological health between the two referral routes was not significantly different at pre-course  $U = 186, p = .98$  (self  $Mdn = 10$ , service  $Mdn = 10$ ), 1 month  $U = 151, p = .34$  (self  $Mdn = 15$ , service  $Mdn = 14$ ) or 3 months  $U = 169, p = .63$

(self *Mdn* = 14.5, service *Mdn* = 15). The data is presented in Appendix S, tables S.13 and S.14.

Table 12.7

*Means and standard deviations (SD) of psychological health at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	10.5	4.34	10.7	3.50
1 month	13.6	4.39	12.6	4.34
3 months	13.5	4.25	13.6	5.07

These findings suggest that any effect of the intervention on psychological health was unaffected by referral route, and support the hypothesis that there is no difference in psychological health outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Physical Health**

The means for physical health for both the self and service referral groups were calculated and are reported in Table 12.8.

Table 12.8

*Means and standard deviations (SD) of physical health at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	10.8	4.61	12.5	3.70
1 month	14.0	3.90	13.2	4.07
3 months	13.1	4.34	13.6	4.76

The data for physical health was not normally distributed (see Appendix R), and therefore a two-tailed Mann-Whitney U test was used to assess the effect of being referred into the study via a service or by self-referral on physical health at pre-intervention, 1 month and 3 months post-intervention.

It indicated that physical health between the two referral routes was not significantly different at pre-course  $U = 145.5, p = .27$  (self  $Mdn = 10$ , service  $Mdn = 12$ ), 1 month  $U = 162, p = .51$  (self  $Mdn = 15$ , service  $Mdn = 15$ ) or 3 months  $U = 172, p = .69$  (self  $Mdn = 14$ , service  $Mdn = 15$ ). The data is presented in Appendix S, tables S.15 and S.16.

These findings suggest that any effect of the intervention on physical health was unaffected by referral route, and support the hypothesis that there is no difference in physical health outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for QOL**

The means for QOL for both the self and service referral groups were calculated and are reported in Table 12.9.

Table 12.9

*Means and standard deviations (SD) of QOL at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	12.5	4.78	12.9	4.95
1 month	13.5	5.16	13.0	4.43
3 months	10.2	6.85	15.0	3.82

The data for QOL was not normally distributed and therefore a two-tailed Mann-Whitney U test was used to assess the effect of being referred into the study via a service or by self-referral on QOL at pre-intervention, 1 month and 3 months post-intervention.

It indicated that QOL between the two referral routes was not significantly different between pre-course  $U = 145.5, p = .27$  (self  $Mdn = 10$ , service  $Mdn = 12$ ), 1 month  $U = 162, p = .51$  (self  $Mdn = 15$ , service  $Mdn = 15$ ), but was significantly different at 3 months  $U = 172, p = .69$  (self  $Mdn = 14$ , service  $Mdn = 15$ ). The data is presented in Appendix S, tables S.17 and S.18.

These findings suggest that changes in QOL between pre-course and 1 month appear to be independent of the referral route due, but there might be an effect of the referral route on changes in QOL post-intervention at the 3 month point, with a decrease from 1 month to 3 months (23.7 to 20.7) in mean rank of self-referral group compared to service referral (20.9 to 30). This partially supports the hypothesis that there is no difference in QOL level outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Days at Work**

The means for days at work for both the self and service referral groups were calculated and are reported in Table 12.10.

The data for days at work was not normally distributed (see Appendix R), and therefore a two-tailed Mann-Whitney U test was used to assess the effect of being referred into the study via a service or by self-referral on days at work at pre-intervention, 1 month and 3 months post-intervention.

It indicated that days at work between the two referral routes was not significantly different at pre-course  $U = 126.5, p = .09$  (self  $Mdn = 8$ , service  $Mdn = 0$ ), 1 month  $U =$

140,  $p = .19$  (self  $Mdn = 11$ , service  $Mdn = 0$ ) or 3 months  $U = 123.5$ ,  $p = .08$  (self  $Mdn = 8$ , service  $Mdn = 0$ ). The data is presented in Appendix S, tables S.19 and S.20.

Table 12.10

*Means and standard deviations (SD) of days at work at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	9.59	9.67	5.09	8.78
1 month	10.35	9.20	5.91	10.2
3 months	10.6	10.3	5.36	9.32

It indicated that days at work between the two referral routes was not significantly different at pre-course  $U = 126.5$ ,  $p = .09$  (self  $Mdn = 8$ , service  $Mdn = 0$ ), 1 month  $U = 140$ ,  $p = .19$  (self  $Mdn = 11$ , service  $Mdn = 0$ ) or 3 months  $U = 123.5$ ,  $p = .08$  (self  $Mdn = 8$ , service  $Mdn = 0$ ). The data is presented in Appendix S, tables S.19 and S.20.

These findings suggest that any effect of the intervention on days at work was unaffected by referral route, and support the hypothesis that there is no difference in days at work outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Days at College**

The means for days at college for both the self and service referral groups were calculated and are reported in Table 12.11.

The data for days at college was not normally distributed (see Appendix R), and although none of the service-referred participants were at college data a two-tailed Mann-Whitney U test was used to assess the significance of any effect of being referred into the study via a service or by self-referral on days at college at pre-intervention, 1 month and 3 months post-intervention.

It indicated that days at college between the two referral routes was not significantly different at pre-course  $U = 159.5, p = .18$  (self  $Mdn = 0$ , service  $Mdn = 0$ ), 1 month  $U = 165, p = .24$  (self  $Mdn = 0$ , service  $Mdn = 0$ ) or 3 months  $U = 165, p = .24$  (self  $Mdn = 0$ , service  $Mdn = 0$ ). The data is presented in Appendix S, tables S.21 and S.22.

Table 12.11

*Means and standard deviations (SD) of days at college at pre-course, 1 and 3 months.*

Time point	Self-referred	SD	Service referred	SD
Pre-course	0.53	1.38	0	0
1 month	0.74	3.44	0	0
3 months	0.50	1.71	0	0

These findings suggest that any effect of the intervention on days at college was unaffected by referral route and support the hypothesis that there is no difference in days at work outcomes between TRP participants who are self-referred or those referred through drug services.

#### **Analysis of the Variation of Results by Referral Route for Days Volunteering**

The means for days volunteering for both the self and service referral groups were calculated and are reported in Table 12.12.

The data for days volunteering was not normally distributed (see Appendix R), and therefore a two-tailed Mann-Whitney U test was used to assess the effect of being referred into the study via a service or by self-referral on days volunteering at pre-intervention, 1 month and 3 months post-intervention.

It indicated that days volunteering between the two referral routes was not significantly different at pre-course  $U = 157, p = .28$  (self  $Mdn = 0$ , service  $Mdn = 0$ ), 1

month  $U = 174, p = .59$  (self  $Mdn = 0$ , service  $Mdn = 0$ ) or 3 months  $U = 168, p = .45$  (self  $Mdn = 0$ , service  $Mdn = 0$ ). The data is presented in Appendix S, tables S.23 and S.24.

Table 12.12

*Means and standard deviations (SD) of days volunteering at pre-course, 1 and 3 months*

Time point	Self-referred	SD	Service referred	SD
Pre-course	1.18	2.58	0.55	1.81
1 month	0.85	2.00	1.82	6.03
3 months	0.56	1.21	0.36	1.21

These findings suggest that any effect of the intervention on days volunteering was unaffected by referral route and support the hypothesis that there is no difference in days volunteering outcomes between TRP participants who are self-referred or those referred through drug services.

### **Analysis of the Variation of Results by Referral Route for Housing and Eviction**

#### **Issues**

The responses for issues with acute housing was small ( $n = 4$ ) and non-existent for risk of eviction, for these reasons no tests were performed on this data set.

**CHAPTER 13: ANALYSIS OF THE SECONDARY OUTCOMES –  
ASSOCIATION BETWEEN SUBSTANCE MISUSE, FLOURISHING AND  
IMPULSIVITY**

This section of the analysis tested the hypothesis that there is an association between reduced substance misuse, increased flourishing and decreased impulsivity. As alcohol was the most widely used substance ( $n = 52$  in control/intervention period,  $n = 39$  in pre-course – 1 month – 3 month period) and the only substance that showed significant change in the intervention/control period and the other substances were poorly represented in the data it was decided to focus solely on the association between alcohol usage, flourishing and impulsivity (Table 12.1 and 12.2).

**Analysis of the Association Between Alcohol Misuse, Flourishing and Impulsivity at  
baseline**

The alcohol usage, impulsivity and flourishing scores were collected at recruitment. On examination this data for alcohol usage and impulsivity was not normally distributed (Alcohol: skewness of 1.68 ( $SE = 0.28$ ), kurtosis of 2.70 ( $SE = 0.56$ ) and the Shapiro-Wilks returned  $p < .001$ . Impulsivity: skewness of -0.40 ( $SE = 0.28$ ), kurtosis of -0.42 ( $SE = 0.56$ ) and the Shapiro-Wilks returned  $p = .024$ ) Flourishing data was almost normally distributed (Flourishing: skewness of -0.26 ( $SE = 0.28$ ), kurtosis of -0.81 ( $SE = 0.56$ ) and the Shapiro-Wilks returned  $p = .001$ ). Therefore a Spearman's test was used to analyse the associations for this data and it showed a weak, significant negative correlation between impulsivity and flourishing, Spearman's  $r_s(70) = -0.25$   $p = .03$  and no other significant associations were found between alcohol and flourishing or impulsivity.

### **Analysis of the Association Between Alcohol Misuse and Flourishing in the Intervention/Control Period**

The alcohol and flourishing scores from both time points of the RCT were analysed and a new variable was calculated for both measures by subtracting the score at 1 month from the score at randomisation to identify the change over time. On examination this data for alcohol and flourishing was not normally distributed (Alcohol: skewness of 1.82 ( $SE = 0.31$ ), kurtosis of 5.64 ( $SE = 0.61$ ) and the Shapiro-Wilks returned  $p < .05$ . Flourishing: skewness of -0.40 ( $SE = 0.31$ ), kurtosis of 3.00 ( $SE = 0.61$ ) and the Shapiro-Wilks returned  $p < .05$ ). Therefore a Spearman's test was used to analyse the associations for this non-normally distributed data and it showed a weak positive correlation between a decrease in alcohol use and an increase in flourishing but was not found to be significant, Spearman's  $r_s(58) = .06$   $p = .625$ .

### **Analysis of the Association Between Alcohol Misuse and Flourishing in the Pre-course to 3 Month Period**

The alcohol and flourishing scores of the cohort study taken at pre-intervention and 3 months post-intervention were analysed and a new variable was calculated for both measures by subtracting the score at 3 months from the pre-course score to identify the change over the time period. These calculated alcohol and flourishing scores were normally distributed (Alcohol: skewness = -3.81 ( $SE = 0.35$ ), kurtosis = 23.14 ( $SE = 0.70$ ), and the Shapiro-Wilks returned was  $p > .05$ . Flourishing: skewness = -0.14 ( $SE = 0.35$ ), kurtosis = -0.29 ( $SE = 0.70$ ), and a Shapiro-Wilks  $p < .05$ .)

Therefore a Spearman's test was used to analyse the associations for this non-normally distributed data and it showed a weak positive correlation between a decrease in alcohol use and an increase in flourishing but was not found to be significant, Spearman's  $r_s(43) = 0.036$   $p = .813$ .

### **Analysis of the Association Between Impulsivity and Flourishing in the Intervention/Control Period**

The impulsivity and flourishing scores from both time points of the RCT were analysed and a new variable was calculated for both measures by subtracting the score at 1 month from the score at randomisation to identify the change over time. On examination this data for impulsivity was normally distributed, however the data for flourishing was not (Impulsivity: skewness of 0.12 ( $SE = 0.31$ ), kurtosis of 0.06 ( $SE = 0.61$ ) and the Shapiro-Wilks returned  $p = .58$ . Flourishing: skewness of -0.40 ( $SE = 0.31$ ), kurtosis of 3.00 ( $SE = 0.61$ ) and the Shapiro-Wilks returned  $p < .05$ ). Therefore a Spearman's test was used to analyse the associations for this non-normally distributed data and it showed a moderate correlation between a decrease in impulsivity and an increase in flourishing that was significant, Spearman's  $r_s(58) = -0.31$   $p = .015$ .

### **Analysis of the Association Between Impulsivity and Flourishing in the Pre-course to 3 Month Period**

The impulsivity and flourishing scores of the cohort study taken at pre-intervention and 3 months post-intervention were analysed and a new variable was calculated for both measures by subtracting the score at 3 months from the pre-course score to identify the change over the time period. These calculated impulsivity scores were normally distributed with a skewness of 0.47 ( $SE = 0.35$ ), and a kurtosis of -0.29 ( $SE = 0.70$ ), and the Shapiro-Wilks returned was  $p > .05$  data. However the flourishing scores were not normally distributed, having a skewness of -0.14 ( $SE = 0.35$ ), and a kurtosis of -0.29 ( $SE = 0.70$ ), and a Shapiro-Wilks  $p < .05$ .

Therefore a Spearman's test was used to analyse the associations for this non-normally distributed data and it showed a strong correlation between a decrease in

impulsivity and an increase in flourishing that was highly significant, Spearman's  $r_s(43) = -0.60$   $p < .001$ .

#### **Analysis of the Association Between Impulsivity and Alcohol Misuse in the Intervention/Control Period**

The impulsivity and alcohol scores from both time points of the RCT were analysed and a new variable was calculated for both measures by subtracting the score at 1 month from the score at randomisation to identify the change over time. As reported earlier this data for impulsivity was normally distributed. As a result a Spearman's test was used to analyse the associations for this non-normally distributed data and it showed a weak correlation between a decrease in impulsivity and a decrease in alcohol but was not significant, Spearman's  $r_s(58) = .20$   $p = .12$ .

#### **Analysis of the Association Between Impulsivity and Alcohol in the Pre-course to 3 Month Period**

The normally distributed impulsivity scores and non-normally distributed alcohol scores calculated as described from the cohort study previously were analysed using a Spearman's test. It showed a weak correlation between a decrease in impulsivity and a decrease in alcohol that was not significant, Spearman's  $r_s(43) = .21$   $p = .16$ .

## CHAPTER 14: QUALITATIVE STUDY

### Introduction

This section focuses on the qualitative element of this mixed methods project. It is divided into two sections. The first, the methods sections, provides a detailed consideration of the theoretical perspectives and decision-making processes involved in the design of this study. The second, the analysis section, provides the results of the thematic analysis that was undertaken, along with a discussion of the themes identified and how these findings relate to the existing evidence base.

#### 1: Methods Section

This section begins by considering the rationale for the decision to undertake this qualitative study in conjunction with the previously reported quantitative studies.

It also describes my epistemological position as both a researcher and designer of the intervention and how an awareness of that position informed all aspects of the study's structure and framing to ensure the robustness of the research process. It is of note that language of this section shifts from the more formal descriptor of myself as 'the author' and introduces, when required for emphasis, the use of the personal pronoun/possessive determiner 'me/my' to identify more clearly my personal role, which authors note is of raised import in qualitative studies (Braun & Clarke, 2006), in this section of the research process. Identifying issues of potential influence and bias that might affect the validity of the study are key to ensuring transparency and robustness of the research process.

Potential issues were identified at the conception of this research project and as a result are covered extensively in the earlier chapter identifying the potential for bias. That chapter also details how any issues that could arise from my interaction with the study from its design, recruitment and analysis and the influence of my epistemological and personal perspective were addressed through a series of reflexive protocols (p 34).

Additionally, this section provides a discussion of the decisions I made concerning the methods used for collecting and analysing data, and critiques and contrasts the chosen approach, thematic analysis, to other approaches that I also considered.

Finally, it covers the procedures involved in recruitment, the participants, the management of the study, the procedural steps of the thematic analysis of the data and the ethical considerations of the study.

### **Rationale for the Study: Gaps in the Evidence Base and Research Questions**

My decision to undertake a qualitative study was informed by two research issues.

First, although the concept of flourishing is well aligned with the aims of the recovery agenda, as identified by researchers (Krentzman, 2013; Parker et al., 2018), there have been some concerns raised about the consequences of an increased focus on flourishing in SUD treatment by those working in the field. These have been highlighted by the study of drugs counsellors' experiences, which summarises three main themes of note (Krentzman & Barker, 2016). 1) that the counsellors used some concepts within their usual clinical practice which were aligned with PP concepts, although they had little knowledge of the field of PP; 2) there was a concern that the increased adoption of a flourishing approach would direct scarce resources away from the impulsivity reducing approaches and 'a focus on pathology, trauma, and circumstantial challenges in treatment (that) is important' (Krentzman & Barker, 2016, p. 381); 3) was the concern from the counsellors that more positive approaches might not be well adopted by all clients or some practitioners. However, there is little qualitative data for flourishing focussed approaches in SUD, and it is absent for approaches that address flourishing and impulsivity (Krentzman, 2013; Parker et al., 2018). Although the reports of counsellors expectations of the clients' likely experience of flourishing focused approaches are useful (Krentzman & Barker, 2016) information on the direct lived-experienced and opinions of those in

substance use concerning the adoption of positive psychology concepts and how they feel it compares to more psychopathological-based approaches could be of even more value (Rhodes & Coomber, 2010; Willig, 2008) .

Second, ideographic data about the lived-experience of those attending and applying the intervention are invaluable for the ongoing iterative development of novel approaches (Holley et al., 2018). There is some research into experiences of participants receiving the Lightning Process (the TRP's sister programme), however, with the exception of a report from a focus group run as part of a proof of concept study, there is little evidence as to how the TRP is adopted or valued by participants with SUD (Parker, 2013a).

The research questions therefore addressed by this study were:

How well is this flourishing focused approach adopted by those with SUD?

What are the perceived benefits or issues with this approach?

### **Qualitative Enquiry**

Qualitative studies of client experiences are considered to be of particular value in providing additional insights from a service user perspective of the acceptability and value of an intervention and supplement the more outcome focused data provided by quantitative studies (Sutton & Austin, 2015). Additionally, they provide an important opportunity for the conceptualisations and assumptions of the researcher, and in this case programme's designer, to be challenged by the participants' experiences (Eatough & Smith, 2008). This approach provides an insight into the participants' experience and an opportunity to consider the nature and cause of phenomena amongst participants, however, it creates other issues of reliability, as it is inherently subjective, in terms of their reporting and understanding of their experiences and relies upon some subjective analysis by the researcher. Some authors have reported concerns about how this subjectivity affects

the perceived value of qualitative studies compared to the objective data of quantitative studies (Dixon-Woods, Shaw, Agarwal, & Smith, 2004), although many argue that self-report scales often used in quantitative studies are subject to bias and subjectivity (Fried, 2017; McKibben & Silvia, 2017). Others note that qualitative studies can often be time-consuming due to the requirement to analyse large amounts of non-numerical data and that the identification of themes in a small populations does not allow the findings to be generalisable to larger groups and is therefore not suitable methodology to test hypotheses or theories (Creswell, 2014).

Quantitative research, on the other hand, does provide a robust methodology for objectively testing hypotheses and the results are considered to be generalisable to the whole population (although less predictive of any given individual's response). However quantitative research is not without its issues, particularly in respect of reducing the complexities of human experience down to simple numbers. This approach is of concern to those with a less reductionist and more systemic or holistic perspective who consider such simplification removes elements essential to understanding the whole system, or as is often case in clinical research, the nuanced experience of the participants and their real-world contexts (Rose, 1998; Shean, 2016; Sheldrake, 2012). Some suggest that the claim of objectivity is also one that can be questioned. Some noting that if cognitive biases are an inherent part of the structure of human cognition, it is unlikely that quantitative researchers are completely immune to such effects (Sheldrake, 2012; J. Smith & Noble, 2014) and others point to the 'file-drawer effect' of reluctance to publish non-significant findings (Rosenthal, 1979).

From this it can be seen that both approaches have some drawbacks however, there are clearly considerable benefits derived from each of them as research methodologies which can be harnessed by a mixed methods approach. As Creswell (2014)

suggests there is value in the combination of both approaches, as the quantitative approach provides robust testing of hypotheses that can be generalised to larger populations and the qualitative approach delivers a nuanced understanding of the individuals and groups subjective experiences and conceptualisations of the phenomena being studied.

Considering these arguments, I decided that it would be valuable to adopt a mixed methods approach and address the aforementioned gaps in the evidence base by undertaking a qualitative study to complement and contrast with the data derived from the quantitative studies.

### **Theoretical Framework**

When undertaking research, authors recommend that an identification of the theoretical framework within which the researcher places the study provides clarity as to the body of knowledge and concepts that have influenced the design, procedures and analysis of the research (Braun & Clarke, 2006; Holloway & Galvin, 2016, 2016). This sense of contextualisation is particularly important in qualitative research approaches where the researcher employs a degree of subjective analysis of the participants' experiences. The framework for this study was a phenomenology, a discipline defined as the study of 'structures of experience, or consciousness... as experienced from the subjective or first person point of view.' (D. W. Smith, 2018, p. 1). This branch of philosophical thinking was developed by the early to mid 20<sup>th</sup>-century work of Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, Jean-Paul Sartre, et al. as a radical departure from existing philosophical traditions. It was intent on creating something new, unbound by dogma and suspicious of pre-existing ideas about the nature of knowledge (Moran, 2002).

Husserl is considered to be the father of phenomenology but originally built his academic reputation in the field of mathematics and physics before moving onto

philosophy and psychology (Moran, 2005). The ‘hard science’ perspective of his initial studies is considered to have informed his development of the phenomenological method as a discrete and rigorous science. However, he noted that study of consciousness would require a different approach to the study of nature, and this is in part an aspect of his critique on Naturalism, a movement which considers that as everything is part of nature it can be appropriately studied by the scientific method (D. W. Smith, 2018). He suggested that studying large amounts of data did not necessarily provide insight and instead recommended an intense study of experiences, using the phenomenological method (Moran, 2002). One key aspect of this approach was to ‘bracket’ experience. A process described as being able to step away from the normal meaning given to a phenomenon and being able to reflect on it anew.

The discipline developed rapidly with Husserl, by 1931, describing himself as ‘the greatest enemy of the phenomenology movement’ (Moran, 2002, p. 1), as differing views began to be adopted. Heidegger was majorly influenced by Husserl’s work but was critical of his failure to consider the nature of human consciousness and its effect on subjective experience. This led to a major shift away from Husserl’s focus on psychological processes such as perception, awareness and consciousness towards Heidegger’s emphasis on how individuals make meaning about their experiences. Heidegger developed these ideas in his key work *Being and Time* (Heidegger, 1978) originally published in 1927. It focuses on the nature of ‘being’, noting that ‘being’ is an essential part of any entity, seemingly impossible to define and self-evident. In the book he sought to consider the question ‘what is the meaning of being?’ and what is the most useful way to formulate that question. In answering this he chose to explore it from the perspective of ‘Dasein’ (being there/existence). He employed this word to denote the concept ‘human beings’ but wanted a neutral ‘term’ to disentangle it from familiar concepts and terms (such as human beings)

which bring with them pre-existing understanding and meanings. He considered that what was distinctive of man was our understanding that we can consider our 'Dasein', our understanding of being. He recognised that this perspective was constantly changing and depending on our points of reference, which included context, culture, relationships, time, etc. would influence how we perceived reality and its phenomena.

These ideas centred the phenomenological approach into a recognition of the importance of understanding the nature of *phenomenon* (something that is observed to occur) along with a recognition that there is a subjective-ness to our perceived experience that is influenced by many contextual and temporal factors. Phenomena are studied in many disciplines, but in particular relationship to this thesis, it is of note that an awareness of phenomena and their nature is also considered to be central to both the Buddhist approach (Lusthaus, 2013), and in particular 2<sup>nd</sup> generation mindfulness (Van Gordon, Shonin, & Griffiths, 2015), and the TRP. In Buddhism reality is considered to be entirely made of phenomena and that phenomena only exist in relationship to, and are dependent on, other phenomena. Van Gordon et al. utilise the metaphor of a tree, which is a phenomenon, but identify that it can only exist due to the soil, water, CO<sub>2</sub>, pollinating insects, etc, which are also phenomena (2018), others note the tree is only seen as such by a human giving it that specific meaning, others might see it as a potential table, fire starting material, shade from the sun, etc. (Benovsky, 2017) This perspective provides the opportunity to disassociate from a particular perceived meaning of an experience allowing a perceptual shift in, for example, how important it seems, recognising the interconnectedness of all things or identifying the duality of the inherent emptiness/fullness of all things.

The TRP adopts a similar ontological position, considering that phenomena that are important to those using substances such as craving, frustration, thoughts of using etc.

do not exist as ‘things’ but are nominalisations of processes (as discussed in the Appendix B). This recognition that the verb has been transformed into a noun, along with the physical-spatial-perceptual disassociation provided by the technique, and the re-verbing of the phenomenon, recasts the apparently static thought-object as temporary, influenceable phenomena providing a valuable perceptual shift.

Smith notes that there has been a recent tendency for philosophy to limit phenomenology to considering the experience of things we sense in our main five senses, hearing, seeing, touching etc. (2018). However, he argues, our experience is more than simply those sensations, and therefore phenomenology traditionally considers the meaning of other aspects of our experience, such as, objects, a sense of the flow of time, relationships, our self and the myriad other elements that make up our ‘life-world’ (2018).

Phenomenology challenges us to step out of our pre-existing views of the world and to experience it as directly as possible, and then, as Husserl suggests, ones’ focus should be on considering how these phenomena present themselves to our consciousness rather raising questions about their causality (D. W. Smith, 2018). There are similar themes adopted clinically by the approaches of Erickson, Perls and NLP, which have strong links to Korzybski’s work on the importance of distinguishing the ‘map’ from the ‘territory’(1951), which asks individuals to be aware that their versions of how the ‘world’ is (their map) may not exactly represent reality (the territory). Erickson specifically encouraged practitioners to engage in and utilise the direct experience of others’ worlds rather than insisting they conform to the therapists’, or the societies’ accepted, world (Haley, 1993). In NLP and Gestalt approaches the client is often requested to move between 1<sup>st</sup> position (how they feel about something), 2<sup>nd</sup> position (stepping into another’s shoes to gain their perspective) and 3<sup>rd</sup> of meta position (adopting the role of the

unattached reflective observer) into order to gain a different cognitive perspective on an issue (Bandler & Grinder, 1979; Wagner-Moore, 2004).

As I considered my epistemological position, it was clear that my experience as a student and clinician had developed my understanding of how we understand reality and would inform this study. My experience as therapist, trainer and researcher in these therapeutic approaches (Ericksonian, Gestalt, NLP), my training and lecturing experience in the holistic, systems thinking approach to health of the osteopathic tradition (Still, 1899) and the research aim of understanding the participants' experience, rather than my 'map' of how the intervention was expected to work, made the phenomenological approach the clear methodology of choice for this part of the study.

### **Overview of Thematic Analysis**

After much consideration of a range of approaches, including Content Analysis (CA), Interpretative Phenomenological Analysis (IPA), Discourse analysis (DA) and Grounded Theory (GT) approaches, a thematic analysis (TA) approach was utilised in this study. This section introduces the approach and provides the rationale for its adoption. A critique of TA is presented along with a discussion of how the approach compares to others that could have been potentially used to understand the data and the reasons for utilising this approach in preference to the CA, IPA, DA, and GT approaches.

Thematic analysis has been a popular method of qualitative research for some time but has been formulated and standardised only more recently (Alhojailan, 2012; Braun & Clarke, 2006). Braun and Clarke, two leading proponents of the method, define it as: "A method for identifying, analyzing and reporting patterns within data." (2006, p. 79)

It benefits from having a methodology and rigorous procedures that are suitable for the analysis of a large amount of data, particularly from multiple participants. It is also of value as it enables the researcher to analyse and synthesise this complex wealth of

information into a meaningful account, which still retains the nuance, richness and context of the original reports of the experiences (Braun & Clarke, 2006; Maguire & Delahunt, 2017)

Whilst authors have identified that some other methods of analysis, such as GT and IPA are tied to specific theoretical perspectives (Charmaz, 2006; Larkin, Watts, & Clifton, 2006; Willig, 2008), TA is considered to be particularly valuable due to its flexibility in being able to fit with differing theoretical frameworks employed by researchers approaching their studies from differing epistemological perspectives (Braun & Clarke, 2006). These can span from an interpretive, constructionist perspective, where a consideration of the influences of social-cultural contexts and a variety of engaged discourses is central to analysing the meaning of experiences, to a more realist perspective which considers the language and words to be more objective data that can be understood to provide insight and information about the experiences and meanings of the participants in a much more direct way (Braun & Clarke, 2006)..

As the philosophical position of the researcher will inform the development of the structure of the study, analysis and synthesis, in order to undertake a TA the researcher must first identify their position. This is to ensure clarity about their approach and how it has influenced the study and to avoid assumptions that the study is purely a realist description of the participants experiences.

In this study, my phenomenological approach was located between these two positions (interpretive/realist) and is best defined as critical realism (Bhaskar, 1975). This position recognises that the participants' responses report their experience of reality but that those experiences will have been influenced by the many aspects that create meaning making, or allow for expression of that meaning, for any individual. I therefore needed to

remain mindful that various factors, such as the contexts that their experiences are formed in influenced my ability to step into and understand their reported experiences.

At the same time, I approached this study as a researcher from a relativist perspective. Recognising that my involvement with the participants and data would produce a degree of interpretive constructivism. This identifies that I bring my own interpretations and meaning-making to understanding their experiences and that they too may present information through any number of perceptual lenses, for example, how they perceive me as a researcher, or designer of the intervention, or what they consider I might hope they would report. These challenging aspects of the analysis are something the reflexive practices, described in the earlier chapter (p 34), are designed to identify, report on and moderate.

The process of undertaking a thematic analysis involves the researcher engaging with the data, usually in text form. So, for example, audiotapes require transcription before analysis can begin. The data is then coded for recurrent motifs, concepts or topics, which are labelled or coded so that patterns and connections can begin to be identified across the data set (Braun & Clarke, 2006). The researcher then moves through the data set, identifying similarities and differences and through an iterative process, attempts to clarify and coalesce the codes into a smaller number of themes that are interconnected and describe and account for the identified codings.

This process is shaped by a number of important decisions made by the researcher.

The first of these is the decision to use an inductive or deductive analytical approach. Alhojailan (2012) notes that the flexibility of TA allows for both types of approach. For this study, I felt it was essential to gain accurate feedback of the participants' experiences, as they saw it, and so utilised a data-driven inductive approach. This provides the opportunity for new ideas and concepts to be presented by the data,

which I felt, in this case, would of value in more fully understanding how this new approach was experienced by the participants. A more deductive approach can be used by researchers who wish to explore specific theories or constructs, often using themes that have been developed a priori. However, this can limit the opportunity for new reflections on the data to arise (Braun & Clarke, 2006) and so was not adopted for this study.

Second in importance is the decision to identify latent or semantic themes or both. Semantic themes are those which are presented directly from the data and latent themes are those that can be inferred from what the participants have reported. It follows that semantic coding is more aligned with a realist perspective, and latent coding with a more constructionist one. The line between these two is argued by some to be sometimes blurred, as both types of theme identification require some degree of interpretation by the researcher (Alhojailan, 2012). As a result of my critical realist perspective combined with a consideration of reducing any influence due to my dual researcher/designer role, I opted for a mainly semantic approach. However, there are elements of latent themes present in the analysis, for example, the theme ‘flourishing’, was alluded to in the responses but was not mentioned specifically by name, as detailed in the analysis.

### **Critique of TA**

There have been arguments against TA, suggesting it is so loose in its formulation and implemented in such variable ways that it should be considered more as a strategy for analysis rather than a research methodology, in the way that IPA or GT are considered (Mills et al., 2010). Braun and Clarke (2006) counter that TA can be considered to be more a method than a methodology and that its flexibility is not a weakness but a strength that allows it to be adapted for use by many different philosophical perspectives.

Others suggest this can lead to a lack of clarity as to how a researcher should structure their TA research (Mills et al., 2010) and leads to difficulties with replicating research and evaluating the quality of different studies (Boyatzis, 1998).

Braun and Clarke, however, suggest that in recent years the increase in the use of the method has resulted in the clearer formulation of the analytical process by those developing the field, as exemplified by their paper (2006) and detailed website materials (2008). These important discussions concerning TA were considered in the decision-making process for choosing the analytical approach. However, after consideration of these points and the counter-arguments, TA appeared robust enough a method for utilisation in the study. The decision was guided by two main arguments. First, the increase in clarity in formulation for TA provided by Braun and Clarke (2006), which allowed for a clear structure and procedure for the approach. And second, the presence of an effective description of the philosophical perspective employed that guided the procedure, combined with a detailed, transparent and appropriate reflexive practice to identify the role and potential influence of the researcher, ensured that a reasonable degree of rigour and robustness could be attributed the use of this approach.

### **Other Analytical Approaches Considered**

There are a number of other approaches that could have been used to evaluate the data, including CA, GT and IPA (Creswell, 2014; Rhodes & Coomber, 2010). A number of key elements guided the selection process which are considered in reference to these other approaches.

CA is of great value in identifying the frequency with which words or phrases are used in a corpus of data and is considered by some as the most quantitative of qualitative approaches (Creswell, 2014). However, as this part of the study wished to discover more

about the experience of the participants and how they felt about the TRP, a more nuanced approach was required and as a result CA was discounted as the methodology of choice.

GT (Glaser & Strauss, 1967) is a well-established approach to qualitative research and has some methodological similarities to IPA and TA. However, GT uses a process of gathering data from participants until they stop discovering new categories, the point of 'saturation'. This produced two issues for this study, firstly the development of theories, which is a central outcome of the GT (Charmaz, 2006), was not the primary aim of this study, which instead was focused on the lived experiences of the participants. Secondly, the process of development of theories involves collecting new data. This which would have diverted the research attention from exploring the reported experience of the participants, the intended research outcome, and possibly produced an extra data collection challenge due to the high levels of attrition and non-responsiveness to research requests identified in this client group (Hansen et al., 1990; Loveland & Driscoll, 2014). As a result, GT was not considered the most appropriate approach for this particular study.

DA (Gilbert & Mulkey, 1984) is another qualitative methodology that was considered for this study. It provides an opportunity for sense-making of concepts present in both written and spoken word. One often used method of DA, Foucauldian discourse analysis, was of particular interest to me, due to its strong focus on the way in which language can inform the social and psychological aspects of experience (Parker, 1992). However, its approach moves away from a more feedback/realist perspective of what the participants' direct reports were, and as Taylor and Ussher suggest instead focuses on "underlying systems of meaning" (2001, p. 297). This provides a more interpretative position with an increased attention as to how language has a constructive effect that is influenced by the meaning such as that provided by social objects, and due to this research's focus on direct experience, was therefore not employed for this study.

IPA was another approach that was carefully considered for the study. Some identify that although there are some similarities between IPA and aspects of TA, they also caution that IPA should not be mistakenly considered to be just a form of thematic analysis with less focus on interpretation (Hefferon & Gil-Rodriguez, 2011). Braun and Clark write extensively about how these two discrete approaches diverge, noting how IPA has a more fixed framework for conducting research with clear ontological and epistemological underpinnings (critical realism and contextualism) (Larkin et al., 2006), a specific theoretical framework for the research (phenomenology), research questions, sampling strategies (homogenous samples and small in number) and a preference for data being collected by interview (Braun & Clarke, 2008). They also emphasise the difference that, 'IPA has a dual focus on the unique characteristics of individual participants (the idiographic focus) and on the patterning of meaning across participants. In contrast, TA focuses mainly on the patterning of meaning across participants.' (Braun & Clarke, 2008, p. 1).

As the research aim was to understand experiences of the participants and avoid too much interpretation of those lived experiences through the lens of the researcher, there was a caution about using this approach. This caution was increased by concerns about investigating a new area, where it would be difficult to predict what the experiences would be, the homogeneity of the group (with potentially diverse drug usage) or the numbers involved in the study. It can be seen from Braun and Clarke's above description of IPA how these factors could potentially cause issues when using an IPA approach (2006). Finally, additional issues with using this methodology arose due to the method of data collection, an online survey. The survey option was chosen to reduce attrition (Hansen et al., 1990; Loveland & Driscoll, 2014) and barriers to research, commonly seen in SUD, as suggested by some authorities (Bobby Duffy, Smith, Terhanian, & Bremer, 2005). This

data collection method is not considered particularly appropriate for IPA (Braun & Clarke, 2008), as it reduces the opportunity to evaluate any non-verbal communication, which is more easily identifiable through data obtained through group or individual interviews or audio/video recordings. For these reasons, the IPA approach was considered and then discounted for this study.

TA was therefore selected as the most appropriate approach for this study. This was due to its recognition as a rigorous and distinct set of procedures for analysing complex data. Braun and Clarke (2006) suggest this approach provides a more nuanced understanding of the data, especially when collected via surveys. They also suggest it is more standardised than the more quantitative approach of content analysis and is more appropriate for evaluating experiences provided via surveys than interpretative phenomenological analysis (IPA). The theoretical freedom provided by TA also allows for analysis from a critical realist perspective, central to this study, whilst the inductive iterative analytical process offers an opportunity to gain a rich insight into the individuals' direct experiences of the intervention. This opportunity provides for 'examining the perspectives of different research participants, highlighting similarities and differences, and generating unanticipated insights' (Nowell et al., 2017, p. 2), without the coding being driven by a hypothesis or from prior theoretical constructs and discourses, which again was central to resolving the issues of gaining accurate feedback and avoiding undue influence of the dual researcher /designer role.

It can be recognised that the other approaches could have been used to good effect in the study and would have been derived from different research questions, produced different outcomes and analyses from the data. The use of CA may have provided a more objective understanding of the common words and phrases used in the reports and arguably a more direct realist understanding of the experiences (Vaismoradi, Turunen, &

Bondas, 2013). The saturation process used in GT could have produced some valuable insights into the deeper understanding of participants' experiences and formulated theories as to how the intervention is perceived to work (Charmaz, 2006); this, in turn, could inform how future iterations of the intervention were framed to participants or fundamentally changed its design or delivery (Greene & Thorogood, 2004). The use of IPA would have provided an opportunity to develop a more immersive interpretive stance, seeking to understand what it is like for the participant and to infer meaning from that perspective (Larkin et al., 2006). This could have provided a more in-depth exploration of the lived experienced than that of the analysis of the TA (J. A. Smith, 2017). It would have also required the running individual or group interviews and this, researchers suggest, would have increased access to the non-verbal components of the responses and provided more of an opportunity for interaction with the participants to further understand their experiences (Hefferon & Gil-Rodriguez, 2011). This approach is something that would be of interest for future studies, as it is clear that some of the core communications are lost in purely in the textual responses of surveys (Jolly, 2000).

### **Participants**

The 15 participants for this section of the research were recruited from those already involved in the quantitative studies, and so had experience of poly and single substance misuse issues and attending the intervention. This convenience sample included 9 females and 6 males with a mean age of 45.53 ( $SD = 12.15$ ), the participants came from both arms of the project, 10 from self-referral and two from service referral, and experience of all TRP trainers involved in the research was represented. The respondents completed the forms between 7 months and 1 month after taking the TRP and so provided useful information about the longevity of use of the tools after their delivery during the seminar. Participation was voluntary and the exclusion criteria were applied noted in the

ethics section of the quantitative studies. There were no additional inclusion or exclusion criteria for this section of the study.

### **Materials**

The online survey was adapted from one used in the earlier TRP pilot study focus group, see Appendix P. It presented participants with open-ended questions to encourage reflection on the training experience and the perceived benefits, or otherwise, of attending the training and was delivered by survey monkey, in accordance with the British Psychological Society's guidelines for internet mediated research (2013), as detailed in Appendix I.

The design of the online survey itself was influenced by research (Chaudhary & Israel, 2016) that found an increase in the amount of detail in responses and rate of response by including 'importance statements' and including larger sized text box.

### **Structure**

All participants had already received the PIS (Participant Information Sheet) prior to joining the study, which included the information about the possible invitation to elect to be part of the qualitative study (see Appendix J). However, this was resent as part of the invitation to participate in the study along with the option for group meetings, email and phone contact for potential participants to answer any additional questions prior to taking part. Participants from the quantitative study were randomly selected in blocks of four and invitations were sent out to them by email, with a week in between each sending out, for a 16 week period; a total of 15 responses were received.

Participants accessed the survey online, as collecting responses from this group can be challenging, with high attrition and low attendance rates (Cohen et al., 2013, p. 160; Northrup et al., 2017), and in the case of this project, participants spread over a large geographical area. Although, as discussed in the Limitations chapter, surveys can

additionally create some other less useful research consequences, this method was chosen due to the ease of access of online surveys which provided an effective way to understand participants' experiences while removing many of these barriers (Holloway & Galvin, 2016),

Ongoing informed consent was obtained by a repeat of the consent form text followed by an 'agree' check box that had to be mandatorily checked before it was possible to proceed to the survey itself (see Appendix P).

The data collection took place between May to September 2017 and was collected by Survey Monkey (see Appendix P), and on completion of the survey the debrief form (Appendix N) was sent to the participants to inform them of the schedule of the research, the nature of the anonymised data and a list of useful contacts as required.

### **Data Analysis**

Nvivo software (version 11.4.0) was used to collate the survey data, but hand coding was used once the data was imported. The surveys were read though repeatedly in order to become immersed in the data. Inductive data-driven coding of keywords was used as a method to identify and categorise text (Braun & Clarke, 2006), and from this, themes and subthemes were developed and identified. These were then coded, and the iterative process of refining, linking, expanding and collapsing codes was undertaken. Finally, the summarised themes were considered against the original responses to identify the validity of the understanding provided by the themes, and this provided a further opportunity to develop or verify the provisional hypothesis.

### **Coding and Analytical Strategy**

Following the phases suggested by Braun and Clarke (2006), an analytic strategy was employed to develop the themes from the data. An overview is presented here, using

their titles for each phase, along with notes of my reflective practice in each stage of the process.

1. *Familiarising yourself with the data:*

Often this phase will involve detailed transcription, including non-verbal communication e.g. sighs, pauses, stresses, movements. However, the questionnaire in this study only records textual information, with the possible emphasis being provided by occasional punctuational exclamation or the use of bold or capitals.

Once in textual form, the next step is for the researcher to immerse themselves fully into the content of the responses. Reading and re-reading in an iterative process designed to understand the whole corpus of the responses. I kept notes and drawings of ideas and concepts that occurred to me as I worked through the multiple re-readings of the responses. During this process I was mindful of suspending any urges to start coding at this point, allowing an awareness to develop of the whole data set.

2. *Generating initial codes:*

In this phase, the researcher begins the process of identifying concepts and phrases of interest across the data set, drawing them together systematically to form the initial outlines of codes that can group certain ideas observed in the text. I found this was quite familiar from my clinical work, where identifying elements of importance is a key skillset. However, I found working with the responses of multiple participants in this phase an even more complex process, which required considerable focus. This was an iterative process of first identifying potential prototype or pilot codes. This process then moved onto refining and condensing the prototype codes to develop into ones that I felt reflected the data effectively.

3. *Searching for themes:*

In this phase, the researcher begins to look for patterns, similarities, differences and features of importance. This allows for the collation of codes into the development of overarching themes that include all the major codes observed. Again, I found this was something that was quite familiar to me. Understanding clients' issues and needs often involves identifying patterns to work with, whilst at the same time being ready to recognise the emerging patterns might be part of something much larger, or possibly less important than originally thought. In the same way, this recursive reviewing of the themes as they developed provided an opportunity to keep, sculpt and let go of elements of the developing structure of the analysis. At this stage, the developed codes were reassessed with respect to the themes to identify if they were adequately represented by these themes.

#### *4. Reviewing themes:*

This phase moves onto the development of a map or table of the developing themes. This allows the researcher to analyse if the themes and codes are making sense in relationship to themselves whilst staying close to and representing the original data. I used a large piece of paper at first to gain a sense of the relationships, then as I refined it, moved to use the drawing tools within Nvivo, which I found provided a flexible way of moving and re-arranging the relationships of the codes and developing themes. Having created a visual representation of the relationships of codes and themes I once again went back to the data to reassess if the themes and codes reflected the data effectively.

#### *5. Defining and naming themes:*

This phase, which precedes the reporting on the data encourages reflection on what the themes represent and how that links back to the research question. In this case, considering the names of the themes 'Control' and 'Flourishing', for me, clarified the core points raised by the participants. The defining/ naming process also identified a latent theme, that of flourishing, that wasn't mentioned directly by the participants, but could be

observed through the descriptions of their experiences that were quite distinct from descriptions of changes in a sense of control. This process took some time, pausing and reflection as I felt the names of the themes were pivotal to representing the participants' experiences. I was particularly cautious about naming a theme with a word that had not been used by participants and spent some time both discussing with my academic team the merits of this theme's name and considering if any term used in the data would be more appropriate. After some consideration, I decided that the name 'flourishing' for this latent theme was, in my opinion, the most accurate descriptor of this aspect of the participants' experience.

#### *6. Producing the report:*

This final phase provides the analysis of the data and develops the points for discussion. The analysis section identifies the themes and sub-themes. I provided an analytic narrative of the themes and sub-themes and chose clear examples of the phrases and words which I felt represented the themes from the participants' responses to highlight the direct connection between the themes and the data. The discussion section drew on the analysis, contextualised the findings and evaluated their inferences within the existing literature.

#### **The Approach to Data within the Analysis**

Braun and Clarke (2006) note that critiques of TA, and qualitative analysis generally, often include concerns about the variability and subjectivity of the data analysis. As noted in the reflexivity section (p.34), this was an area of particular importance to be aware of for this study. As a result, Green and Thorogood's (2004) standards of rigour, that include transparency, validity, reliability of credibility, comparability and reflexivity were employed as a framework to develop an awareness of any potential issues and guide the process to ensure the robustness and degree of

objectivity required were enacted throughout this analysis. The procedures utilised to reduce the potential for bias and identify and address any areas of possible influence that might affect the robustness of the data analysis are detailed in that section (p.34)

### **Ethical Considerations**

As the qualitative study recruited the participants from the earlier quantitative studies, and no additional ethical requirements were needed for this study, full details of the ethical considerations can be found in the quantitative methods section. This section of the research project also received full ethical approval from the London Metropolitan University (Appendix M).

## **2. Analysis**

### **Introduction**

This section provides the report of the data analysis produced by following the analytical strategy and is followed by the discussion, as outlined above.

### **Overview: Major Themes**

The iterative process of data analysis ultimately resulted in the development of two major themes, prevalent across all responses, each with three sub-themes. The two main themes identified were 1) control and 2) flourishing. These themes encapsulated the recurrent references to two different directions of focus within the data: how participants felt more in control over the choices they made (the control theme), or how their life, in general, seemed to be enhanced or more fulfilling (the flourishing theme).

It is useful to note that of the 15 respondents, 13 reported important and lasting changes in their substance use, wellbeing, self-esteem and relationships with others, however, one participant reported having no change as a result of the intervention, and one other participant, who did note some change, reported not using the techniques after the training. This provided a wide range of responses to, and feelings about, the intervention,

allowing for a richness of reported experiences within the data set. The themes and subthemes are explored and highlighted with verbatim excerpts in the sections that follow.

Table 14.1 The major themes of the analysis

Master Themes	Subthemes	Exemplar Quotes (ID- location in text)
Control	Substance Use Regulation	'I quit drinking within a couple of weeks' (QS7-q7)
	Emotional Regulation	'It was not about just about stopping drinking but giving positive tools in that moment to deal with this ( <i>emotionally challenging event</i> )' (QS2- q9)
	Process	'It differed from the 12 Step approach in that it is not a spiritual program but concentrates only on the mechanics of the brain and adjusting behaviour that way, through the practical application of a technique taught at the training'(QS12-q9).
Flourishing	Empowered	'It is empowering and offers hope that there is a way out'(QS1-q8)
	Growth	'I woke up to a new way of being'(QS2-q7)
	Self-concept	'I felt better about being who I am'(QS3-q8)

### Theme 1: Control

The desire to re-establish control, especially with respect to substance use, was one of the primary motivating factors cited for attending the course and appeared in multiple responses. For example:

*'not being controlled my addiction.'*(QS2)

*'to curb booze.'*(QS4)

This drive was explicitly referenced with the majority of participants finding the intervention provided a way to increase their sense of choice. Specifically, they referenced that it had an impact on impulse related behaviours and there were multiple mentions that it helped them to gain an ability to change their usual response to 'triggers'. For example:

*'I now realise that I always have a choice.'* (QS14)

*'it enables me to relate the short-term action to the long term goal in a way that had been conspicuously absent before...It enables me to choose my response to triggers.'*(QS1).

*'I find it easier to deal with potentially triggering situations than ever before.'*(QS15)

The many references to this theme were arranged into 3 minor themes, 1) substance use regulation, 2) emotional regulation and 3) process, and the theme of control is explored in more detail through these minor themes.

### 1) Substance Use Regulation

The focus on change in substance use was of great importance to the participants and accounted for much of the content of the responses. The majority reported an increased ability to make choices about use, and a reduction in compulsion, cravings or thoughts about substances. For example:

*'it's easier to say no to temptation.'* (QS3)

*'I no longer think or crave or want to drink alcohol.'*(QS2)

These positive changes resulted in most drinking or using less or in many cases completely stopping. This was also identified by many as an outcome they had been hoping and often unable to achieve for some time. For example:

*'I quit drinking within a couple of weeks.'* (QS7)

*'I never went back to the out of control tranquilliser popping.'*(QS3)

Additionally, many noted a changed relationship to alcohol and drugs and some noted they could now adopt a moderation management approach accessing the ability to drink and then stop and additionally being able to limit use to particular chosen contexts. For example:

*'when I did have an alcoholic beverage there was a clear control with sticking to the set limit.'*(QS9)

*'when I do drink its different. I am not drinking to get drunk or change my state, just to feel a bit of a buzz and be social and I can stop when I want to. I have totally stopped drinking alone.'* (QS7)

Although the majority of respondents found the TRP helped reduce their substance usage, not all participants found this level of success. For example, one participant reported:

*'I have not noticed any changes at all.'*(QS11)

A small number of participants noted how initial changes were harder to maintain as time went on. For example:

*'I did not maintain the training afterwards although I did try for a number of weeks.'*(QS11)

However, others reported the ability to respond to set-backs in a new way, suggesting an improvement in ability to resist previous situations which would result in substance using behaviours. For example:

*'where there is a temptation, to be able to prevent any use or limit it to a lapse rather than a relapse.'*(QS9)

Some of the issues raised by these differing experiences of applying the tools are more fully considered in the 'process theme' section.

## **2) Emotional Regulation**

This theme identifies that the participants noted how the skills were transferable from the context of substance issues to making choices with respect to their emotional response to challenging situations. This kind of development of emotional resilience has been identified as an important element of recovery capital and was observed in a number of responses. For example:

*'It was not about just about stopping drinking but giving positive tools in that moment to deal with this (emotionally challenging event).'* (QS2)

Participants reported how they were able to access a range of new responses including staying calm and positive in trying circumstances and feeling relaxed, energetic and confident. They noticed an increased ability to reflect on automatic responses and recurrent patterns of thinking. For example:

*'It is very helpful at dealing with all or nothing thinking .... Reminds me there is always a choice.'* (QS1)

*'It works by making a clear intervention to any unhelpful thinking by bringing attention to the opportunity of choice in an otherwise habitual pattern.'* (QS9)

This change was also noticed in improved relationships with others, both social and familial. Of particular note were the references to avoiding the undue influence of others and conversely considering the impact of their behaviours on others, For example:

*'my wife says (I'm) more attentive and caring and less selfish.'*(QS4)

This wide range of applications of the tools to non-using behaviours was a key desired goal of the intervention. This is a part of the generative nature of the intervention. These responses identify that the participants were able to adopt these skills to other non-using behaviours. This highlights that they have successfully transferred the skill set to issues not necessarily role-played within the training itself. These reports support the intended generative level of skill adoption hoped for in the intervention's design.

However, one participant did not notice any increased ability to change their responses to challenging situations in spite of attempting to do so:

‘I have not noticed any changes at all.’(QS11)

Although this type of response was not well represented in this particular sample, it identifies that for some, the skillset delivered in the intervention did not make the difference it was intended to provide.

### **3) Process**

Throughout the responses, the participants, who had all been recipients of many other approaches, described their experience of using the program to increase control in terms of what worked well, what seemed more challenging and how it differed from other previously tried approaches. As there were many different processes previously tried there was a wealth of data on this theme.

The majority reported a sense of clarity in the training process, the relative simplicity of the steps required for change and practicality of application to real-life situations. They also identified that the programme required some practice and perseverance, which, although not without its challenges, the majority found achievable, particularly when assisted by the support provided by the programmes’ trainers. For example:

*‘you have to be ready and willing because the journey is bumpy, but having the support of the team and tutors is key.’(QS8)*

*‘Persevering with the process creates lasting change and importantly allows us to treat each setback as an opportunity to react in a way that a helpful, non-judgemental person with real interest in what we truly want would.’(QS9)*

The majority reported how rapidly, compared to previous experiences, the process created change. This was consistently noted across most respondents, multiple times, and as a result, appeared to be of particular import to them.

*'it worked faster than anything I had ever previously experienced.'*(QS2)

*'feeling the shifts that were already happening from day 1.'*(QS8)

The particular use of language by the TRP was also noted by some as being significant in the speed change. For example:

*'The new language, Dû and Dûing, giving me a tool to separate feelings from facts.'* (QS2)

However, it is of note that language, which is conceptually considered to be a central theme of the programme's design, was not an element highlighted by most respondents.

Although most were pleased with how rapidly the tools could be adopted, two participants with long and positive associations with 12 step programmes wondered if a longer course might be helpful. One of these participants also raised concerned that the focus was on change at the detriment of addressing the underlying issues, which they perceived to be of paramount importance in sustaining change.

There was interest from all respondents in the TRP concept that changing the neurological pathways that were linked to substance was possible and a route to change. For example:

*'It differed from the 12 Step approach in that it is not a spiritual program, but concentrates only on the mechanics of the brain and adjusting behaviour that way, through the practical application of a technique taught at the training.'*(QS12)

For many, this model was seen as freeing allowing them to move on from previous models which suggested long term engagement with treatment/fellowships, encouraged an expectation of permanence of the issues and a focus that returned to past events and issues. For example:

*'Past approaches for me took years of psychotherapy, or I was told that it was a life-long illness where I had to attend 12 step meetings for the rest of my life. These approaches meant endlessly looking at my failings and what had gone wrong in my life leading to a great deal of shame and feeling that I was a failure. Whereas with this approach it was life enhancing; I was not a failure and there was no longer any shame, and it worked faster than anything I had ever previously experienced in terms of self-help.'*(QS2)

This new focus was echoed by many and is exemplified by one participants' response:

*'I was able to make a very immediate and permanent change, without the need for long-term therapy or psychological self-investigation to ascertain any underlying 'cause'.'*(QS13)

However, a small number found the concept more difficult to connect with as it conflicted with personal experience or other favoured approaches or models, citing issues

concerning clarity about the goals of the programme, with one left wondering about the purpose of the approach, reporting:

*'I was confused, were we seeking abstinence or cutting down or something else?'*(QS1)

For another the approach provided the potential for conflict with the disease model, noting that:

*'The break from the disease model of addiction, while I agree with some points that are taught on the process, may be unhelpful to some.'*(QS12)

One participant was concerned about the approach's divergence from a 12 step approach, wondering if it was a 'deep' enough approach to create lasting change, expressing that:

*'More direct & immediate than 12 steps, but I do not feel that the TRP was enough on its own to deal with all the stuff I have processed through AA.'*(QS1)

Two others noted a confusion between their practice of mindfulness and the TRP tools, citing elements that conflicted with their experiences of that approach. For example:

*'I have found meditation and mindfulness to be extremely helpful on my path. However, some of their teachings appear to contradict the part of the process which talks about changing states, they are suggesting that sometimes we need to stay with certain feelings and that through that process we let go. Sometimes I have found this confusing.'*(QS7)

However, another participant found this particular element of the approach to be of specific value, reporting:

*'It is different to meditation in that you are influencing your emotions rather than watching them pass.'*(QS6)

Finally, others noted how the combination of approaches were both compatible and helpful. For example:

*'I would also recommend attending 12 Step fellowships. My experience has been that the two techniques have kept me free from drugs and alcohol.'*(QS12)

## **Theme 2: Flourishing**

Although the term flourishing itself does not appear in the responses, many statements reflect its presence, and its very different quality to that of control. For example:

*'I woke up to a new way of being and discovered parts of me that were wonderful.'*  
(QS2)

*'(I am) kinder to myself.'* (QS5)

*'It's about viewing situations and feelings with the higher version of yourself.'*  
(QS10)

The theme was also notable in the multiple mentions by the majority of participants of positive statements about the training experience and the changes they noticed. For example:

*'it is so positive (an experience).'*(QS7)

*'positive changes.'*(QS15)

*'positive way.'*(QS10)

*'positive tools.'*(QS2)

Both the control and flourishing themes were equally referenced in the data set, and the absence of 'flourishing' as an explicit term may reflect the relative unfamiliarity with the word, despite it describing qualities familiar to many. It was also clear that although all participants attended the TRP with hopes of increasing control of substance use, some expressed expectations of increasing their flourishing as a goal of their attendance. For example:

*'I want to be free me to move towards a better life.'*(QS9)

*'I want to generally feel better in myself.'*(QS6)

From the multiple codings referencing flourishing three minor themes were identified 1) empowered 2) growth 3) self-concept.

### **1) Empowered**

Many participants reported a sense of being empowered to take charge of their lives and make change during the seminars and that that sense continued afterwards through applying the tools. For example:

*'I really like that it is so positive and empowering.'*(QS7)

*'It is empowering and offers hope that there is a way out.'*(QS1)

The sense of compassion the participants reported experiencing throughout the training from the trainer and the other participants appeared to be a key element in developing their feelings of being empowered. This was often accompanied with references to acceptance, non-judgement and especially 'non-shaming'. For example:

*'It does not blame and shame which is amazing. But most of all, the other approaches I have tried have a tendency to label you which I believe limits your ability to see it differently and change.'*(QS7)

A few participants directly compared this positive experience of compassion to negative experiences they had of other interventions in respect to feeling a failure or a sense of shame. For example:

*'12step meetings ... These approaches meant endlessly looking at my failings and what had gone wrong in my life leading to a great deal of shame and feeling that I was a failure.'*(QS2)

Additionally, the intentional use of humour and lightness, an important aspect of the approach, was also noted as empowering and different to the previously tried approaches by many, exemplified by responses such as:

*'our trainer was very friendly and caring and funny and I really enjoyed the process.'*(QS11)

Others noted that the coaching provided throughout the programme also developed their sense of empowerment. They felt the collaborative style of coaching and the presence of another person, skilled in coaching approaches, provided an important opportunity for insight and change. For example:

*'I would say that the coaching is amazing and never intrusive or going against one's own choices or abilities at any given time.'*(QS3)

*'I found it really helpful to have an objective person who can see things you can't'*  
(QS8)

Others found the supportive environment of the seminars and the sense of shared experience from the other participants to be empowering, reporting their positive experience of being part of a training group:

*'it was good to share experiences and emotions around an issue.'*(QS11)

*'the open supportive forum of the group. It's not often you get to be so open and honest.'*(QS8).

However, one participant felt the value of the sharing stories about their challenging past, familiar to that 12 step approach, was missing and another that more support would have been helpful in developing a stronger sense of self-empowerment, reporting:

*'It was easy to feel inspired to attend and to maintain the training initially but it has proved harder to maintain it without regular coaching.'*(QS13)

The development of the role of self-coaching, another core element of the approach, was noted by many as increasing their sense of empowerment. Taking this role was seen as an important aspect of recognising their ability to influence their decisions and future:

*'Being able to take on the role of a coach to coach ourselves was empowering.'*(QS9)

*'I think it was inspirational, in that it suggested that I could be my own coach'*(QS13)

*'shows you that you have within you all you need for lasting change'*(QS2)

However, one participant found the adoption of this role difficult:

*'I don't think I am a very good coach to myself though and I see a pattern of failing to turn up to coaching when things challenge me.'* (QS11).

The majority of participants noted an increased sense of empowerment; however, it was not universal with one participant framing their disappointment in lack of change as being with themselves, rather than the program:

*'I am very grateful for the opportunity given to me but just wish I had been able to make better use of it. I feel yet again that I have failed here which is very disappointing and I hope this hasn't caused any problems.'*(QS11)

## **2) Growth**

The term growth is used here to describe change that is greater than simply stopping or controlling a behaviour and involves developing new behaviours and perspectives. The participants made multiple references to this quality:

*'(allowed me to) open to experiencing new concepts and ideas.'*(QS2)

*'I feel I have learned a lot and it continues to influence my thinking.'*(QS13)

*'It has opened up a future ahead of me.'*(QS7)

*'I woke up to a new way of being.'*(QS2)

*'It was an eye opener.'*(QS9)

A wide range of highly positively valenced words, unrelated to 'stopping or controlling' were used by the participants in to describe their experiences, these included expressions of exuberance, those expressing significance and specific expressions of gratitude from half of the participants:

*'I felt so amazing.'*(QS3)

*'I have also had some pretty profound experiences while doing the process which has taught me a lot about myself.'*(QS10)

*'So, so powerful.'*(QS4)

*'I am just so, so grateful (for) this incredible opportunity.'*(QS7).

Not all the descriptors related to growth were purely positive with participants reporting:

*'It was positive and challenging.'*(QS6)

*'(it was) moving, intense and wonderful.'*(QS8)

These reports identify the more difficult aspects of changing established behaviours. However, one participant experienced the process quite differently, reporting a sense of confusion about the training:

*'I am not sure I really do understand it properly.'*(QS11)

Specific references to the significance or global nature of change experienced by participants also reflected this growth theme; many participants described transformational experiences:

*'The training experience was life changing.'*(QS9)

*'It has caused a tidal wave of changes to my health, my eating habits, my outlook, my job, my sense of self-worth, the list goes on!'*(QS8)

*'recognising when I'm going into the Pit and taking the steps to get out of it using the process to not only just get out, but as a tool for transformation and change.'*(QS6)

Many noted how their perspectives had changed, some noting they had developed a different relationship to set-backs:

*'realise my power, stay on track and remain balanced...allows us to treat each setback as an opportunity'*(QS9)

Others felt able to reconsider old perspectives that had affected current behaviours:

*'In letting go of my past misconceptions about addiction and being open to experiencing new concepts and ideas, I can turn my life around'*(QS2)

*'deprogram from how I was brought up, so I can lead a life I want'*(QS8).

Some noted a shift towards optimism and recognised how these changes would affect the bigger systems they were part of:

*'I feel optimistic and full of new beginnings. I feel 'pregnant' with wonderful possibilities.'*(QS2)

*'the training will have a very positive effect on my future and in turn that of those closest to me.'*(QS15)

*'Not only has it changed /is still changing my life, but it has a 'knock on effect' with my children and grandchildren. They also have noticed the changes in me.'*(QS2).

Although these positive responses were present in the majority of participants, some participants represented a different view, one in which they felt the lack of progress from the intervention further increased their sense of lack of growth or the confusion about a new method that contradicted more familiar tools resulted in confusion:

*'I feel yet again that I have failed here which is very disappointing.'*(QS11)

*'some of their teachings appear to contradict (meditation)... Sometimes I have found this confusing.'*(QS7)

### **3) Self-concept**

The final theme identified, changes in self-concept, could arguably be considered part of the growth theme, but due to its recurrent referencing, and the importance participants gave it, it was decided to highlight it as a separate theme.

The majority of participants identified becoming more accepting of themselves as a result of the approach to be an important part of their journey to recovery. This was expressed in a number of ways:

*'I felt better about being who I am.'*(QS3)

*'Kinder to myself.'*(QS5)

*'I am feeling so much better about myself.'*(QS7)

*'finding (self) acceptance.'*(QS3)

The participants also reported a profound change in their inner dialogue which accompanied this acceptance:

*'(accepting myself) without a torrent of inner critic self-abuse.'*(QS1)

*'Much less negative self-talk!'*(QS10)

*'(realising) I was not a failure.'*(QS2)

Other noted increases in self-worth and trust of themselves and with that an ability to accept responsibility:

*'(changes to) my sense of self-worth.'*(QS8)

*'(the programme can) boost someone's self-esteem and trust in their own ability.'*(QS3)

*'I accept the consequences of my actions.'*(QS1)

In addition to these changes in behaviour and perspective many expressed a change on an identity level, expressing ideas of understanding themselves more and often noting feeling different about who they were and how they should value themselves:

*'it taught me a lot about myself.'*(QS10)

*'gave me an insight'(QS11)*

*'I am becoming the person I would have been without drink'(QS2)*

*'I can be more honest with myself and others'(QS9)*

*'we are amazing powerful geniuses'(QS7)*

*'I discovered parts of me that were wonderful'(QS2).*

This shift was not experienced by all participants, and the lack of change noted by one participant, and quoted before, tellingly references how this lack of success further undermined their positive relationship to their sense of self (emphasis added by author):

*'I feel yet again that I have failed here.'*(QS11)

### **Summary of the analysis**

The TA resulted in the emergence of two themes, each with three subthemes. The first theme related to controlling behaviours, with subthemes referencing substance regulation, emotional regulation and experiences of the process itself. The second related to increasing flourishing, with subthemes referencing being empowered, growth and changes in self-concept. These themes correlate to the differing focuses of the psychopathological/impulsivity approach often found in SUD treatment and the PP approach of developing a 'good life' and a focus on flourishing. Multiple references were made to compassion within the training, a changed relationship to self and others and the rapidity and global nature of the change. However, some participants found there was a conflict with concepts from other approaches and although well received by many, not all respondents found the process easy to adopt or valuable in creating change.

## Discussion

### Introduction

The following discussion further collates the information and analysis of the respondent's data. It considers how the identification of the two themes, that of 'control' and 'flourishing' from the participants' responses sit within the context of the existing evidence base. It additionally reflects on how they assist the understanding of the participants' experiences and might enhance future development of the intervention.

### The Control Theme

The first subtheme to emerge from the data was the reported changes in substance use by the majority of the respondents. This reported change in substance use suggests that a flourishing and impulsivity focused approach such as the TRP can affect using behaviours. It also helps to address the concerns that some counsellors expressed that the adoption of PP approaches might negatively impact drug service delivery by reducing the availability of ones focused on psychopathology, as highlighted by Krentzman and Barker's paper (2016). The design of the intervention, which addresses both impulsivity and flourishing simultaneously reduces the clarity, to an extent, as to whether this change was due to affecting impulsivity or flourishing or both. It suggests that further research comparing the effects of these aspects of the intervention might be of interest. It is also of note that a few respondents did not find the approach suited them, a concern that is also identified by counsellors in Krentzman and Barker's paper (2016).

Participants reports of being able to adopt a moderation management approach (e.g.: drinking to a set limit) (Mann, 2014) is an interesting, and to some, controversial finding, as this approach has been referred to as 'enabling alcoholics' by some and 'the new AA' by others (Girvan, 2015). Others warn that wanting to cut back rather than stopping all together is what many with alcohol and drug issues request in initial

consultations (Harvard Health Publishing, 2009). However, encouraging a therapeutic environment where choice is given back to the person rather than being prescribed by an expert or an organisations' 'rules' for recovery (Dodes, 2014) is considered to be an important element in the development of sustainable change and recovery capital (Cloud & Granfield, 2008). This also identifies the inter-relatedness of the psychopathological/impulsivity model and the PP approaches. In this case changes in impulsivity naturally accompany changes of an increased sense of personal agency. This then links forwards to the flourishing subtheme of *empowerment*, discussed later, further supporting this sense of interrelatedness between the two models.

The second subtheme, the increased ability to regulate emotional responses to challenging situations is an important finding. Both neurobiological and PP models identify how stress can be a trigger for substance use. The stress and self-medication models propose that the 'user' uses in order to relieve stress in some way either by increasing pleasurable sensations or by removing awareness of other unpleasant symptoms, thoughts or stimuli. This linkage is supported by evidence (Farrell et al., 2001) that individuals are predisposed to become 'addicted' if they suffer from unpleasant affective states or psychiatric disorders and the correlation observed between alcohol use and stress (Virtanen et al., 2015).

The PP broaden and build theory (Fredrickson, 2004) suggests that in fear, stress and urge type experiences our specific action tendencies and thought-action repertoires are limited, resulting in the use of well-established pathways and behaviours. For those with historic SUDs the pathway chosen by default may lead to impulsive choices and substance using behaviours. (Franken, van Strien, Nijs, & Muris, 2008; Gullo, Loxton, & Dawe, 2014; Tomassini et al., 2012; Winhusen et al., 2013).

Equally situations which involve experiences such as exploration, engagement and opportunity, as described by the respondents (rather than ‘response to threats’) broadens the range of thought–action repertoires available at that time, resulting in activation of new and less reactive pathways (Fredrickson, 2004; Garland et al., 2010).

By succeeding at regulating their emotions in challenging situations the participants appear to be potentially reducing damaging impulsive responses and building elements of recovery capital, such as improvements in relationships and the ability to deal with a range of challenging situations socially and at work, that are considered valuable in supporting recovery (Cloud & Granfield, 2008).

The third subtheme reflected the experience of using the taught tools. This was of particular interest to the study, as this information is more difficult to gain from quantitative approaches and would inform future designs of the intervention. Most participants found understanding the tools and materials easy and recognised that practising and preserving with them was an important part of the process. This matches the experiences of those reported in other studies on experiences of PP/mindfulness practices designed to improve wellbeing (Shonin, Van Gordon, & Griffiths, 2014) and SUD (Price, Wells, Donovan, & Brooks, 2012) and speed of change from this brief, three 4-hour sessions noted by respondents contrasts interestingly with the average time in drug services treatment is 202 days (NDTMS, 2016).

Those whose responses indicated that they found the intervention more difficult to understand or implement also provide valuable insight into the lived experience of the programme. This is a feature of many training environments, where individuals have differing experiences of the taught tools, and is present in two studies on the linked programme, the Lightning Process (Reme, Archer, & Chalder, 2012; Sandaunet & Salamonsen, 2012). In those studies, of populations of those with chronic fatigue

syndrome/myalgic encephalomyelitis (CFS/ME) many participants also reported a general ease in understanding of the materials, the value of the training team, the importance of applying the tools and the rapidity of change. However, for some here too, the intervention was, for some, not as effective, well adopted or in some cases held in a positive regard, as it was others. It is of note that the respondents in the TRP study found the 3-day intervention more acceptable than reported by some in the Reme et al study, but this might be due to the core symptoms of fatigue in that study's population.

An understanding of the neural mechanisms was clearly identified in all responses in this study and this concurs with a similar, but less universal, understanding in the reports from the Reme et al and Sandaunet & Salamonsen studies. This was found to be liberating by the majority but unsettling to a few respondents who were more involved in 12 step groups. Other aspects of the approach such as not sharing negative stories, moderation management approaches (Mann, 2014), the speed of change and recognising being empowered rather than being powerless (Dodes & Dodes, 2014) also conflicted with some elements of the 12 step approach. This was identified as a potential issue for those with a strong commitment to the 12 step approach. A few respondents also noted a confusion between the non-judgemental awareness of mindfulness (as it is often practised) (Kabat-Zinn, 2003) and the assessment of the value of those thoughts and re-focusing on different thoughts and states suggested by the TRP. More recent research into 2<sup>nd</sup> generation mindfulness approaches which include a more traditional Buddhist perspective and an ethical component (Van Gordon et al., 2015; Van Gordon, Shonin, & Griffiths, 2016), evaluate thoughts in a similar way to the TRP, and may help those practising mindfulness to find a way to combine the two approaches. These types of conceptual conflicts have been reported in research into other interventions that differ from perceived norms (Krentzman & Barker, 2016). It is valuable to identify these conflicts as they

suggest that a new way of framing this information may be required to allow participants with experience of other approaches to engage with the program (Brian Duffy, 2006; Mann, 2014).

### **The Flourishing Theme**

Although the term flourishing itself did not appear in the responses, its presence along with a number of key positive psychology concepts, such as broaden and build theory (Fredrickson, 2004), post-traumatic growth (Calhoun & Tedeschi, 2014), gratitude (Krentzman, 2017) and compassion (Ivtzan & Lomas, 2016; Neff et al., 2007) were identified in the participants' descriptions of changes as a result of attending the program.

The first subtheme, becoming empowered, was strongly contrasted to previous approaches the participants had experienced. The non-judgemental, non-blaming experience of the program was mentioned multiple times and conflicts with reports from some in the studies on the Lightning Process of a sense of failure and even being blamed (Reme et al., 2012; Sandaunet & Salamonsen, 2012). This difference may be the effect of focused training for practitioners on these potential issues as a response to the reports from earlier studies, due to the studies being on different client groups (CFS rather than SUD), or due to the different opinions of those who had experienced positive or less positive experiences (Reme et al., 2012). Gaining clarity about this important issue may be achieved by further studies to understand why these experiences were so different for some. As mentioned earlier this sense of empowerment, which gives individuals' back their power *and* allows them to make less impulsive choices, can be seen to bridge the gap between a psychopathological stance on SUD treatment and its focus on reducing impulsivity and the PP approach of enhancing flourishing and wellbeing (Krentzman & Barker, 2016) and raises further questions about the historical distinctions between these two perspectives.

The intentional use of humour in the intervention was noted by many, and this element has a long history of being valued in many cultures, as can be seen from the quote:

*'To the most trivial actions, attach the devotion and mindfulness of a hundred monks. To matters of life and death, attach a sense of humour.'*

*Master Zhuang, (c. 369 BC - c. 286 BC)*

More recently a developing evidence base has identified its therapeutic value nursing, therapy and pre-operative environments (Costa Fernandes & Arriaga, 2010; Farrelly & Brandsma, 1981; Franzini, 2001; Hunt, 1993; Samson & Gross, 2012). Research into the circumplex of emotions model (Posner, Russell, & Peterson, 2005) and into the strength of synaptic connections (Cossell et al., 2015), identifies that it is difficult to activate two oppositional emotions, or states, (such as happy/sad, or angry/at peace) simultaneously, although some authors question the validity of this position, noting one could experience unrequited love, feeling love and sadness (Seltzer, 2014). However, research supports (Fredrickson, 2004) the observation that an individual can experience similar states simultaneously, such as angry/sad or peaceful/happy. Whilst 'peace' and 'anger' are fairly clear 'opposite pairs', humour appears to have the interesting value of being an opposite to many of the more challenging states, such as anger, upset, being down, self-loathing, craving etc. This observation has led to authors suggesting that if humour can be effectively accessed then the pathways that are linked to those 'negative' states will be more difficult to activate or access (Dunbar et al., 2012; Parker, 2013b; Samson & Gross, 2012).

The nature of long term illness, mental health issues and SUD, makes it unsurprising that studies have observed that humour is not one of the most commonly accessed states for many with these challenges (Bain, 1997; Hassed, 2001; McCreaddie & Wiggins, 2008). However, finding a way to help activate the pathway of humour, whilst ensuring the client feels that they, and their condition is being treated with respect, can be seen to of great value, although would need to be delivered with a lightness of touch and compassion (Bain, 1997; Erdman, 1994).

Humour is also an essential component of developing a coaching relationship (Parker, 2012), and in this intervention, specifically a self-coaching one towards themselves. The power of developing this new relationship to themselves was mentioned by many respondents as being of great importance. The majority felt that it provided an instant access to valuable inner resources they were unfamiliar with. The purpose of this element of the intervention is to create a simple way to gain a different perspective on presenting issues and to feel supported and guided by an inner strength. From the responses, the participants appear to experience such changes. However, there were a few reported exceptions to this, where participants felt unable to connect with their inner coach to help with issues. This in some cases made the participant feel as though they had failed and further reduced their sense of empowerment. This is of concern as, although reported elsewhere that failing to gain much from interventions is disheartening (Prochaska & DiClemente, 1983; Reme et al., 2012), it is not a spiral of hopelessness that anyone would wish to encourage. It encourages reflection on how such participants can be identified and supported to find a way to gain more value from the programme. Further research might help with this or possibly explore if sub-groups of good or poor responders could be identified providing clearer signposting for approaches that are the best fit for individuals.

The second subtheme was that of ‘growth’. This encapsulated the responses of the participants that described more than just stopping using or negative behaviours, but instead identified a sense of opening up and developing new ways of being. As such it is identifies with many of the core ideas of PP and particularly broaden and build theory (Fredrickson, 2004), which is also linked to the self-medication/stress models of addiction, where stress is seen as a common precursor to substance use (Hassanbeigi, Askari, Hassanbeigi, & Pourmovahed, 2013). The use of exuberant language to describe their changes and experiences of the intervention suggests an accessing of states and words linked to pathways related to a different version of reality (Willig, 2008), one more concerned with flourishing than old recurrent habits of substance use and emotional dysregulation. This was supported by the comments made by some participants of the sense that this was just the beginning of a voyage into something new, where the changes they had already made felt as if they were bound to be followed by even more positive changes. This type of transformational change has been identified in much of the early SUD literature, particularly by the work of James (1901). It implies that, as Fredrickson (2004) suggests, new pathways are being developed as a result of changing responses to old environmental triggers. This supports one of the core elements of recovery capital as a route out of SUD through improving the relationship with oneself and others (Cloud & Granfield, 2008).

It was also noted by respondents that the process of growth and change was not always smooth or easy and was at times challenging. Others have reported this in mindfulness (Shonin et al., 2014; Williams, McManus, Muse, & Williams, 2011) and Lightning Process studies (Reme et al., 2012; Sandaunet & Salamonsen, 2012). Some argue that this may well be part of the process of change, as was suggested by some of the respondents, and an opportunity for post-traumatic growth, by finding one’s own way

through the difficult terrain of change (Calhoun & Tedeschi, 2006). However, these responses also provide an opportunity to discover if there is an easier way to refine the process to make change easier, which historically was the original driving force behind the development of the intervention in the first place.

The third and final subtheme was that of ‘self-concept’. This theme was named to identify positive changes in relationship to self, rather than a deeper attachment to self, which can be considered to be another type of ‘addiction’ (Van Gordon et al., 2018).

A core feature of the responses was a recognition of the development of compassionate regard and kindness towards themselves. This quality is something that features in many world religious, spiritual and secular personal development practices and has developed an extensive evidence base in recent years particularly through the work of those using Buddhist based practices and PP approaches (Ivtzan & Lomas, 2016, 2016; Kearney & Hicks, 2017; Kotera, Conway, & Van Gordon, 2018; Navarro-Gil et al., 2018; Neff, Kirkpatrick, & Rude, 2007; Shonin, Van Gordon, Garcia-Campayo, & Griffiths, 2017). Many also specifically noted how this new compassionate conversation was swapped for their previous internal dialogue of self-blame, self-shaming and berating. This reported shift to being compassionate is an essential part of developing the elements of recovery capital deemed so vital for sustained changed in SUD. Self-compassion was encouraged generally in the intervention and specifically in the guidelines for dialogue of the self-coach, and from the responses, this appears to have been effective in developing this quality for most participants. Developing self-directed kindness has been reported to sometimes be an unfamiliar potentially unsettling experience for some (Flanagan, 2013; Kang & Kim, 2015), and it can be seen from one of the participants’ responses, that they didn’t find much value in the process and felt they hadn’t understood the taught concepts. Their responses note how they felt bad about themselves for not improving. This potential

issue, noted by other researchers (Reme et al., 2012; Sandaunet & Salamonsen, 2012), is of concern, as if the intervention is designed to increase compassionate self-regard to assist change and build self-esteem, but the participant feels they have failed at this, it is likely they will feel worse about themselves as a result. This type of response has also been reported in those using meditation for anxiety who, finding their lack of success at being mindful makes them more stressed, find themselves in a vicious circle (Farias & Wikholm, 2015; Foster, 2016). This is a difficult problem to address, as the tools required to resolve it appear to be being used in a way that exacerbates the problem. More research would be invaluable into identifying ways to assist these participants to find a path through this type of dilemma.

Throughout the responses, there were reports of how the participants reconnected with either an old forgotten sense of self or developed a new sense of who they could be. This type of change on an identity level is considered by some authors to be pivotal to developing and sustaining change, as, from a systems theory perspective, congruent changes in behaviours and beliefs are considered to be simpler to achieve once change has occurred at an identity level (Dilts, Hallbom, & Smith, 2012). This again was something that was implicit in the design of the intervention, where the development of the self-coach is intended to act as a prototype model for their 'higher self', with the hope that with extended familiarity with this way of being they choose to adopt it as a default way of being. This has much in common with second-generation mindfulness practices which, rather than designed just to tick the '10 minutes a day of doing mindfulness exercises' box, are intended to encourage a mindful awareness as a default way of being throughout the whole day (Monteiro, Musten, & Compson, 2015; Van Gordon et al., 2015).

Finally, important references were made to the effect of the intervention on their relationships to others, including senses of being more authentic with others, being present

with others or being less affected by others' behaviours. This also moves the approach from being one of focusing on self, which has been an issue for some personal development approaches (Craven & Marsh, 2008; Van Gordon et al., 2018) to one which considers the larger system the person is part of. These qualities of bringing a compassionate awareness of others and selecting the most useful options for responding to them, are deeply interlinked with the personal and interpersonal elements of recovery capital, which note the high importance of having a stable family and friendship group, and ideally, additionally positive relationships at work, to sustain recovery (Cloud & Granfield, 2008).

### **Conclusion**

The major themes of Control and Flourishing and the range of participants responses, highlight how the intervention appears to work on many levels, from changing behaviours to shifting ones' sense of self, although these changes were not experienced by all respondents. Similarities and differences, particularly in the speed of change, were reported between this intervention and those that had been previously tried by the participants- some aspects of these were positively regarded and others were found confusing or difficult to integrate. The analysis also supports the growing evidence that psychopathology and PP based approaches have a wide common area of interest and as both appear to provide the ability to affect similar processes essential for sustained change in SUD a developing relationship between the two would be of value for those with SUD.

## CHAPTER 15: LIMITATIONS AND REFLEXIVITY

There were a number of issues that had the potential to affect the quality of the studies and due to their importance are explored in this separate chapter.

### Dual Role

As reported at the commencement of this thesis an awareness of the dual role of the author as researcher and designer of the intervention was noted as a possible conflict of interest and a potential challenge to the robustness of the research process. Others have experienced researching within the challenging territory of this dual role (Kabat-Zinn, 1982; W. Miller, 1983) and as it is not an uncommon event for research to be undertaken into areas of personal interest, much has been written on strategies to ameliorate these potential concerns (Curzer & Santillanes, 2012). It was hoped that the use of reflexive strategies including journals and expert support and coaching detailed earlier (p.34) would provide an opportunity to develop an awareness of any biases or behaviours that might have compromised the integrity and equipoise of the study. In spite of structured protocols (p.34) to remove any obvious links between the author and the intervention existing in the public domain, an additional concern was that participants might become cognisant of the author's involvement with the study, particularly via internet sites managed by parties other than the author. This raised the possibility that knowledge the author's dual role might become a cause of unconscious or conscious bias within the participants, particularly in the qualitative study, where the researcher asked for their experiences of the intervention. There is a possibility that this could have produced responses more favourable to the intervention than was accurate, skewing the responses in a positive manner, although it could be argued that a negative perception of the author, might have similarly produced the opposite effect. Equally the range of responses in the quantitative and qualitative studies was by no means purely positive, and additionally matched the

range of positive and negative responses and outcomes reported by other quantitative and qualitative studies of the linked intervention the Lightning Process (Crawley et al., 2018; Reme et al., 2012; Sandaunet & Salamonsen, 2012).

Despite the reflexive practice and protocols to reduce knowledge of the author's dual role, it is still possible that unconscious biases might have played out in the design, recruitment, analysis and reporting of the data. Certainly, some experts suggest this is invariably the case (Braun & Clarke, 2006) and that the solution is to identify and be clear about that influence. The earlier sections on my epistemological and philosophical perspective and relationship to the project and data itemise that process in detail, and it is hoped that by following these well-evidenced processes as suggested by Green and Thorogood (2004), standards of rigour were attained, that included transparency, validity, reliability of credibility, comparability and reflexivity and the robustness of research was maintained.

On reflection, although the conflict of interest was managed within the project, the complexities that arose due to this dual role suggest that future studies would benefit from a clear separation between researchers and anyone with a vested interest in the intervention.

### **Recruitment and Sample Size**

The quantitative study had to overcome a number of practical challenges that had a direct effect on the data available for analysis. The first of these was the issue of recruitment of participants, and despite consistent issues with low levels of successful outcomes and falling funding for drug services (Blenheim CDP, 2016) there was reluctance on behalf of the drug services providers and linked charities and trusts contacted ( $n > 50$ ) to refer participants to the project. Off the record discussions with representatives of those organisations approached identified an unwillingness to consider

referring to a project that was a) lacking in a robust established evidence base and b) linked to any commercial organisation. This type of response creates the potential for prejudicial vicious circle issues seen with other new approaches attempting to produce research (Arroll & Henwood, 2017; Science Media Centre, 2017), however, the development of an evidence base through the current study should help resolve this issue for future research.

As a result of these issues and the reduced funding for supporting such projects, finding partners was challenging and after four years the sample size required to adequately power the study was not achieved. The self-referral arm was developed to overcome this, and although successful in increasing recruitment to power the study, the number of participants in this arm ( $n = 31$ ), compared to the drug service referral arm ( $n = 14$ ) resulted in mismatched sample sizes, with a potential for sample bias. However, when the data were analysed, the results identified there was no difference for the majority of outcomes due to referral route.

### **Clarity of Diagnosis/Homogeneity**

As reported in the methods section of the quantitative studies the participants all reported having a formally diagnosed SUD. That section also explored the clear possibility that this acceptance of their diagnosis might have produced a non-homogenous sample of those who did and those who did not have a formally diagnosed disorder. The reasons for taking their reports as grounds for inclusion, also outlined in that section, were structured around the standard practice in drug services and in the governmental drug treatment monitoring service of using self-reports of formal diagnosis and self-reported substance use as a method of evaluating changes in usage, rather than relying on medical reports or blood fluid tests (NDTMS, 2017). However, although considered reliable enough as a process for reporting on national drug outcomes, there is the possibility that

some of the participants in the NDTMS reports and in these studies did not have formally diagnosed or any type of substance use problems at all. Although this uncertainty does present a challenge to the results of the studies, this is somewhat ameliorated by the repeated collection of data using the standardised scales used by NDTMS and the controlled section of the research that compared the intervention to treatment as usual. The structure of the randomisation process would help to reduce the impact of any 'participants without SUD' on the reliability of outcomes, as there was an equal probability of them attending either arm. The results of the studies were also contrasted to the data from NDTMS, and here again, there is some reduction of the influence of those participants who may not have had SUD, as there is a reasonable probability that they would be represented equally in both samples.

This situation is also affected by the limitations that arise from the use of self-reporting measures and this has been particularly noted previously in alcohol use studies (Klatsky, Gunderson, Kipp, Udaltsova, & Friedman, 2006). In the quantitative study, it was considered the alternative of more reliable but invasive measuring procedures such as blood tests (used in some services) would be likely to decrease recruitment and increase attrition. Therefore, the practical solution of self-reporting was decided on and steps were taken to stress the importance of accurate reporting to participants to counteract this effect as much as possible. Although this approach is practical and well accepted by clients it still raises the possibility of inaccurate reporting and skewed measurements.

Finally, the control group was defined as receiving substance misuse approaches as usual. This umbrella term is commonly used in the field of SUD as it accurately describes how most participants will be involved in a combination of approaches (often including self-help and twelve step fellowship) as receiving a single specific approach, even for those in drug services, is rare (Bowen et al., 2014; W. R. Miller & Wilbourne, 2002).

However, this does produce an assumption of homogeneity of approaches received that may not be entirely accurate. The randomised controlled element of the study helps resolves this uncertainty as participants in both arms of the PPS have an equal chance of attending the various elements that make up substance misuse approaches as usual and so arguably produce a homogenous sample. These potential limitations reflect how ideal methodology has at times to be moderated by the requirements of real-world research, noted by other researching this field (Loveland & Driscoll, 2014; McGaffin, Deane, Kelly, & Ciarrochi, 2015; Turner & McLellan, 2009).

The important questions raised by this degree of uncertainty of diagnosis, the accuracy of measured change and homogeneity of treatment as usual, which apply to both governmental statistics and these studies, although difficult to practically implement as discussed earlier, require some solutions. An obvious suggestion would be to employ a clearer method of confirmed diagnosis and monitor more directly actual substance usage and mechanisms to achieve this are explored in suggestions for future studies in the final chapter.

### **Attrition**

Working with this client group and service partners produced other methodological issues. The planned three month control and a six month cohort study would have returned clearer data about the effects of the intervention, however concerns over recruitment and attrition issues, common in SUD research field (Loveland & Driscoll, 2014; McGaffin et al., 2015), from the service partners resulted in the decision to use a shorter control/intervention and cohort study period than originally planned and both factors had the potential to limit the quality and amount of data returned. Earlier designs of the study also included a further control group with no interaction with the project, which would have increased clarity about effects of treatment as usual whilst waiting to be part of the

study or just receiving treatment as usual. However, this originally planned arm had to be discarded at the insistence of the drug services who had concerns as to how this data might reflect on their service.

In spite of these procedural changes to increase data returned, the chaotic lifestyles of the many of the participants made attendance and completing forms a challenging process, often resulting in the absence of entire sets of data from individuals after the baseline measurements. This led to the decision, suggested by researchers (Mukaka et al., 2016) of the increased statistical reliability of analysing the data on a complete case basis rather than generating much of the data by imputation. The sample size was reduced by this informed decision, raising the possibility of type two errors, and the potential of a single individual's response affecting the data for the group as a whole (Faber & Fonseca, 2014), however, the power calculations showed the sample size was still adequate to power the study.

Although it should be noted that the attrition levels in the study were similar to other studies in the field (Hansen et al., 1990; Loveland & Driscoll, 2014), and the number of participants was adequate to power the study, future research would be valuable to understand the experiences of those 'non-completers' in order to either identify subgroups of those who would benefit from the intervention or to re-design the intervention to accommodate their needs better.

### **Qualitative Study**

There were a number of factors that could have affected the quality of the qualitative study. First, it had a relatively small sample and this has the potential to create an unrepresentative sampling (Sutton & Austin, 2015). This was potentially compounded by two further factors; there was a concern that the nature of the study into a new and psycho-socially based programme may have created a self-selection bias, and those with

little interest in such approaches may have been un-represented in the sample. Additionally, there was a lack of any responses to the invitation to join the study from those who were non-responders in the data collection process of the quantitative studies. This raises the possibility that this study's participants, who provided data at all collection points for the quantitative studies, could potentially be more likely to have had a positive experience of the intervention than those who had left the study. To address these issues efforts were made to engage all those who attended the intervention. Although no responses were obtained from those who had dropped out of the quantitative studies, a degree of balance was achieved in the data as number of responses were obtained from those who had had some negative or mixed experiences of the intervention. Further studies into the experiences of those who decided not to join the intervention or did not complete the data fully would be of great value in understanding more about how the approach is tolerated or adopted amongst a more diverse sample and could help in further developing the intervention to improve its adoption by a more varied population.

The possibility of the types of bias, particularly acquiescence and halo bias explored in the earlier reflexive section may have also had an influence on both recruitment and responses in this study, as cautioned against by others (Mazor et al., 2002). This type of bias is particularly important to be aware of and ameliorate in studies where it might be compounded by the dual role of researcher and designer as in this case. As a result in this study there is the potential, as identified by some authors (Nisbett & Wilson, 1977; Podsakoff et al., 2003), that the desire to avoid upsetting the researcher through avoiding any negative reflections or responses of the intervention or their experiences may have created an increase in positive responses and a skewed set of data.

In order to attempt to reduce these issues, the self-reflexive practices detailed earlier (p.34) were stringently employed, and the presence of negative and critical

responses in the data suggests those practices achieved their desired outcome, however, it remains a possibility that the data was influenced by these effects. Further studies with a researcher un-connected to the intervention would help reduce the possibility of this effect and would be of value in identifying if these results can be replicated.

In the analysis of the data of qualitative studies, there is some agreement of the subjectivity inherent in the role (Palaganas, Sanchez, Molintas, & Caricativo, 2017). This is further compounded by the dual role of the researcher in this study, which raises the increased possibility of bias creating a positive skew on the data. Braun and Clarke (2006) note that all qualitative studies are affected by the researcher, who should be viewed as an instrument, one that is part of the research rather than separate. This perspective acknowledges there will be effects due to the researcher's philosophical and epistemological positions and natural biases. They also suggest the solution is to document those positions so that readers can understand the context within which the data has been processed. Again, the reflexive practices were extremely important to ensure the processes of analysing and interpreting the data were sound, utilising the standards of rigour advised by Green and Thorogood (2004) of transparency, validity, reliability of credibility, comparability and reflexivity. Although this process is recognised as an effective way to identify and reduce the influence of the researcher, it has to be acknowledged that this might create a limitation in the reliability of the interpretation of the data. Again, repeating the study with a different researcher with a different relationship to the intervention would assist in clarifying the accuracy of the findings reached.

Finally, there were potential limitations as a result of the use of self-report online survey in the qualitative study. This data collection method provided the benefit of limiting any bias or suppressing influence of other participants and the interviewers that

can be found in focus groups or interviews and provided an ease of access for the participants. However, it potentially reduced the opportunity for interaction between group members, and discussion can be a valuable process in teasing out responses that would not be uncovered by the agreed asked questions (Willig, 2008). It also meant that some of the nuances in the responses (particularly non-verbal elements of communication) were unavailable for examination, which might have reduced the full understanding of the meaning of the responses. Additionally, the remote access of the survey, although suggested as a useful tool for research with 'hard to reach' participants (Wright, 2005), might have potentially prevented some with anxieties over technology, or those who prefer face to face human rather than remote interaction, from feeling able to take part, and may have affected the homogeneity of the sample. Finally, the online survey doesn't provide the capacity for participants to be able to ask questions about the questions, which can be an important part of understanding what is being asked for in such situations as suggested by some authors (Hewson, Vogel, & Laurent, 2016). This had the potential to reduce the quality of responses from the participants, although this type of issue wasn't obviously evident in the responses. These latter issues were addressed as much as possible through addressing concerns about the technology the invitation process, but the lack of opportunity for interactivity may have limited the quality and depth of the data provided. Further research within groups and face to face would be of value to ascertain if it provided a different or more nuanced set of responses.

### **Types of Substances Used**

An unexpected limitation was the lack of varieties of substances used that was unrepresentative of data collected on drug use in the UK (NDTMS, 2016). Service workers and participants suggested this could possibly be a consequence of the referral routes. They suggested there was a potential for drug service workers being unsure if the

severity of opiate addiction was suitable for a new approach. For the self-referral route, it was suggested that those with 'harder' drug issues, such as opiate use, might be more likely to seek drugs services than apply for a course they had seen advertised. However accurate these speculations may or not be, the study was limited by this lack of variety of drug type which prevented evaluation of the effects of the intervention on use of those unrepresented substances.

### **Gender Representation**

The sample was also noted to have an imbalance in gender representation, with a predominance of females in all three studies, with females accounting for 67% in the controlled study, 62% in the cohort study and 60% in the qualitative study and this may affect how representative the sample is. Gender imbalances have been identified in the national statistics for substance use (NDTMS, 2016), although those figures identify a 61% male predominance (for alcohol use). However, this study's figures more closely reflect the demographics of those using complementary, rather than orthodox, approaches with a 60% female predominance (Nowak et al., 2015), and this might indicate the sample is representative of the sub-group of those who are willing to engage with approaches that differ from those standardly provided. Further demographic information was not collected on the advice of the service partners who recommended increasing recruitment by avoiding asking for too much personal data from participants, and it can be noted that future studies would consider the rise in awareness of the less binary male/female distinctions of gender and include these in the protocol for demographic data collection.

### **Summary**

This chapter identified the key potential limitations of the studies and in particular the dual role of the researcher/designer and the reliability of diagnosis. It also presented

the steps taken to ameliorate any effect of these issues and an explanation of the context behind those decisions. Suggestions for future research to additionally address these issues have been proposed and this theme is further developed within the discussion chapter that follows.

## CHAPTER 16: DISCUSSION AND CONCLUSION

This is the first full mixed-methods study to evaluate this new approach to SUD.

The PPS found that those receiving the intervention significantly reduced alcohol usage and impulsivity, and significantly increased flourishing and recovery compared to those who received substance misuse management approaches as usual.

The cohort study found improvements in alcohol usage, flourishing, impulsivity and psychological health were significantly maintained over time. It also found that the results were predominantly independent of referral route.

Responses in both studies for the use of other substances use, changes in housing and days working/college were relatively small and prevented drawing reliable conclusions.

In both studies a non-significant weak to moderate association was seen between alcohol use and flourishing and alcohol use and impulsivity, however a significant moderate to strong association was seen between flourishing and impulsivity.

The qualitative study identified two themes, the first theme related to controlling behaviours and the second to increasing flourishing. These themes also reflected the changes in impulsivity and recovery capital seen in the quantitative studies. Multiple references were made to compassion within the training, a changed relationship to self and others and the rapidity and global nature of the change. However, some participants found there was a conflict with concepts from other approaches.

The findings from all studies have been synthesised, using a triangulation process (O’Cathain, Murphy, & Nicholl, 2010) recommended for mixed-methods studies to provide an integrated discussion of the data.

**Control and choice**

The significant changes in reduced alcohol usage from this intervention compared to those accessing usual services or self-help methods identifies that this new approach has value in addressing the core issue of low recovery rates for those with SUD (NDTMS, 2016). These results also compare favourably to mindfulness approaches to alcohol, with similar reductions of a third of days used reported (Bowen et al., 2014). Additionally, the outcomes were achieved as a result of a briefer, three 3-hour sessions, intervention compared to those accessing more prolonged interventions (average time in drug services treatment is 202 days (NDTMS, 2016)) from services or self-help.

These changes in alcohol, cocaine and amphetamine usage were reflected in the responses of the participants of the qualitative study concerning a sense of having increased choice and control. Together these findings of participants exercising choice about usage add support to the psychosocial model of change and volitional choice model in SUD approaches, whilst adding to the evidence that questions the validity of the disease model of addictions (Heyman, 2013; Peele, 2016). The increased choice is also identified in the significant changes in impulsivity which support the extensive research on the importance of impulsivity in the development and maintenance of SUD (Franken et al., 2008; Gullo et al., 2014; Tomassini et al., 2012; Winhusen et al., 2013). These results also add weight to the theory that impulsivity is changeable (Chen, 2006; R. M. Gray, 2011; Littlefield et al., 2015) and not a mainly static trait (Barratt, 1975). Participants reported that they were better able to interrupt their SUD behaviours and negative emotional states and replace them with new behaviours and more positive emotional states and that this ability increased with practice. The longevity of these effects is supported by results of the cohort study which demonstrated that participants were able to maintain these new behaviours and positive emotional states at 3 months after completing the TRP. The

duration of this change shows the participants had adopted new responses to those situations that triggered impulsive behaviours and suggests instrumental learning and neuroplastic change is active in the approach (Kalivas & Volkow, 2011; Koob & Le Moal, 2005; Koob & Volkow, 2016; O'Brien, 2009; Rácz, 2014). This ability to rapidly switch pathways was identified by the participants as a difference between this approach and CBT and mindfulness-based approaches for reducing cravings and impulsive behaviours in SUD (Elwafi, Witkiewitz, Mallik, Thornhill, & Brewer, 2013; Garland et al., 2014, 2016). It was also reported to be an important factor in the ease of use and in creating the speed of change experienced and might provide extra options for those with SUD, and especially those who find mindfulness challenging (Zgierska et al., 2009).

### **Flourishing and Positive Psychology**

Participants in the qualitative study identified a number of key positive psychology concepts, such as broaden and build theory (Fredrickson, 2004), post-traumatic growth (Calhoun & Tedeschi, 2006), gratitude (Krentzman, 2017) and compassion (Ivtzan & Lomas, 2016; Neff et al., 2007) in the approach. This, together with the findings of significant increases in flourishing, suggest the approach is well-aligned with the positive psychology model and has the potential to be added to the range of positive psychology interventions.

The study further adds to the field of positive psychology and SUD by evidencing the TRP's ability to achieve changes in both flourishing and to directly address alcohol use issues. As a result, it helps address some of the key concerns highlighted by researchers and clinicians as to how positive psychology approaches might work alongside a psycho-pathology model of SUD (Krentzman, 2015; Krentzman & Barker, 2016). Additionally, this reduction in substance usage combined with an increase in flourishing, supports the existing research into the value of flourishing in approaches to

SUD (C. L. M. Keyes, 2006; Low, 2011; McGaffin et al., 2015; Schotanus-Dijkstra, ten Have, et al., 2016).

The overall increase in recovery capital found in the quantitative studies and referenced in the qualitative study as improved relationships to others and themselves, a sense of a supportive community and global improvements in quality of life provides elements valued by the government agenda for sustainable recovery (Strang, 2012). This supportive community and changed relationship to themselves and others concurs with elements reported to be of particular value in other approaches (B. A. Lewis, 1994; De Botton, 2013), and may provide access to these elements for those who prefer not to engage in TS approaches (Kelly, Myers, & Rodolico, 2008). However, certain aspects of the approach conflicted with elements of the TS, such as not sharing negative stories, moderation management approaches (J. Mann, 2014), the speed of change and recognising being empowered rather than being powerless (Dodes & Dodes, 2014). This was identified as a potential issue for those with a strong commitment to the TS approach. Conceptual conflicts such as these have been reported in research into other interventions that differ from perceived norms (Krentzman & Barker, 2016) and suggest that a new way of framing this information may be required (Duffy, 2006; J. Mann, 2014).

### **Association Between Control and Flourishing**

The significant association found between impulsivity and flourishing is important, as there is an absence of published research on this, and this appears to be the first time it has been reported. As impulsivity has been shown to be important in alcohol and substance use (Littlefield et al., 2010; Tomassini et al., 2012) this finding also adds to the evidence base on flourishing and SUD, although it cannot be identified from this study if this is a causative relationship or in which direction any relationship might be.

The current evidence (C. L. M. Keyes, 2006; Krentzman, 2013; McGaffin et al., 2015; Schotanus-Dijkstra, ten Have, et al., 2016) suggests that there is a strong association between decreased alcohol use and increased flourishing. However, this study's results on this association conflict with those previous findings and although there was a decrease in alcohol usage and an increase in flourishing, only a weak to moderate association that was not significant was seen. In the flourishing evidence base this conflictual finding has been identified before (Low, 2011), where Low posited that students may not consider binge drinking as reducing their levels of flourishing. However, in this study, this is unlikely to be the case as participants specifically joined the study to resolve problematic substance use. The expected strong and significant association between impulsivity and alcohol use was not found in this sample, and this, combined with the lack of association between alcohol use and flourishing, further identifies the sample as showing some differences in the relationships between alcohol, impulsivity and flourishing scores than would normally be expected. It is possible these unexpected non-significant weak flourishing/alcohol and impulsivity/alcohol associations are due to the relatively small sample numbers involved in the study. Alternatively, it might be due to factors, other than alcohol, affecting positive or negative flourishing and impulsivity, and overriding any potential associative effect between alcohol and flourishing and impulsivity.

### **Limitations**

As potential limitations were of particular importance to this study, especially due to the dual researcher/design role, these have been more fully explored in Chapter 15.

### **Implications**

Considering these limitations to the studies, further quantitative research is suggested to evaluate the intervention more fully. It is suggested the future research would benefit from a larger sample ( $n > 200$ ) with 3 arms including an intervention arm, a

control group with a well-defined treatment regime, and a non-engaged control group using the same well-defined treatment, a 3 month control period, a 6 and 12 month follow up period and an evaluation of the comparative cost-effectiveness. Samples matching the drug type used, gender and socio-economic distributions of national substance use demographics would be of value. This research design would ideally require the support of drug services, which may be easier to attain as a result of this current study. A further qualitative study is suggested which would include more data from those who chose not to join the study, or dropped out from the intervention, to identify what would be required to engage them in the approach.

Finally, a study evaluating the link between impulsivity and flourishing, a gap identified in the evidence base by this study is suggested. This study would provide new understandings of how these key factors, linked to SUD, relate to each other.

The current study also has three main implications for clinicians and drug services. Firstly, it adds to the evidence base of the importance of flourishing in SUD and may promote further research and more inclusion of that concept in the field. Secondly, the identification of familiar psychological theories that support the approach, its potential to be part of the range of positive psychology interventions and the significant results, within a brief timeframe, may increase understanding of the approach and reduce barriers to its adoption by drug services. Thirdly, the results showing that it provides a new approach to address both the psychopathology of SUD and the positive psychology agenda of increasing flourishing, will help to understand of how those two models can work together in a clinical treatment environment.

## **Conclusion**

This study set out to contextualise and evaluate a new approach for those with SUD that had been developed from clinical practice. The literature review identified how

the approach was aligned with choice, impulsivity and flourishing theories, had the potential to be considered as a positive psychology intervention and identified a gap in the research concerning the association between impulsivity and flourishing and the value of measuring flourishing in SUD. This latter finding guided the systematic review on that topic which suggested the need for further focused studies of flourishing in a SUD population. As a result, the PPS, cohort and qualitative study were undertaken, which showed the approach significantly reduced alcohol use and impulsivity and increased flourishing and elements of recovery capital compared to substance misuse approaches as usual. These findings support the possibility of including this new approach within the range of positive psychology interventions. The data analysis also showed a previously unreported association between impulsivity and flourishing.

This study has identified the value of this brief positive psychology focused approach in helping those with SUD reduce usage, increase flourishing and build the recovery capital considered so valuable in creating sustained recovery. It is hoped that it will encourage further research and a wider adoption of the flourishing concept in SUD, and this new approach.

Current statistics identify the concerning state of SUD current outcomes. Each year over three-quarters of those seeking help for SUD, remain in the treatment system or drop out of treatment. Developing the evidence base for new approaches, such as these, is vital to help transform this situation, and create sustainable change for those affected by SUD.

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APPENDICES

Appendix A

Tops form



TREATMENT OUTCOMES PROFILE

CLIENT ID

KEYWORKER

GENDER  
 MALE  FEMALE

DOB

TREATMENT STAGE  
 START  REVIEW  EXIT  POST-TREATMENT

INTERVIEW DATE

USE 'NA' ONLY IF THE CLIENT DOES NOT DISCLOSE INFORMATION OR DOES NOT ANSWER

1 SUBSTANCE USE Total for NDTMS return

	WEEK 4	WEEK 3	WEEK 2	WEEK 1	AVERAGE PER DAY	
A. ALCOHOL	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="UNITS"/>	<input type="text" value="0-28"/>
B. OPIATES/OPIOIDS (ILLICIT) <small>Includes street heroin and any non-prescribed opioid, such as methadone and buprenorphine</small>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0"/>	<input type="text" value="0-28"/>
C. CRACK	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0"/>	<input type="text" value="0-28"/>
D. COCAINE	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0"/>	<input type="text" value="0-28"/>
E. AMPHETAMINES	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0"/>	<input type="text" value="0-28"/>
F. CANNABIS	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="SPLIFFS"/>	<input type="text" value="0-28"/>
G. OTHER SUBSTANCE SPECIFY:	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0"/>	<input type="text" value="0-28"/>

2 INJECTING RISK BEHAVIOUR

	WEEK 4	WEEK 3	WEEK 2	WEEK 1	
A. INJECTED	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-28"/>
B. INJECTED WITH A NEEDLE OR SYRINGE USED BY SOMEBODY ELSE	YES <input type="checkbox"/>	NO <input type="checkbox"/>	}		<input type="text" value="Y or N (Y if either is yes)"/>
C. INJECTED USING A SPOON, WATER OR FILTER USED BY SOMEBODY ELSE	YES <input type="checkbox"/>	NO <input type="checkbox"/>			

3 CRIME

	WEEK 4	WEEK 3	WEEK 2	WEEK 1	
A. SHOPLIFTING	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-28"/>
B. SELLING DRUGS	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-7"/>	<input type="text" value="0-28"/>
C. THEFT FROM OR OF A VEHICLE	YES <input type="checkbox"/>	NO <input type="checkbox"/>	}		<input type="text" value="Y or N (Y IF EITHER IS YES)"/>
D. OTHER PROPERTY THEFT OR BURGLARY	YES <input type="checkbox"/>	NO <input type="checkbox"/>			
E. FRAUD, FORGERY OR HANDLING STOLEN GOODS	YES <input type="checkbox"/>	NO <input type="checkbox"/>			
F. COMMITTING ASSAULT OR VIOLENCE	YES <input type="checkbox"/>	NO <input type="checkbox"/>			<input type="text" value="Y or N"/>

4 HEALTH & SOCIAL FUNCTIONING

A. CLIENT'S RATING: PSYCHOLOGICAL HEALTH <small>(Anxiety, depression, problem emotions and feelings)</small>	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 POOR <span style="float: right;">GOOD</span>	<input type="text" value="0-20"/>
B. DAYS IN PAID WORK <small>Record days worked, or at college or school in the past four weeks</small>	WEEK 4 WEEK 3 WEEK 2 WEEK 1 <input type="text" value="0-7"/> <input type="text" value="0-7"/> <input type="text" value="0-7"/> <input type="text" value="0-7"/>	<input type="text" value="0-28"/>
C. DAYS ATTENDED COLLEGE OR SCHOOL	<input type="text" value="0-7"/> <input type="text" value="0-7"/> <input type="text" value="0-7"/> <input type="text" value="0-7"/>	<input type="text" value="0-28"/>
D. CLIENT'S RATING: PHYSICAL HEALTH <small>(Extent of physical symptoms and bothered by illness)</small>	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 POOR <span style="float: right;">GOOD</span>	<input type="text" value="0-20"/>
E. ACUTE HOUSING PROBLEM <small>Record accommodation status for the past four weeks</small>	YES <input type="checkbox"/> NO <input type="checkbox"/>	<input type="text" value="Y or N"/>
F. AT RISK OF EVICTION	YES <input type="checkbox"/> NO <input type="checkbox"/>	<input type="text" value="Y or N"/>
G. CLIENT'S RATING: OVERALL QUALITY OF LIFE <small>(Able to enjoy life, gets on with family and partner, etc)</small>	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 POOR <span style="float: right;">GOOD</span>	<input type="text" value="0-20"/>

## Appendix B

**Flourishing Scale****FLOURISHING SCALE**

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Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

\_\_\_ I lead a purposeful and meaningful life

\_\_\_ My social relationships are supportive and rewarding

\_\_\_ I am engaged and interested in my daily activities

\_\_\_ I actively contribute to the happiness and well-being of others

\_\_\_ I am competent and capable in the activities that are important to me

\_\_\_ I am a good person and live a good life

\_\_\_ I am optimistic about my future

\_\_\_ People respect me

Scoring:

Add the responses, varying from 1 to 7, for all eight items. The possible range of scores is from 8 (lowest possible) to 56 (highest PWB possible). A high score represents a person with many psychological resources and strengths

## Appendix C

**Low self-control measure**

Name:

Date:

Data collected at which stage – please tick one

Recruitment  Wait list Pre-course  1 month post TRP 3 months post TRP  6 months post TRP **Impulsivity**

	1	2	3	4
<b>Low Self-Control Measure</b>	<b>Strongly disagree</b>	<b>Disagree somewhat</b>	<b>Agree somewhat</b>	<b>Strongly agree</b>
I often act on the spur of the moment without stopping to think.				
I don't devote much thought and effort to preparing for the future.				
I often do whatever brings me pleasure here and now, even at the cost of some distant goal.				
I'm more concerned with what happens to me in the short run than in the long run.				



Note: Test name created by PsycTESTS

## Appendix D

## Systematic review studies

Author/Year	Title	Quality*	Country	Method	Control	measures	N	Results
Keyes, Corey L. M. 2005	Mental Illness and/or Mental Health? Investigating Axioms of the Complete State Model of Health	Good	USA	Quantitative-cross sectional	No	Composite International Diagnostic Interview Short Form. Ryff's (1989) scales of psychological well-being and Keyes's (1998) scales of social well-being. Positive affect symptoms	3032	Supports the hypothesis that measures of mental health (flourishing) and mental illness (including alcohol dependence) constitute separate correlated unipolar dimensions. Completely mentally healthy adults reported the least substance use
Keyes, Corey L. M. 2006	Mental health in adolescence: Is America's youth flourishing?	Good	USA	Quantitative-cross sectional	No	12 subjective well-being adapted from midus. Child Depression Inventory. Global self-concept scale. Closeness to others	1234	Flourishing was the most prevalent diagnosis among youth ages 12-14; moderate mental health was the most prevalent diagnosis among youth ages 15-18. Alcohol use and marijuana use decreased and measures of psychosocial functioning increased as mental health increased.
Barber, L.K; Bagnsby, P.G; Munz, D.C. 2010	Affect regulation strategies for promoting (or preventing) flourishing emotional health	Good	USA	Quantitative-cross sectional	No	Positivity ratio. Trait version Measure of Affect Regulation Styles	380	Those languishing were more likely to use 'avoidance strategies' like alcohol use, amongst other strategies, to 'get out of a bad mood'
Low, Kathryn G. 2011	Flourishing, substance use, and engagement in students entering college: a preliminary study	Good	USA	Quantitative-cross sectional	no	Mental Health Continuum- Short Form (MHC-SF). Self reports	428	Alcohol consumption and binge drinking were not associated with measures of mental health. However, certain kinds of student engagement were associated with flourishing.
Krentzman, Amy R. 2013	Review of the application of positive psychology to substance use, addiction, and recovery research	Good	Global	Review	NA	NA		Discusses the rising importance of flourishing in psychology, and especially positive psychology (PP) and SUD
Fink, John E. 2014	Flourishing: Exploring predictors of mental health within the college environment	Good	USA	Quantitative-cross sectional	No	National Study of Living-Learning Programs (NSLLP). Mental Health Continuum Short Form	1459	Significant negative effect on the mental health score of students reporting more emotional consequence of alcohol
Gilmour, Heather 2014	Positive mental health and mental illness	Good	Canada	Quantitative-cross sectional	No	Mental Health Continuum-Short Form. 2012 Canadian Community Health Survey-Mental Health (CCHS-MH). World Mental Health-Composite International Diagnostic Interview 3.0	25,113	Estimates 72.5% of Canadians (19.8 million) were classified as having complete mental health; that is they were flourishing and did not meet the criteria for any of the six past 12-month mental or substance use disorders.
McGaffin, Breanna J.; Deane, Frank P.; Kelly, Peter J.; Ciarrochi, Joseph 2015	Flourishing, languishing and moderate mental health: Prevalence and change in mental health during recovery from drug and alcohol problems.	Good	Australia	Quantitative-Longitudinal Study	No	Mental Health Continuum - Short Form. Addiction Severity Index. Life Engagement Test (LET). Depression Anxiety Stress Scale (DASS). Desires for Alcohol Questionnaire (DAQ). Drug Taking Confidence Questionnaire (DTCQ)	794	Found significant interaction between continuous mental health (flourishing) and substance use status and reductions in cravings.
Schotanus-Dijkstra, Marijke; Ten Have, Margreet; Lamers, Sanne M. A.; de Graaf, Ron; Bohlmeijer, Ernst T. 2016	The longitudinal relationship between flourishing mental health and incident mood, anxiety and substance use disorders	Good	Netherlands	Quantitative-cross sectional	No	Mental Health Continuum-Short Form (MHC-SF). Composite International Diagnostic Interview (CIDI) 3.0	4482	Flourishing reduced the risk of incident mood disorders by 28% and of anxiety disorders by 53%, but did not significantly predict substance use disorders.
Joutsenniemi, Kaisla; Härkänen, Tommi; Pankakoski, Maiju; Langinvainio, Heimo; Mattila, Antti S.; Saarelma, Osmo; Lönnqvist, Jouko; Mustonen, Pekka 2013	Confidence in the future, health-related	Good	Finland	Quantitative-cross sectional	No	Happiness-Flourishing Scale. Self report	101257	Those with high confidence in future (flourishing) were less likely to be daily smokers and binge drinkers
Keyes, Corey L. M. 2015	Flourishing after addiction: An invited commentary on the McGaffin et al.(2015) study	NA	USA	Commentary	NA		NA	Commentary on McGaffin

## Appendix E

*As the passive and active concept is central linguistically to the TRP this overview has been included for clarity.*

Although there is a drive to encourage self-care and self-empowerment in medicine (Hibbard & Greene, 2013), the concept of the passivity has been noted as being an inherent relationship dynamic in many healthcare encounters (Brown et al., 2002), so much so that it shares the same etymological root as the word patient. The Passive Language concept also additionally focuses on identifying what the client is informing *themselves*, in a limiting way about their possibility of improvement or ability to make change by the use of this language.

**Passive and permanence**

A useful framework for identifying the impact of passive language on the possibility of change is Dilt's neuro-logical levels model (2012), based on Bateson logical levels of learning (Necşoi, Porumbu, & Beldianu, 2013). This model suggests that there is hierarchy of the levels at which individuals experience, or process, life events. It also posits that the higher the level that an experience, or issue, is placed, the more influence it will have and the stronger the individual's perception of its permanence. Therefore, a statement of identity, "I am a bad person", may present a stronger sense of permanence than "I did something bad" (a behaviour level issue).

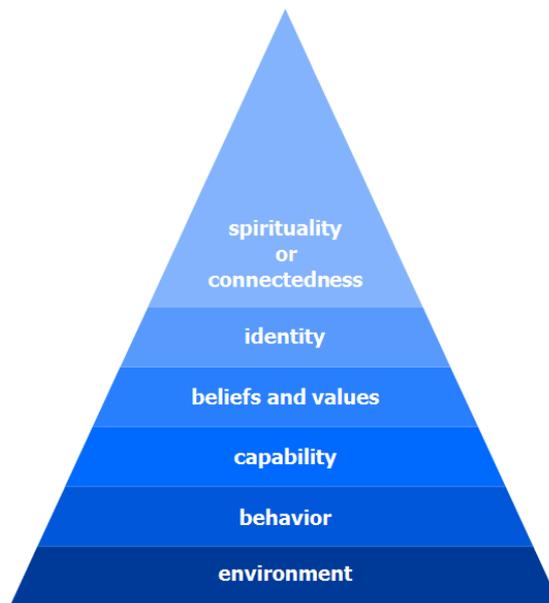


Figure A.1 Neurological Levels

The neuroplastic effects of the reinforcement of the individual's sense of having no influence on the situation, aided by frequent use of passive language, moves the issues from being an activation of a particular set of neurological pathways, or states, to appearing to be something that 'IS' - i.e. has an existence separate to the individual. This can be heard in statements such as; 'I have a problem with anger' or 'I have so much anger in me', where the behaviour 'being angry' has become a noun 'the anger'. Linguistically this process of grammatically transforming a process, which is ongoing and changeable, into a noun, which suggests it has a permanent discrete existence, is called nominalisation (Bandler, Grinder, Satir, & Bateson, 2005). They contend that this is important to distinguish as by this nominalisation process the verb loses its key verb like qualities – and as verbs describe actions that can be stopped, interrupted, redirected, moved on from, these options are lost. Instead now these verbs appear as nouns, and so assume the qualities one expects of nouns, having real material existence and relatively unchangeable permanence. In the example 'I have so much anger in me', the solution now demanded by the way the problem is presented is to work with the 'anger', as it now

appears to be a 'thing' separate to the client. The options of removing, coping with, sedating, exploring or understanding 'the anger' now all seem reasonable responses as the client attempts to deal with 'the anger'; because they now 'have it' the option to not activate the state of anger no longer makes much sense in this nominalised interpretation of the experience.

This grammatical transformation of verbs to nouns can be elevated to an even higher level of permanence if the normalisation is shifted from the 'behavioural' level, "I have an addiction", to the 'identity' level, "I am an addict", a term that is common in 12-step fellowship programs (Dodes & Dodes, 2014; McIntosh & McKeganey, 2000). When an individual identifies with the addiction as being a fundamental composite of who they are, then there is often an expectation, compounded by popular discourses in SUD that the amount of work required to change this, if it is even possible, would be a significant (Bailey, 2005). Dilt's model also suggests that in order to change something on one level a sense of stability is required on a higher level. For changes to occur at an identity, stability must exist on a level above, i.e. spiritual – and it is interesting to note that in 12-step fellowships that is the area that they place their trust in for change. There are some issues with this model (Craft, 2001; Tosey & Mathison, 2003); the hierarchy argument does not always work - an attempt to send an email when the environment does not allow it (no internet or electricity) will remain an obstacle no matter if sending that email is a behaviour they know how to perform (behaviour), part of who they are (identity) etc. ; hierarchical values that do not fit in a singular system- it is unclear at which level beliefs about identity, 'I am a good person' should be placed. Despite these issues it is a pragmatically useful guide for identifying a sense of permanence, and in the field of SUD, as with most areas of health, nominalisations are common; addict, addiction, relapse and disorder are all examples of nominalised verbs, and in the process of grammatical

transformation, their fundamentally changeable nature is replaced by a sense of permanence.

### **Medical active and passive**

Although having this passive perspective is common in the experience and language of SUD and health, giving the problem issue a much greater sense of stability, making the possibility of change seem less likely and reducing the focus to ‘coping with it’ (Appleton & Duda, 2016; Atanasova, Kamin, & Petrič, 2017; Hibbard & Greene, 2013; Laverack, 2004; Mancini, 2016), it is at odds with the fundamentals of the physiology processes underlying the conditions. Medical physiology textbooks refer to the ‘Active’ processes involved in health issues, often termed ‘the disease process’- yet for communicating these complexities to patients and colleagues a simpler noun based version is commonly used. For example, the noun ‘inflammation’ is used as a simpler shorthand to describe the complex interactions of lymphocyte migration, antibody production and release, lysosomal attacks and a myriad other very active events and responses to some kind of identified problematic stimuli. This nominalisation ‘inflammation’, where the verbs reflecting the active and ever changing processes are transformed into a single noun has value in making things less complicated for the patient, yet at the same time appears to define these essentially fluctuating, changeable processes as a ‘thing’ that seems static, has a sense of permanent existence and is now something we have to ‘fix’ or cope with. This simplification to help the patient’s understanding, or to speed communication between professionals, leaves the patients, and the professions with a new problem, a client group with an in-built passivity along with the automatic removal any expectation of having much influence in their health/recovery future, which is at odds with the developing ideas of self-management/patient activation promoted by the Department of Health based on the Kings Fund research (Addicott et al., 2015)

### **Rediscovering Active**

Having identified this passive pattern, a strategy was developed to provide an effective and easily adopted way to identify and reverse this language and the passive perspective that unintentionally accompanies it. The author named this strategy ‘Active language’, and designed a new verb to convert passivity, nominalisations and disempowering identity statements and beliefs back to active behaviours and state based language. A decision to create a new verb was taken to simplify the linguistic change process and surprise the client, and their neurology, by using new and unfamiliar ‘different’ patterns of speech.

The new verb chosen was based on the standard verb ‘to do’ and retained much of its basic meaning, but to specifically underline the *unintentional* nature of the activation of the neurology of the problem and the often *unconscious* nature of this activation a ‘û’ was used to replace the ‘o’, resulting in the verb ‘to dû’(Parker, 2011). The use of this verb restores the sense of involvement in the behaviours and processes that create the SUD. It also allows them to recognise that if they are involved, albeit unconsciously and unintentionally, in the development and maintenance of the issue, it also identifies that they have the ability to be influential in the future course of their decisions and health. The promotion of the concept that they were dûing it, but at an *unconscious* level, allows for self-compassion and avoids the destructive potential for feeling blame for being involved in the issue (Larun & Malterud, 2007). This point was further emphasised by the use of the word ‘influence’ rather than ‘responsibility’, when explaining the new verb to clients, in an attempt to avoid the connotations that the individual is ‘to blame’ for the problem that responsibility sometimes conveys (Parker, 2012a; Reme et al., 2012).

The circumflex was specifically chosen to encourage the key theme of surprise as it is a symbol that does not occur in English - except in loaned words - and to highlight the distinctions between it and the normal 'do'.

The usage of the *dû* is also intentionally strange, triggering the valued states of novelty, intrigue and humour. Once the client is trained in an understanding of what 'passive language' is and how to identify when it is being used, they are asked to replace passive phrases with the '*dû*'. This re-envisages the issue as a state rather than a noun or identity, restores an internal locus of control and reduces the sense of the amount of work need for change to occur, as in the examples below:

Passive statements:

1. I have an addiction
  - a. I am *dûing* addiction
2. I am an addict
  - a. I am *dûing* addiction much of the time
3. I have cravings
  - a. I am *dûing* cravings
4. It is difficult to change
  - a. I am *dûing* difficulty around change
5. I am in relapse
  - a. I am *dûing* relapse
6. The housing officer made me angry
  - a. The housing officer said something, and I *dîd* angry about.

The concept has been tested for comprehension on a large sample of age groups ( $n=20,000$ , age range 6-93) and appears to be well understood by children over 7 years old and ages upwards (Parker, 2012a). When using this new 'languaging' clients reported in the feedback groups from the pilot study on TRP that it seems to 'wrong foot' the brain, as they are not used to thinking or speaking in this way. "I am *dûing* angry" breaks so

many grammatical rules, and, intentionally, sounds ‘wrong’ - and clients report that this seemed to temporarily pause those ‘problem’ pathways. They also report that in that pause a re-evaluation and recognition- similar to the analysis of NAT in CBT, but occurring in the moment by usage of the *dû* rather than on cognitive reflection - of the new possibilities of being influential in what happens next become apparent. They report a cognitive shift of recognising that this is not something they *have* or *are*, but something they are unintentionally and unconsciously *dûing*; their sense of ownership of their role/self-efficacy/locus of control in the issue is clarified, a factor which has predictive value in recovery rates (Haynes & Ayliffe, 1991; Horvath & Yeterian, 2012). In example 6 above, there is a recognition that the housing officer cannot *make* the client angry without the client’s agreement to engage in anger (although he can certainly provide an opportunity for them to generate anger); this produces a realisation that there are more choices available than originally appeared and that they are free to choose to **do** (consciously and intentionally) some other state. Studies have reported that this type of cognitive reappraisal (Barber et al., 2010; Burgdorf et al., 2017; Carney et al., 2010; S. Cohen & Pressman, 2006; Faymonville et al., 2006; Posner et al., 2005; Quoidbach et al., 2010) promotes other actions and consequences that might produce a better future for them. In the feedback group from the pilot study on TRP and SUD one client summarised it succinctly when describing dealing with a difficult housing officer, which he reported would normally have resulted in becoming angry and then relapsing; “I learnt I had choices about how I responded to things. I *really* didn’t know I had choices before.”(Parker, 2015, para. 8)

Clients also report that as a result of the *dû* turning the passive statements back into an active verb experience, shifting it from “I am (an addict)” to “I am engaged in (the

behaviours of addictions), at present”, there is the sense that this passive state is temporary and therefore eminently changeable.

According to client’s reports, the speed to which the *dû* provides access to re-gain a sense of how to actively switch out of a less-than-useful state in that moment (Reme et al., 2012), could be a valuable addition to approaches to SUD and is an area in which more research is needed.

### **Issues with active language**

Despite some evidence that there is generally good acceptance and usage of the concept there are a number of potential issues that have been reported; some participants found the *dû* too unfamiliar or complex, and either stopped using it or rejected the intervention (Parker, 2013a); while others felt the non-blaming aspects of the concept were absent (Reme et al., 2012) and instead experienced a sense of being at fault for their issues.

### **Dû and a medical model of SUD**

The idea that changing the way individuals use their language could affect their thoughts and choices fits well with current conceptions of habit change, mental and emotional well-being, but using language to affect physiology, through states theory and the interaction of the mind and body (Emani & Binkley, 2010; Taylor, Goehler, Galper, Innes, & Bourguignon, 2010) in spite of a growing body of evidence that it might be of value (Davidson, 2003; Langer, 2009; Richter, Eck, Straube, Miltner, & Weiss, 2010), is a less familiar concept.

The *dû* concept has been used to improve outcomes with a wide variety of physical issues (Crawley et al., 2018; Parker, 2012a), including neurological issues such as multiple sclerosis (“MS-UK | Lightning Process and MS research archive,” 2014). By being able to link language and state change to physiological change this approach creates

an environment which joins up some of the more naturally oppositional models in SUD, such as the medical model and the psycho-social model, and allows their differing contributions to be synergised in finding solutions to the issues of SUD.

The dû provides an initial conceptual frame to the process of change, but it can be noted at this stage that although the client is starting to use active language, they are still using problem referencing language, for example, “I am dûing *angry*”. Once the need to move from being passive to active has been recognised, the next steps of the process are to consider how they can make appropriate choices as to which states and neurology they will be consciously activating.

## Appendix F

**The detailed steps of the TRP**

*This section continues the description of the steps of the TRP following on from the basic overview in the main text.*

**The steps and map/mat**

The concepts of the TRP are implemented by a sequence of steps, which are introduced by the use of a printed mat placed on the floor, along with a description of the relevance and sequence of use of each of the positions (Figure B.1)

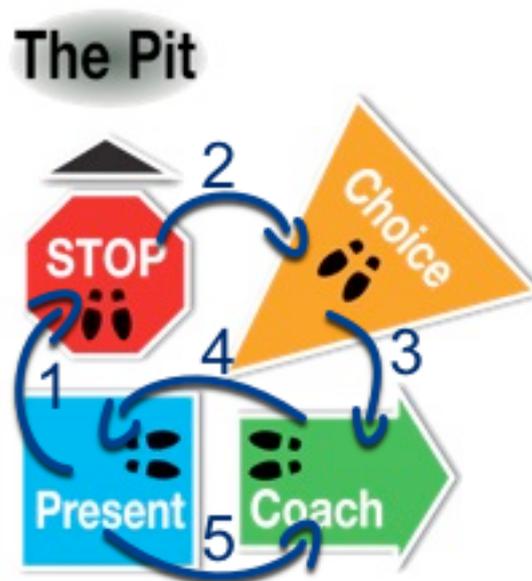


Figure B.1: Map of the TRP sequence

Beginning in the 'Present' the trainer describes a personal example of how an individual's processing of an experience might lead them towards the 'Pit'. They vocalise their internal conversations, visualisations and somatic experience from their example - however as soon as they begin, they immediately (within less than 1 second) move towards the 'stop' position.

### **Spotting the ‘Pit’**

The participants are now trained to recognize the initial activation of ‘problem’ pathways; attention is paid to internal thoughts, dialogues or unworded dialogues (e.g. sighs), feelings, sensations, and visualisations so that they can become increasingly aware of the earliest sequences of the patterns that predict activation of those pathways. They are taught how to insert the practiced ‘stop’ as soon as they recognize the triggering (Dennis, 2016) of these initial patterns.

#### **Stop –**

The stop is physically delivered as previously practiced, as described in the main text. They are additionally trained to match the stop and any movements to the quality of the state they wish to access (Posner et al., 2005) – which will be the antitheses of their current state; a ‘stressed’ problem state would therefore require a ‘calm’ stop and calm movements; an in-confident state would require a ‘confident’ stop and movement, etc.

#### **Choice –**

This position provides an opportunity to evaluate, from a distanced position, if they wish to continue engaging the old neurology or the new pathways towards a better, happier life. The individual is encouraged to explore how it feels to physically move to an even greater distance (4 meters - depending on room size) from the pit/issue and view it from there; this concept of the issue occupying a space and moving from away from it is familiar to many approaches such as Gestalt, NLP as well as newer approaches (Grinder & Pucelik, 2013; Penner et al., 2016; Wagner-Moore, 2004; Wisco et al., 2015) and a societal awareness of its value can be identified from idioms commonly used to express this idea such as “it’s too in my face

for me to think it through” or “I just need to get some distance from to make sense of it”

### **Coach-**

The first phase of developing self-coaching starts with a group discussion of the core qualities of coaching (Parker, 2012b) Appendix C. Once the group has understood this concept, the participants are ready to apply self-coaching by leaving the Choice and stepping into the Coach position. Key to this approach is the concept of developing self-coaching (Parker, 2013b), which provides a mechanism to gain access to effective coaching by applying the skills of coaching to oneself, whenever required, increasing the sense of being active in the change and creating a sense of empowerment by shifting the locus of control back to the client (Haynes & Ayliffe, 1991; Horvath & Yeterian, 2012).

As with all the steps, the importance of congruence when working from this position is stressed as being pivotal in producing authentic change; a simple parroting or rote repetitions of the phrases without the congruent meaning or delivery is unlikely to provide change.

#### a) Self-acknowledgement and developing of self-esteem and self-compassion

The first phase of coaching asks that the client now takes on the role of a deeply kind, compassionate and inspiring coach. The type of coaching is flexible, and the balance of these qualities will be determined by, and be the opposite of, the quality of the states that led to ‘the pit’; e.g.; if the pit state was ‘stressed’ the coaching would be ‘deeply calm’; if the pit state was ‘flat’ that the coaching would be ‘engaged and ‘up’’. The value of compassionate self-talk in enhancing behavioural and neurological change is aligned with the work on forgiveness in SUD (Webb, Hirsch, & Toussaint,

2015), self-compassion (Neff et al., 2007) and Fredrickson's broaden and build theory (2004).

### **Self-Distancing**

The client is encouraged to use self-distancing statements, where as the coach they refer to the client as 'you' e.g.; "I (the coach) am with YOU (the client), every step of the way", (although this is obviously 'them' taking the coaching role). This was derived through client's reporting of how they found these 'YOU' statements, e.g.; 'YOU are a powerful genius' much more powerful than 'I' statements, e.g.; 'I am a powerful genius', a feature which has been supported by recent research into self-distancing statements (Kross & Ayduk, 2011; Penner et al., 2016).

#### b) Questions

The acknowledgement phase of the process is immediately followed by two specific questions that are designed to create a new direction for the client to pursue to replace the destructive state or behaviour they have identified and applied the 'stop' to. Questions are central to the process of coaching; they are simple to use but, because they require different answer in each particular situation, thought provoking and generative.

The first question is; 'What do you want?'

This question is a fundamental component of coaching and goal setting, but in this context it has the additional value of creating a self-concordant goal (Koestner, Lekes, Powers, & Chicoine, 2002) as the instruction is explicitly 'what do YOU want', rather than what others might want for you.

In keeping with the somatic learning and distancing aspects of the approach this question is asked from the coach position then the individual steps into the 'present' space, answering the question as themselves.

This question requires the client to consider what they would like to replace the destructive state or behaviour with. The client is taught the key guidelines for answering this question, which include insuring the solution is something that they have the power to deliver (replacing undeliverable solutions such as ‘for my dealer not to ring me’ with more well-formed outcomes such as ‘to be in the right state to say no’) and that the language is positive and therefore supports the desired state (replacing ‘not to be horribly anxious near pubs’ with ‘to be deeply calm near them’).

They are also trained to include a metaphor or simile to describe what they want (e.g. calm like a mountain stream). This additional more creative and idiomatic description of what they want appears to access different, but supportive, neurology in addition to the pathways activated the more direct and rational answering (Citron, Güsten, Michaelis, & Goldberg, 2016; Lacey et al., 2017).

This is followed by the second question, asked from the coaching position, ‘How are you going to achieve that?’.

Stepping across into the present again, the client answers this question by recalling a time when they experienced the desired state. There are specific guidelines as to how to answer this question; the memory is recalled in great detail and from a position of being associated into the memory (i.e. seeing it from their own eye point of view) to encourage maximum revivification of the experience (Faymonville et al., 2006; Grinder & Bandler, 1981; Langer, 2009; Quoidbach et al., 2010; Speer et al., 2014; Speer & Delgado, 2017). If the individual cannot readily access the desired state then they are instructed to imagine that state in detail either by projecting into the future or by borrowing it from an individual they imagine must have it and associating into that experience to create a familiarity with the state, so it can be utilised instead.

## Appendix G

**Coaching Qualities**

The participants are helped to develop their understanding of what a coaching relationship is and to adopt a self-coaching role towards themselves. They are introduced to the following qualities to assist that process:

1. Coaching is only provided when there has been a request or an agreement for coaching.
2. The coach leaves their own problems at the door.
3. The coach clearly believes in you.
4. The coach will assess the feasibility of your plans. If they believe them to be sound, they will ensure that you know that they believe that what you are aiming for is entirely possible and definitely within your ability.
5. The coach always maintains a big, clear perspective, which will often be bigger and clearer than yours. This allows them to see the end point even when you can't.
6. The coach doesn't take any bulls\*\*t. If you've committed to achieving something and begin to cheat on yourself, talk yourself down, or not deliver on your promises they won't stand for it.
7. The coach rarely gives advice, but mainly ask questions that assist you to discover the solutions.
8. The coach is supportive and caring.
9. The coach listens, but will assist you to refocus if you start to go off the point or endlessly complain.
10. The coach takes the time, because they know you're important
11. The coach has integrity, they don't just say things, they really mean them.
12. The coach ensures that you have a clear sense that:

- a. They understand what is going on for you.
  - b. They think you're important.
13. The coach will give feedback instead of criticism and never say “**you're** wrong” (this is an identity level statement, which implies **you** are wrong, rather than what you did was inappropriate), although they may suggest improvements to aspects of your performance.
14. The coach is able to reflect on both their and your performance.
15. The coach brings a sense of humour and lightness to the situation.

## Appendix H

**Language differences between CBT and TRP**

An example from a CBT training handbook (Leahy, 2003, p. 173) highlights these differences. The words which the TRP would consider to be important to avoid using when working with an individual due to the potential to encourage an unhelpful state and develop an increased familiarity with unhelpful neurology have been underlined:

- Therapist: You said that you are feeling really upset about flying next week. How would you describe this feeling of being upset?
- Patient: I'm really jittery. I can't get my mind off the fact that I'll be flying and the plane might crash. I feel really tense. I can't sleep.
- Therapist: So that's how you know you're upset - you feel jittery and tense and can't sleep. When you think about flying, how do you relate your fear of flying to feeling jittery?
- Patient: I feel really tense and afraid, so I think "it's going to be really dangerous"
- Therapist: It sounds are you using your fear and your tension as evidence that the flight will be dangerous
- Patient: Yeah whenever I feel really tense, I think that something bad is going to happen.
- Therapist: But is your tension and anxiety really evidence that something bad is going to happen?
- Patient: No it's just my feeling.
- Therapist: What if you ignored the way you were feeling and asked yourself, "Is there really any strong evidence this flight would be dangerous?"
- I don't have any evidence that it will be dangerous

(Leahy, 2003, p. 173)

In contrast a TRP conversation would be focused on reducing these trigger words and moving towards self-managed state change. Words specifically chosen to encourage state change are underlined.

Trainer: What would you love to change?

Client: I'm really anxious about flying

Trainer: Is that an active or passive statement?

Client: Oh yeah. I dû<sup>1</sup> anxious about flying.

Trainer: How does that feel different?

Client: It already feels easier. It feels a bit more distant, like I have options. I feel I might be able to change it.

Trainer: So what is the next step in changing it?

Client: To apply a stop.

Trainer: What kind would work best and shift you into more helpful neurology?

Client: A deeply calm one. (*Makes a calm stop gesture and movement. Continues to 'Choice', then to 'Coach'*)

*Client takes role of self-coach and speaks to self:* You are doing amazingly; I'll be with you every step of the way; You can do this; Look at what you've already achieved using these skills.

What do you want?

*Client answers their own coach:* To feel deeply calm and at peace during the flight. Like an eagle.

*As Coach:* How are you<sup>2</sup> going to do this?

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<sup>1</sup> The dû is the active language construct- see Appendix A

<sup>2</sup> The use of the 'you' in self talk encourages fractionation - see Appendix B

*Client answers their own coach: By taking myself back to a time of deep peace and calmness (client re-accesses a calm and peaceful memory and connects that experience to be fired at specific trigger moments of the plane journey).*

In these two passages one of the distinguishing features that separates these two approaches, the difference of focus on the language used, can be observed. The CBT therapist is working to develop the client's cognitive appraisal of the issue but there is less focus on the effect of language on state change. The TRP trainer is specifically using positive phrases and words in guiding the state change process. Additionally, the training nature of the interaction is observed, with the client being encouraged to adopt this type of language so they can consistently apply it outside of the training environment.

## Appendix I

**Advertising Copy for Recruitment Advert**

## Addictions research trial

Participants needed for research trial in (city name) into new approach for drug/alcohol addictions, The Rediscovery Process, run through the London Metropolitan University. The programme is based on coaching, the Lightning Process and mindfulness and runs for 3-4 hrs on 3 consecutive days.

For more details visit [trplife.com](http://trplife.com) Please contact ( details)

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The following options are for reduced space adverts

Shortened v1

Addictions research trial

Participants needed for research trial in (city name) into new approach for drug/alcohol addictions, The Rediscovery Process, run through the London Metropolitan University. For more details visit [trplife.com](http://trplife.com)

Shortened v2

Participants needed for University research trial into new approach for drug/alcohol addictions, (city name) [trplife.com](http://trplife.com)

## Appendix J

**Participant information sheet****London Metropolitan University**

School of Psychology

Faculty of Life Sciences and Computing

London Metropolitan University

166-220 Holloway Road

London, N7 8DB

**Tel: 020 73740233**

**Study Title:** Randomised Controlled Trial of The Rediscovery Process as an aid to Substance-Related and Addictive Disorders recovery

**Information sheet**

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

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

The purpose of this study is to a) to determine the efficacy of The Rediscovery Process (TRP) (see how useful or otherwise it is) in stopping your addictions and b) to see what differences it makes (if any) on how you can manage your habits, reactions to situations, thoughts and feelings better.

TRP is a training for people wishing to recover from addictions. It's based on the idea that when we become addicted we start making choices on auto-pilot that, later on, we wish we hadn't made. It also considers that successful recovery involves rediscovering how to make better and more interesting choices about our habits, reactions to situations and thoughts, and making those new ways of thinking and acting as automatic as the old ones. Many participants have found that TRP, and its sister programme for health issues the Lightning Process, can be helpful in making changes with problems that they have been stuck with for a long time.

This is a relatively new approach in the field of addiction and needs more research, such as this study, to find out how it compares to other approaches currently available for addiction.

**Why have I been chosen? (please ignore if self-referred)**

You have been chosen because your key worker has discussed this programme with you and thinks you might get value from it and/or you have indicated an interest in taking part. The next step is for you and the keyworker/trainer to have a chat to discuss any questions you may have and work out together a plan for when you can start your training. It may be deemed after this meeting that the training is not appropriate for you at this time. If this happens then you will be sent a debriefing sheet which details other options to you.

**Do I have to take part?**

No, you do not have to take part in either the study or TRP if you do not want to. It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and you will be asked to sign a consent form. If you

decide to take part you are still free to withdraw at any time, without having to give a reason and this will not affect your future care.

You can also decide to take TRP course and not take part in the research from the start or at any point after, if you wish to. This will mean you won't have to fill in any further questionnaires and, if you wish us to, we will destroy any questionnaires you've already completed so your data won't be included in our analysis.

If you decide not to take part in TRP you will be encouraged to seek advice and support from your key worker, if you have one, and will be provided with information on where to seek alternative help.

If you decide to take part in this research study and use TRP, you will be placed on a waiting list and provided with the treatment package when it is readily available. This can mean a wait of four to six weeks, although we will work to get you on the programme as soon as we can. You will also be assessed at the end of treatment and if you feel you have not benefited from using TRP you will be encouraged to seek advice and support from your keyworker, if you have one, and will be provided with information on where to seek alternative help.

### **Who can take part in the study?**

We are seeking to recruit 100 people aged 18-65 who are currently engaged with addiction services into this study. To **take part you must be able to attend all 3 days of the TRP course**. The program is only available in English at the moment so you will need to have a reasonable understanding of spoken English and be prepared to use the program for about 30 minutes a day for the six months that the trial lasts.

### **What's involved if I take the TRP?**

The Rediscovery Process course itself is run in small groups of about 6 people, over 3 consecutive days, with the training lasting about 3 hours, with breaks. Experience suggests that although this seems a longish time, the programme is designed to be engaging and entertaining enough to keep you interested for that long.

Everyone who participates will have a chat first with the trainer and/or key-worker to check suitability of the training for them. You will be given a date for the course which will teach you all the skills of TRP, but after the course you will be expected to use the TRP for about 30 minutes throughout each day, for the six months of the study. Some people may use it a lot more than 30 minutes a day but this is the minimum that we expect participants to use the program. We will provide you with details of how to get help if you experience problems using the program.

During the TRP programme you will have support from your trainer delivered primarily in a group format in addition to any keywork sessions you may have.

### **Survey**

We will also be sending out a short survey, to a small number of randomly allocated participants, with some questions about your experience of the TRP - this helps us to understand how it was for you, what worked and how we could improve it further.

### **How will you measure how well it works for me?**

When you enrol into the study you will be asked to complete a brief and simple to complete questionnaire.

We will also ask you to fill in further ones

- before the course (either once or twice)
  - 1 month after the course
  - 3 months after the course
- These can be filled in online by phone or post.

These forms are very important to fill in as they will be used to work out the effect of TRP.

**What do I have to do?**

If you are interested in taking part in this study, please complete and return the consent form accompanying this information sheet. Alternatively, you may contact Phil Parker, the researcher running the study, by email at: [php0059@mylondonmet.ac.uk](mailto:php0059@mylondonmet.ac.uk) or by telephone on 020 73740233.

If you do agree (consent) to take part in this study we will contact you within two weeks to arrange a date for your training.

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

Taking a training programme to help addiction offers the possibility of a chance to make the changes you've wanted in your life for some time. Unfortunately as it is impossible to guarantee the results of any approach this means there is a chance that you might take the programme and be disappointed by not getting the results you hoped for. We would of course hope this is not the case, but if that were to happen we would assist you in gaining support from your trainer and from your keyworker to find ways to put the training tools into practice to get better results or to look for alternative solutions.

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

We hope that participants will find that using TRP helps them recover from their addictions and related problems but we cannot guarantee this.

**What happens when the research study stops?**

When the study is finished and we have analysed all the information we will inform everyone who has taken part of what we have found.

**What if something goes wrong?**

We think it is unlikely that anyone will be harmed by taking part in this study; however, if you are harmed by taking part in this project, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for a legal action but you may have to pay for it. Regardless of this, if you wish to complain, or have any concerns about any aspect of the way you have been approached or treated during the course of this study, the normal London Metropolitan University complaints mechanisms will be available to you. Please direct concerns to Dr Elizabeth Charman, Head of Psychology, London Metropolitan University, 166-220 Holloway Road, London N7 8DB

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

If you take decide to take part in the study the research team (Dr Sam Banbury and Phil Parker) your key worker and your trainer will know of your participation. All of these professionals are clinically qualified and have extensive experience in the clinical field. These staff will protect your confidentiality at all times and all data will be stored securely.

**What will happen to the results of the research study?**

When the study is finished, we hope to publish the results in academic journals and in various psychological publications; the results will also be available to all participants. We also hope to present the findings of the study at conferences but we will ensure that no individual participants in the study can be identified.

**Who is organising and funding the research?**

The research is being carried out by Dr Sam Banbury and Phil Parker. Both have the responsibility for ensuring that this research study is conducted safely, ethically and according to best practice and have no financial interest in the programme.

**Who has reviewed the study?**

This study has been reviewed by the London Metropolitan University ethics committee who have raised no objection to it on ethical grounds.

**Contact for Further Information**

If you are interested in taking part in the study please complete the consent form attached to this information sheet, and return it to your keyworker/trainer. If you have any questions please feel free to contact Dr Sam Banbury and Phil Parker from London Metropolitan University, by telephone on 02071332574

or by email to [S.Banbury@londonmet.ac.uk](mailto:S.Banbury@londonmet.ac.uk) or [php0059@mylondonmet.ac.uk](mailto:php0059@mylondonmet.ac.uk) or by writing to us at School of Psychology, London Metropolitan University, 166-220 Holloway Road, London N7 8DB

Thank you for taking the time to read this information sheet which is yours to keep, if you take part in the study you will be given a copy of your consent form for you to keep.

## Appendix K

**Consent Form**

**Study Title:** Randomised Controlled Trial of The Rediscovery Process as an aid to Substance-Related and Addictive Disorders recovery

Dear .....

Thank you for your interest in The Rediscovery Process (TRP) trial being conducted by Phil Parker, as part of his research as a PhD student.

This is an official research document, so please excuse the official style. If you have any questions about this letter please just ask your key worker or trainer about it.

You'll find an information sheet enclosed with this letter that will give you full information about the study. Please take time to read the information sheet before deciding whether to participate in the trial.

**Finding out about *your* experience**

We really want to find out how the course was for you. To do this we would like to hear about your experience of TRP by filling out some very brief survey forms

You'll get these quick and simple forms just after signing your consent form, once or twice before taking the course, and 1 month and 3 months after the course. This is so we can find out how useful you found it. We will either hand out the forms for you to fill in or collect the information over the phone or online.

**Survey**

We will also be sending out a short survey, to a small number of randomly allocated participants, with some questions about your experience of the TRP - this helps us to understand how it was for you, what worked and how we could improve it further.

You will need to consent (agree) to filling in the forms to take part in the study by ticking and signing the form on the next page. However you don't need to agree to take part in the study in order to join a TRP course.

We will protect your confidentiality at all times during the study as well as throughout the project and all information you provide to us will be stored securely and not shared with anyone outside of the study.

If you are happy to fill in the survey forms and would like to take part in the study then please fill in the attached consent form online or and return it in the envelope provided and we will contact you with a date for starting your course. We aim to contact you within one week of receiving your consent. You are able to withdraw from the study at any time by contacting your keyworker, your trainer or the researcher this will mean you won't have to fill in any further questionnaires and, if you wish us to, we will destroy any questionnaires you've already completed so your data won't be included in our analysis.

If you have any further questions about the surveys or about the study, please do not hesitate to contact us.

Yours Sincerely,

Phil Parker

**Consent (please complete and return)**

I have read the information sheet regarding the study and have had the opportunity to ask questions.

I understand that I need to fill in the survey forms that will allow the researchers to understand my experience of TRP

The most convenient day to contact me is .....

The most convenient time to contact me is .....

Please contact me on telephone number .....

I understand that my personal details, which I provided, are being stored on a secure file.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason and without my care being affected in any way.

Signed.....

Print.....

Date .....

.....

The research recruiters confirm that the details of the study group have been explained and described in writing to the person named above and have been understood by him/her.

Signed.....

Print.....

Date .....

1 x copy for participant, 1 x copy for file

## Appendix L

**Online Data Collection**

In response to enquiries from our research partners and participants in the self-referral arm an option to collect data via an online portal was designed with reference to the key points in the BPS ‘Guidelines for internet mediated research (IMR) (2013)’ publication along with guidance for safeguarding (Health and Social Care Act 2012, Care Act 2014) and data protection (Data Protection Acts, 1988 and 2003).

The proposed data collection tool utilises the easily accessible and secure google forms and Survey Monkey platforms. The structure of the form has been tailored to address the core issues of ethical research and the particular issues raised by online data collection.

**Respect for the autonomy and dignity of persons**

The BPS publication identifies how data collected online can potentially cause additional issues with anonymity over and above the issues found with written forms.

Steps taken to manage these issues include:

Providing participants with unique ID codes to further anonymise data

Participants provide an email address and a link to the form is sent directly to them; the form is filled in online and the data is collected remotely by the google platform, thereby avoiding emailing of data

Data storage is via google/survey monkey secure servers and, once downloaded, in a password protected file

To ensure as much as possible that valid consent has been obtained it is not possible to fill in the form without ticking the ‘I agree to the above’ box which appears below the approved consent form

To ensure the participant is within the age range for the project a tick box is also required to be checked before they can continue with the form

A link to the patient information sheet is at the top of the form for reference and the consent includes information about the right to withdraw from the study

Data from uncompleted forms is not saved to the google servers- a box asking if the individual is wanting to leave the data collection form before it is completed has to be checked before they can exit, ensuring that exiting, or completing the form, is a choice.

Debriefing can be an issue both in face to face and online data collection when there is no effective line of communication with the participants. When there is no response to a request to fill in a form at a particular data collection point, the following process is enacted:

3 emails to remind of data collection within 10 days of the data collection point; and if no response

1 phone call to ask for data; and if no response within 5 days

The debrief will be emailed out.

### **Scientific value**

Much of the guidance in this section of the BPS publication concerns online interventions rather than data collection, however there are a few issues of note.

The ease of filling in an online form might potentially increase data return rates from a potentially difficult to access population

As written forms are often filled in without face to face support from keyworkers the online version faces similar but not greater issues of validity or completeness.

### **Social responsibility**

Much of the guidance in this section refers to how research into online groups might disrupt those groups and so has less relevance to online data collection.

**Maximising benefits and minimising harm**

The main balance of this ethical question, in this case, seems rest on the benefits of easy access to reporting data that is essential to the project and the importance of safeguarding anonymity, ensuing informed consent.

The RCT form can be viewed here

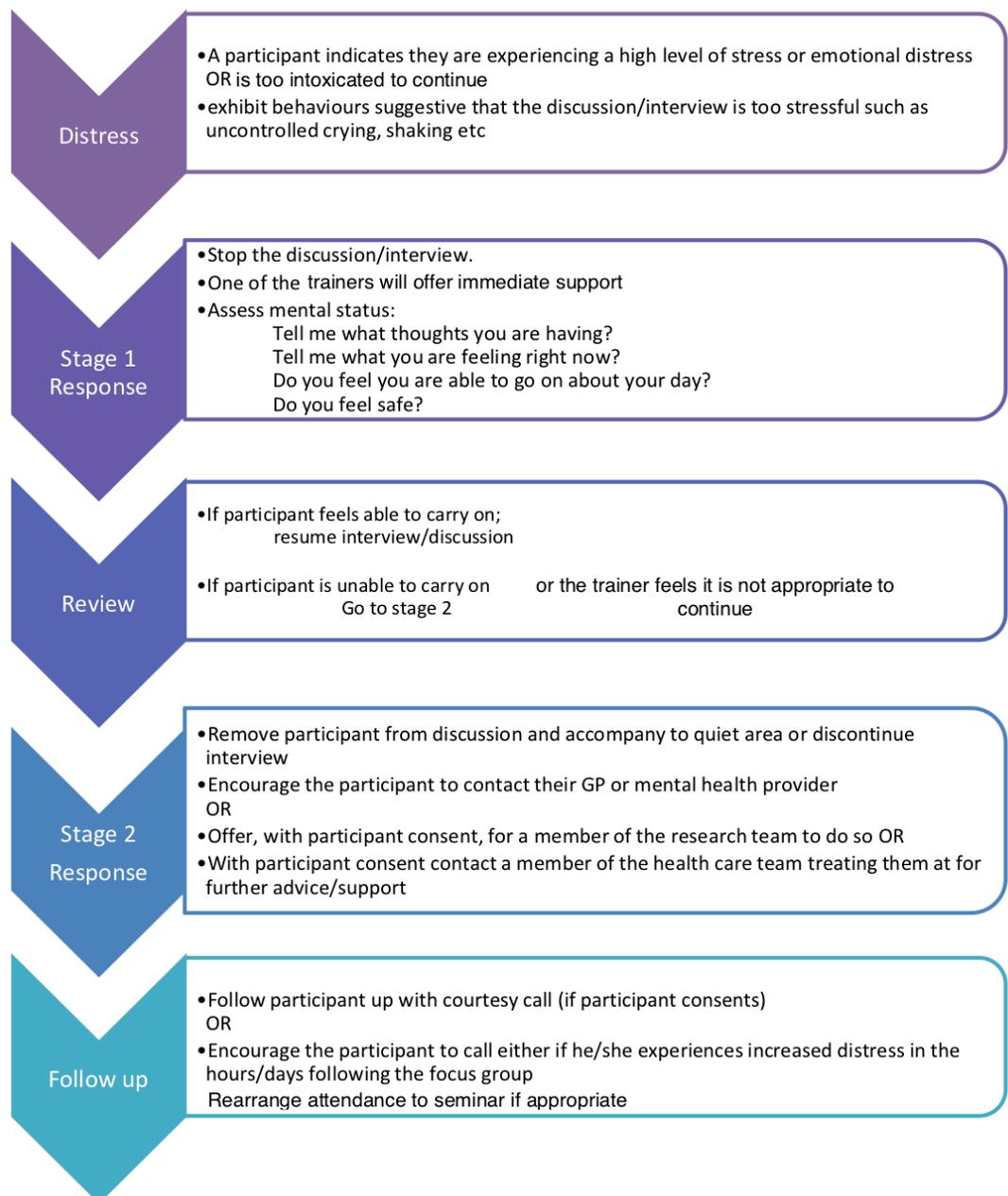
[https://docs.google.com/forms/d/e/1FAIpQLSeFJ6\\_eaDDDojtunWCjDyrUfQP\\_EgEuDHG-c1\\_4L8HnJghJEg/viewform](https://docs.google.com/forms/d/e/1FAIpQLSeFJ6_eaDDDojtunWCjDyrUfQP_EgEuDHG-c1_4L8HnJghJEg/viewform)

The qualitative survey can be viewed here <https://www.surveymonkey.co.uk/r/J66FVVX>

## Appendix M

## Distress Protocol

**Distress Protocol 1:** The protocol for managing distress in the context of a research focus group /interview  
 (Modified from : Draucker C B, Martsolf D S and Poole C (2009) Developing Distress Protocols for research on Sensitive Topics. Archives of Psychiatric Nursing 23 (5) pp 343-350)



## Appendix N

**Debrief Sheet**

**Study Title:** Randomised Controlled Trial of the Rediscovery Process as an aid to Substance-Related and Addictive Disorders recovery

**DEBRIEF SHEET**

Thank you for taking part in this trial. The results received from this study will be used to assess the effectiveness of The Rediscovery Process as a tool for helping people to maintain abstinence or reduce drug usage, as well as improving your quality of life. These results will help inform others about this innovative method for recovery from addiction.

If you have any questions regarding this please feel free to **contact us on 020 73740233 or php0059@mylondonmet.ac.uk** and we will be happy to answer any questions or receive any comments/feedback.

We would also like to take this opportunity to remind you that your responses are confidential and all results that are published are done anonymously as group data, so your personal details will not be included in this process.

However, you still have the right to withdraw you responses, as your participation is completely voluntary, as long as you let us know by 1<sup>st</sup> December 2015. To do this, simply phone or email us and we will be happy to do so.

All participants will receive a summary of the overall results in a newsletter at the end of the study (which will not divulge any personal details). If you would not like to receive a summary please let us know via phone or e mail.

If you would like to talk to someone or find out information about where you can receive help for any health related problems. The following registered agencies may be useful to you:

NHS Choices

Provides general support for drug usage and drug services

Addaction

One of the UK's largest specialist drug and alcohol treatment charities.

Saneline

An out of hours telephone helpline providing information and support for anyone affected by mental health problems including families and carers.

Tel: 0845 767 8000

Samaritans

Provide confidential emotional support 24 hours a day via phone or e mail.

Tel: 08457 90 90 90

Web: [www.samaritans.org](http://www.samaritans.org)

NHS Direct

The NHS 24 hour helpline.

Tel: 0845 4647

Web: [www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)

Again, we would like to thank you for helping us with this trial.

## Appendix O

**Ethics Certificate**

London Metropolitan University,  
School of Psychology,  
Research Ethics Review Panel

I can confirm that the following project has received ethical approval to proceed:

*Title:* Randomised Controlled Trial of The Rediscovery Process as an aid to Substance-Related and Addictive Disorders recovery (Revised version May 2016)

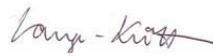
*Student:* Phil Parker

*Supervisor:* Dr. Esther Murray

Ethical clearance to proceed has been granted providing that the study follows the ethical guidelines used by the School of Psychology and British Psychological Society, and incorporates any relevant changes required by the Research Ethics Review Panel. All participating organisations should provide formal consent allowing the student to collect data from their staff.

The researcher is also responsible for conducting the research in an ethically acceptable way, and should inform the ethics panel if there are any substantive changes to the project that could affect its ethical dimensions, and re-submit the proposal if it is deemed necessary.

Signed:



Date: 12 May 2016

Prof Dr Chris Lange-Küttner  
(Chair - School of Psychology Research Ethics Review Panel)

Email [c.langekuettner@londonmet.ac.uk](mailto:c.langekuettner@londonmet.ac.uk)

## Appendix P

**The Survey Questions, Online Information and Consent**

1. What made you decide to take this training?
2. How did you find the training experience itself?
3. What made you turn up on the first day, each day of the course and maintain the training afterwards?
4. What, if anything, was particularly helpful about the training for you?
5. In what ways was it different to, or the same as, other approaches you've tried?
6. What, if anything, did you not find helpful about the training?
7. In what ways, if any, have you noticed changes since the training?
8. In what ways, if any, do you think the training will affect your future?
9. What is your understanding of how this technique works?
10. If you were to talk about this training to others with similar issues, what would you say?
11. Is there anything else you would like to discuss about your experiences of receiving the training?

Thank you for taking part in our study looking at participants' experiences of The Rediscovery Process. We are really interested in all your opinions about the programme, including what worked for you and what could be made better. It should take less than 20 minutes to complete the questions. We will protect your confidentiality at all times during the study and all information you provide to us will be stored securely and not shared with anyone outside of the study. Your responses are also confidential and all results that are published are done anonymously as group data, so your personal details will not be included in this process. All responses will be stored in accordance with the Data Protection Act (1988). Please contact Phil on +44 (0)20 7374 0233 or [research.trp@gmail.com](mailto:research.trp@gmail.com) with any questions you have about taking part in this study.

We really appreciate you taking the time to complete this survey. Answering 'yes' will take you to the questionnaire. I have read the information above regarding the study.

I have had the opportunity to ask questions. I understand that I need to fill in the survey forms. I understand that my personal details are being stored on a secure file.

The qualitative survey can be viewed here

<https://www.surveymonkey.co.uk/r/J66FVVX>

## Appendix Q

Table Q.1

*Ranks of alcohol use of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	27.29	846.00
	Wait	29	33.93	984.00
	Total	60		
1 Month	Intervention	31	23.94	742.00
	Wait	29	37.52	1088.00
	Total	60		

Table Q.2

*Mann-Whitney U test results for alcohol use between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	350.000	246.000
Wilcoxon W	846.000	742.000
Z	-1.480	-3.023
Asymp. Sig. (2-tailed)	.139	.003

a. Grouping Variable: Group

Table Q.3

*Ranks of cocaine use of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	29.79	923.50
	Wait	29	31.26	906.50
	Total	60		
1 month	Intervention	31	29.21	905.50
	Wait	29	31.88	924.50
	Total	60		

Table Q.4

*Mann-Whitney U test results for cocaine use between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	427.500	409.500
Wilcoxon W	923.500	905.500
Z	-.524	-1.001
Asymp. Sig. (2-tailed)	.600	.317

a. Grouping Variable: Group

Table Q.5

*Ranks of cannabis use of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	32.19	998.00
	Wait	29	28.69	832.00
	Total	60		
1 Month	Intervention	31	31.24	968.50
	Wait	29	29.71	861.50
	Total	60		

Table Q.6

*Mann-Whitney U test results for cannabis use between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	397.000	426.500
Wilcoxon W	832.000	861.500
Z	-1.112	-.524
Asymp. Sig. (2-tailed)	.266	.600

a. Grouping Variable: Group

Table Q.7

*Ranks of flourishing of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	35.03	1086.00
	Wait	29	25.66	744.00
	Total	60		
1 Month	Intervention	31	37.11	1150.50
	Wait	29	23.43	679.50
	Total	60		

Table Q.8

*Mann-Whitney U test results for flourishing between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	309.000	244.500
Wilcoxon W	744.000	679.500
Z	-2.080	-3.035
Asymp. Sig. (2-tailed)	.038	.002

a. Grouping Variable: Group

Table Q.9

*Ranks of psychological health of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	31.58	979.00
	Wait	29	29.34	851.00
	Total	60		
1 Month	Intervention	31	37.18	1152.50
	Wait	29	23.36	677.50
	Total	60		

Table Q.10

*Mann-Whitney U test results for psychological health between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	416.000	242.500
Wilcoxon W	851.000	677.500
Z	-.499	-3.078
Asymp. Sig. (2-tailed)	.618	.002

a. Grouping Variable: Group

Table Q.11

*Ranks of physical health of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	29.40	911.50
	Wait	29	31.67	918.50
	Total	60		
1 Month	Intervention	31	35.21	1091.50
	Wait	29	25.47	738.50
	Total	60		

Table Q.12

*Mann-Whitney U test results for physical health between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	415.500	303.500
Wilcoxon W	911.500	738.500
Z	-.506	-2.174
Asymp. Sig. (2-tailed)	.613	.030

c. Grouping Variable: Group

Table Q.13

*Ranks of QOL of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	33.52	1039.00
	Wait	29	27.28	791.00
	Total	60		
1 Month	Intervention	31	36.16	1121.00
	Wait	29	24.45	709.00
	Total	60		

Table Q.14

*Mann-Whitney U test results for QOL between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	356.000	274.000
Wilcoxon W	791.000	709.000
Z	-1.389	-2.607
Asymp. Sig. (2-tailed)	.165	.009

a. Grouping Variable: Group

Table Q.15

*Ranks of days at work of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	30.61	949.00
	Wait	29	30.38	881.00
	Total	60		
1 Month	Intervention	31	30.66	950.50
	Wait	29	30.33	879.50
	Total	60		

Table Q.16

*Mann-Whitney U test results for days at work between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	446.000	444.500
Wilcoxon W	881.000	879.500
Z	-.056	-.080
Asymp. Sig. (2-tailed)	.956	.936

a. Grouping Variable: Group

Table Q.17

*Ranks of days at college of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	30.35	941.00
	Wait	29	30.66	889.00
	Total	60		
1 Month	Intervention	31	30.40	942.50
	Wait	29	30.60	887.50
	Total	60		

Table Q.18:

*Mann-Whitney U test results for days at college between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	445.000	446.500
Wilcoxon W	941.000	942.500
Z	-.128	-.103
Asymp. Sig. (2-tailed)	.898	.918

a. Grouping Variable: Group

Table Q.19

*Ranks of days volunteering of the intervention and wait-list group at baseline and 1 month*

	Group	N	Mean Rank	Sum of Ranks
Baseline	Intervention	31	31.52	977.00
	Wait	29	29.41	853.00
	Total	60		
1 Month	Intervention	31	30.32	940.00
	Wait	29	30.69	890.00
	Total	60		

Table Q.20

*Mann-Whitney U test results for days volunteering between the intervention and wait-list group at baseline and 1 month<sup>a</sup>*

	Baseline	1 Month
Mann-Whitney U	418.000	444.000
Wilcoxon W	853.000	940.000
Z	-.613	-.116
Asymp. Sig. (2-tailed)	.540	.907

a. Grouping Variable: Group

## Appendix R

Table R.1: *Mean, Skewness and Kurtosis for 3 month data*Descriptives<sup>a,b,c,d,e,f,g,h,i</sup>

		Statistic
Alcohol Total Baseline	Mean	184.27
	Skewness	1.374
	Kurtosis	1.052
Alcohol Total 1	Mean	144.6522
	Skewness	5.610
	Kurtosis	34.551
Alcohol Total 3	Mean	121.211
	Skewness	2.182
	Kurtosis	5.003
Opiates Total Baseline	Mean	.0062
	Skewness	6.454
	Kurtosis	42.432
Opiates Total 1	Mean	.0053
	Skewness	6.708
	Kurtosis	45.000
Crack Total Baseline	Mean	.08
	Skewness	6.708
	Kurtosis	45.000
Cocaine Total Baseline	Mean	1.7622

	Skewness	6.216
	Kurtosis	40.076
Cocaine Total 1	Mean	.7178
	Skewness	6.691
	Kurtosis	44.841
Cocaine Total 3	Mean	.9044
	Skewness	6.640
	Kurtosis	44.356
Amphetamine Total	Mean	.711
Baseline	Skewness	5.261
	Kurtosis	28.751
Amphetamine Total 3	Mean	.027
	Skewness	6.708
	Kurtosis	45.000
Cannabis Total Baseline	Mean	8.96
	Skewness	3.770
	Kurtosis	15.276
Cannabis Total 1	Mean	4.396
	Skewness	4.262
	Kurtosis	19.234
Cannabis Total 3	Mean	4.13
	Skewness	3.026
	Kurtosis	7.918
	Mean	10.56

Psychological Health	Skewness	-.320
Baseline	Kurtosis	.234
Psychological Health 1	Mean	13.36
	Skewness	-1.016
	Kurtosis	.186
Psychological Health 3	Mean	13.53
	Skewness	-1.121
	Kurtosis	.532
Physical Baseline	Mean	11.18
	Skewness	-.065
	Kurtosis	-1.187
Physical Health 1	Mean	13.80
	Skewness	-.978
	Kurtosis	.631
Physical Health 3	Mean	13.22
	Skewness	-.595
	Kurtosis	-.375
QOL Baseline	Mean	12.58
	Skewness	-.447
	Kurtosis	-.913
QOL 1	Mean	13.36
	Kurtosis	1.000
QOL 3	Mean	11.40
	Skewness	-.830

	Kurtosis	-.687
Impulse Total Baseline	Mean	11.09
	Skewness	-.118
	Kurtosis	-.882
Impulse Total 1	Mean	8.40
	Skewness	.631
	Kurtosis	-.517
Impulse Total 3	Mean	8.40
	Skewness	.168
	Kurtosis	-.524
Flourish Total Baseline	Mean	37.04
	Skewness	-.565
	Kurtosis	-.369
Flourish Total 1	Mean	42.87
	Skewness	-.896
	Kurtosis	.331
Flourish Total 3	Mean	43.07
	Skewness	-1.182
	Kurtosis	3.176
Housing Baseline	Mean	.02
	Skewness	6.708
	Kurtosis	45.000
Work Days Baseline	Mean	8.49
	Skewness	.636

	Kurtosis	-1.100
Work Days 1	Mean	9.27
	Skewness	.307
	Kurtosis	-1.517
Work Days 3	Mean	9.33
	Skewness	.495
	Kurtosis	-1.403
College Days Baseline	Mean	.40
	Skewness	3.079
	Kurtosis	8.728
College Days 1	Mean	.56
	Skewness	6.497
	Kurtosis	42.968
College Days 3	Mean	.38
	Skewness	4.418
	Kurtosis	19.528
Volunteering Days Baseline	Mean	1.02
	Skewness	2.929
	Kurtosis	9.643
Volunteering Days 1	Mean	1.09
	Skewness	4.449
	Kurtosis	22.838
Volunteering Days 3	Mean	.51
	Skewness	2.209

- a. Opiates Total 3 is constant. It has been omitted.
- b. Crack Total 1 is constant. It has been omitted.
- c. Crack Total 3 is constant. It has been omitted.
- d. Amphetamine Total 1 is constant. It has been omitted.
- e. Housing 1 is constant. It has been omitted.
- f. Housing 3 is constant. It has been omitted.
- g. Eviction Baseline is constant. It has been omitted.
- h. Eviction 1 is constant. It has been omitted.
- i. Eviction 3 is constant. It has been omitted.

Table R.2: *Tests of Normality for 3 month data*<sup>b,c,d,e,g,h,i,j,k</sup>

	Shapiro-Wilk		
	Statistic	df	Sig.
Alcohol Total Baseline	.809	45	.000
Alcohol Total 1	.363	45	.000
Alcohol Total 3	.698	45	.000
Opiates Total Baseline	.168	45	.000
Opiates Total 1	.135	45	.000
Crack Total Baseline	.135	45	.000
Cocaine Total Baseline	.214	45	.000
Cocaine Total 1	.150	45	.000
Cocaine Total 3	.166	45	.000
Amphetamine Total Baseline	.228	45	.000
Amphetamine Total 3	.135	45	.000
Cannabis Total Baseline	.397	45	.000
Cannabis Total 1	.330	45	.000
Cannabis Total 3	.371	45	.000
Psychological Health Baseline	.964	45	.179
Psychological Health 1	.883	45	.000
Psychological Health 3	.874	45	.000
Physical Health Baseline	.940	45	.022
Physical Health 1	.897	45	.001
Physical Health 3	.943	45	.028
QOL Baseline	.935	45	.014
QOL 1	.843	45	.000
QOL 3	.834	45	.000

Impulse Total Baseline	.965	45	.192
Impulse Total 1	.922	45	.005
Impulse Total 3	.972	45	.331
Flourish Total Baseline	.947	45	.039
Flourish Total 1	.926	45	.007
Flourish Total 3	.924	45	.006
Housing Baseline	.135	45	.000
Work Days Baseline	.803	45	.000
Work Days 1	.809	45	.000
Work Days 3	.800	45	.000
College Days Baseline	.371	45	.000
College Days 1	.183	45	.000
College Days 3	.278	45	.000
Volunteering Days Baseline	.499	45	.000
Volunteering Days 1	.370	45	.000
Volunteering Days 3	.478	45	.000

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\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

b. Opiates Total 3 is constant. It has been omitted.

c. Crack Total 1 is constant. It has been omitted.

d. Crack Total 3 is constant. It has been omitted.

e. Amphetamine Total 1 is constant. It has been omitted.

g. House 1 is constant. It has been omitted.

h. House 3 is constant. It has been omitted.

i. Eviction Baseline is constant. It has been omitted.

j. Eviction 1 is constant. It has been omitted.

k. Eviction 3 is constant. It has been omitted.

Table R.3: *Shapiro-Wilks for 3 month data; referral group as a factor*

## Tests of Normality

	referral- route	Shapiro-Wilk		
		Statistic	df	Sig.
Alcohol Total Baseline	Self	.815	34	.000
	Service	.709	11	.001
Alcohol Total 1	Self	.706	34	.000
	Service	.439	11	.000
Alcohol Total 3	Self	.758	34	.000
	Service	.583	11	.000
Opiates Total Baseline	Self	.204	34	.000
	Service	.	11	.
Opiates Total 1	Self	.165	34	.000
	Service	.	11	.
Opiates Total 3	Self	.	34	.
	Service	.	11	.
Crack Total Baseline	Self	.165	34	.000
	Service	.	11	.
Crack Total 1	Self	.	34	.
	Service	.	11	.
Crack Total 3	Self	.	34	.
	Service	.	11	.
Cocaine Total Baseline	Self	.257	34	.000
	Service	.	11	.

Cocaine Total 1	Self	.182	34	.000
	Service	.	11	.
Cocaine Total 3	Self	.200	34	.000
	Service	.	11	.
Amphetamine Total Baseline	Self	.275	34	.000
	Service	.	11	.
Amphetamine Total 1	Self	.	34	.
	Service	.	11	.
Amphetamine Total 3	Self	.165	34	.000
	Service	.	11	.
Cannabis Total Baseline	Self	.467	34	.000
	Service	.345	11	.000
Cannabis Total 1	Self	.369	34	.000
	Service	.345	11	.000
Cannabis Total 3	Self	.437	34	.000
	Service	.	11	.
Psychological Health Baseline	Self	.953	34	.152
	Service	.921	11	.326
Psychological Health1	Self	.868	34	.001
	Service	.918	11	.299
Psychological Health3	Self	.905	34	.006
	Service	.778	11	.005
Physical Baseline	Self	.937	34	.050
	Service	.923	11	.344

Physical Health1	Self	.907	34	.007
	Service	.866	11	.069
Physical Health3	Self	.957	34	.201
	Service	.891	11	.143
QOL Baseline	Self	.943	34	.078
	Service	.877	11	.096
QOL 1	Self	.816	34	.000
	Service	.907	11	.227
QOL 3	Self	.830	34	.000
	Service	.886	11	.124
Impulse Total Baseline	Self	.966	34	.363
	Service	.920	11	.315
Impulse Total 1	Self	.869	34	.001
	Service	.949	11	.633
Impulse Total 3	Self	.971	34	.495
	Service	.928	11	.396
Flourish Total Baseline	Self	.946	34	.091
	Service	.835	11	.027
Flourish Total 1	Self	.915	34	.012
	Service	.903	11	.200
Flourish Total 3	Self	.971	34	.499
	Service	.796	11	.008
Housing Baseline	Self	.	34	.
	Service	.345	11	.000

Housing 1	Self	.	34	.
	Service	.	11	.
Housing 3	Self	.	34	.
	Service	.	11	.
Eviction Baseline	Self	.	34	.
	Service	.	11	.
Eviction 1	Self	.	34	.
	Service	.	11	.
Eviction 3	Self	.	34	.
	Service	.	11	.
Work Days Baseline	Self	.848	34	.000
	Service	.597	11	.000
Work Days 1	Self	.853	34	.000
	Service	.608	11	.000
Work Days 3	Self	.839	34	.000
	Service	.616	11	.000
College Days Baseline	Self	.438	34	.000
	Service	.	11	.
College Days 1	Self	.221	34	.000
	Service	.	11	.
College Days 3	Self	.332	34	.000
	Service	.	11	.
Volunteering Days Baseline	Self	.537	34	.000
	Service	.345	11	.000

Volunteering Days 1	Self	.493	34	.000
	Service	.345	11	.000
<hr/>				
Volunteering Days 3	Self	.522	34	.000
	Service	.345	11	.000
<hr/>				

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

## Appendix S

Table S.1.

*Ranks of alcohol usage between the two referral routes at pre-course, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Rank
Pre-course	Self	34	24.60	836.50
	Service	11	18.05	198.50
	Total	45		
1 Month	Self	34	23.40	795.50
	Service	11	21.77	239.50
	Total	45		
3 Months	Self	34	23.84	810.50
	Service	11	20.41	224.50
	Total	45		

Table S.2

*Mann-Whitney U test results for alcohol usage between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>*

	Pre-course	1 Month	3 Months
Mann-Whitney U	132.500	173.500	158.500
Wilcoxon W	198.500	239.500	224.500
Z	-1.444	-.360	-.762
Asymp. Sig. (2-tailed)	.149	.719	.446
Exact Sig. [2*(1-tailed Sig.)]	.152 <sup>b</sup>	.725 <sup>b</sup>	.457 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.3

*Ranks of cocaine usage between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	24.13	820.50
	Service	11	19.50	214.50
	Total	45		
1 Month	Self	34	23.81	809.50
	Service	11	20.50	225.50
	Total	45		
3 Months	Self	34	24.13	820.50
	Service	11	19.50	214.50
	Total	45		

Table S.4

*Mann-Whitney U test results for cocaine usage between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>*

	Pre-course	1 Month	3 Months
Mann-Whitney U	148.500	159.500	148.500
Wilcoxon W	214.500	225.500	214.500
Z	-1.612	-1.331	-1.612
Asymp. Sig. (2-tailed)	.107	.183	.107
Exact Sig. [2*(1-tailed Sig.)]	.314 <sup>b</sup>	.473 <sup>b</sup>	.314 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.5

*Ranks of amphetamine usage between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	23.65	804.00
	Service	11	21.00	231.00
	Total	45		
1 Month	Self	34	23.00	782.00
	Service	11	23.00	253.00
	Total	45		
3 Months	Self	34	23.16	787.50
	Service	11	22.50	247.50
	Total	45		

Table S.6

*Mann-Whitney U test results for amphetamine usage between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>*

	Pre-course	1 Month	3 Months
Mann-Whitney U	165.000	187.000	181.500
Wilcoxon W	231.000	253.000	247.500
Z	-1.177	.000	-.569
Asymp. Sig. (2-tailed)	.239	1.000	.569
Exact Sig. [2*(1-tailed Sig.)]	.575 <sup>b</sup>	1.000 <sup>b</sup>	.886 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.7

*Ranks of cannabis usage between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	23.53	800.00
	Service	11	21.36	235.00
	Total	45		
1 Month	Self	34	23.24	790.00
	Service	11	22.27	245.00
	Total	45		
3 Months	Self	34	23.97	815.00
	Service	11	20.00	220.00
	Total	45		

Table S.8

*Mann-Whitney U test results for cannabis usage between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>*

	Pre-course	1 Month	3 Months
Mann-Whitney U	169.000	179.000	154.000
Wilcoxon W	235.000	245.000	220.000
Z	-.713	-.358	-1.475
Asymp. Sig. (2-tailed)	.476	.721	.140
Exact Sig. [2*(1-tailed Sig.)]	.649 <sup>b</sup>	.845 <sup>b</sup>	.396 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.9

*Ranks of flourishing between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	22.65	770.00
	Service	11	24.09	265.00
	Total	45		
1 Month	Self	34	24.56	835.00
	Service	11	18.18	200.00
	Total	45		
3 Months	Self	34	22.62	769.00
	Service	11	24.18	266.00
	Total	45		

Table S.10

*Mann-Whitney U test results for alcohol usage between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>*

	Pre-course	1 Month	3 Months
Mann-Whitney U	175.000	134.000	174.000
Wilcoxon W	770.000	200.000	769.000
Z	-.317	-1.402	-.344
Asymp. Sig. (2-tailed)	.751	.161	.731
Exact Sig. [2*(1-tailed Sig.)]	.765 <sup>b</sup>	.168 <sup>b</sup>	.745 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.11

*Ranks of impulsivity between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	22.15	753.00
	Service	11	25.64	282.00
	Total	45		
1 Month	Self	34	19.79	673.00
	Service	11	32.91	362.00
	Total	45		
3 Months	Self	34	23.10	785.50
	Service	11	22.68	249.50
	Total	45		

Table S.12

*Mann-Whitney U test results for impulsivity between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>*

	Pre-course	1 Month	3 Months
Mann-Whitney U	158.000	78.000	183.500
Wilcoxon W	753.000	673.000	249.500
Z	-.770	-2.904	-.093
Asymp. Sig. (2-tailed)	.441	.004	.926
Exact Sig. [2*(1-tailed Sig.)]	.457 <sup>b</sup>	.003 <sup>b</sup>	.927 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.13

*Ranks of psychological health between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	22.97	781.00
	Service	11	23.09	254.00
	Total	45		
1 Month	Self	34	24.06	818.00
	Service	11	19.73	217.00
	Total	45		
3 Months	Self	34	22.47	764.00
	Service	11	24.64	271.00
	Total	45		

Table S.14

*Mann-Whitney U test results for psychological health between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>*

	Pre-course	1 Month	3 Months
Mann-Whitney U	186.000	151.000	169.000
Wilcoxon W	781.000	217.000	764.000
Z	-.027	-.962	-.479
Asymp. Sig. (2-tailed)	.979	.336	.632
Exact Sig. [2*(1-tailed Sig.)]	.990 <sup>b</sup>	.354 <sup>b</sup>	.649 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.15

*Ranks of physical health between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	21.78	740.50
	Service	11	26.77	294.50
	Total	45		
1 Month	Self	34	23.72	806.50
	Service	11	20.77	228.50
	Total	45		
3 Months	Self	34	22.56	767.00
	Service	11	24.36	268.00
	Total	45		

Table S.16

*Mann-Whitney U test results for physical health between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>*

	Pre-course	1 Month	3 Months
Mann-Whitney U	145.500	162.500	172.000
Wilcoxon W	740.500	228.500	767.000
Z	-1.103	-.655	-.398
Asymp. Sig. (2-tailed)	.270	.513	.690
Exact Sig. [2*(1-tailed Sig.)]	.277 <sup>b</sup>	.523 <sup>b</sup>	.706 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.17

*Ranks of QOL between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	22.47	764.00
	Service	11	24.64	271.00
	Total	45		
1 Month	Self	34	23.68	805.00
	Service	11	20.91	230.00
	Total	45		
3 Months	Self	34	20.72	704.50
	Service	11	30.05	330.50
	Total	45		

Table S.18

*Mann-Whitney U test results for QOL between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>*

	Pre-course	1 Month	3 Months
Mann-Whitney U	169.000	164.000	109.500
Wilcoxon W	764.000	230.000	704.500
Z	-.478	-.612	-2.074
Asymp. Sig. (2-tailed)	.633	.540	.038
Exact Sig. [2*(1-tailed Sig.)]	.649 <sup>b</sup>	.558 <sup>b</sup>	.039 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.19

*Ranks of days at work between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	24.78	842.50
	Service	11	17.50	192.50
	Total	45		
1 Month	Self	34	24.38	829.00
	Service	11	18.73	206.00
	Total	45		
3 Months	Self	34	24.87	845.50
	Service	11	17.23	189.50
	Total	45		

Table S.20

*Mann-Whitney U test results for days at work between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>.*

	Pre-course	1 Month	3 Months
Mann-Whitney U	126.500	140.000	123.500
Wilcoxon W	192.500	206.000	189.500
Z	-1.679	-1.316	-1.762
Asymp. Sig. (2-tailed)	.093	.188	.078
Exact Sig. [2*(1-tailed Sig.)]	.111 <sup>b</sup>	.223 <sup>b</sup>	.094 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.21

*Ranks of days at college between the two referral routes at pre-intervention, 1 month and 3 months post-intervention.*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	23.81	809.50
	Service	11	20.50	225.50
	Total	45		
1 Month	Self	34	23.65	804.00
	Service	11	21.00	231.00
	Total	45		
3 Months	Self	34	23.65	804.00
	Service	11	21.00	231.00
	Total	45		

Table S.22

*Mann-Whitney U test results for days at college between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>.*

	Pre-course	1 Month	3 Months
Mann-Whitney U	159.500	165.000	165.000
Wilcoxon W	225.500	231.000	231.000
Z	-1.331	-1.177	-1.177
Asymp. Sig. (2-tailed)	.183	.239	.239
Exact Sig. [2*(1-tailed Sig.)]	.473 <sup>b</sup>	.575 <sup>b</sup>	.575 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.

Table S.23

*Ranks of days volunteering between the two referral routes at pre-intervention, 1 month and 3 months post-intervention*

	Referral-route	N	Mean Rank	Sum of Ranks
Pre-course	Self	34	23.88	812.00
	Service	11	20.27	223.00
	Total	45		
1 Month	Self	34	23.38	795.00
	Service	11	21.82	240.00
	Total	45		
3 Months	Self	34	23.56	801.00
	Service	11	21.27	234.00
	Total	45		

Table S.24

*Mann-Whitney U test results for days volunteering between referral groups at pre-course, 1 month and 3 months post-intervention<sup>a</sup>.*

	Pre-course	1 Month	3 Months
Mann-Whitney U	157.000	174.000	168.000
Wilcoxon W	223.000	240.000	234.000
Z	-1.089	-.544	-.753
Asymp. Sig. (2-tailed)	.276	.586	.451
Exact Sig. [2*(1-tailed Sig.)]	.441 <sup>b</sup>	.745 <sup>b</sup>	.630 <sup>b</sup>

a. Grouping Variable: referral-route

b. Not corrected for ties.