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Temporality in Addiction and Counselling Psychology Practice

Sarah Davies

Submitted in fulfillment of the requirements for the
Professional Doctorate in Counselling Psychology (DPsych)



City Uni, London

Department of Psychology

Submitted May 2014



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pp 40-64: **Part B.** Clinical Case Study: Person-centred therapy and
self-harm. Daring to be known.

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Declaration

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Prologue

This doctoral portfolio reflects a central theme of temporality and addiction. Each of the three required components were completed during my training at City University and I feel, reflect my therapeutic style, current interest and approach. They also tie together a similar approach to sense-making. A pragmatic epistemology underpins the main research project and this is likened to a person-centred approach, presented in the client study. It is perhaps worth noting, a number of parallels exist between Rogers person-centred approach and pragmatism. Pragmatism focuses on 'what works' and the person-centred approach similarly allows for the understanding and meaning-making of what may or may not work for the individual. Both respect growth and change as central to living existence. Person-centred therapy emphasises the importance of allowing individuals the freedom of choice in order to access their capacity to actualise their full potential (Rogers 1959).

Together the three components of the portfolio present investigation and reflection on time in counselling psychology, specifically in relation to issues of addictive behaviour.

I have always been very interested in the concept of time and particularly how it inherently shapes our relationship to experience, how it is culturally influenced and how it defines a lot of what we do and how we do it. Not least is the direct relevance to the practice of counselling psychology and psychotherapy. Temporal rules are evident in much of the practice including psychiatric diagnostic criteria largely depending on pre-determined length of time symptoms are experienced as well as guidelines for length of therapy, how often sessions should take place and for how long. The profession has also adopted a commonly used standard counselling hour (SCH), the fifty minute session, despite there appearing to be no clear justification as to why this length of time might be regarded as the most suitable or helpful.

Jacques Lacan notoriously insisted that therapy should not be restricted within any temporal parameters and controversially made use of the "5-minute session" when felt

necessary. Lacan also famously did not accept structured appointments. Clients would turn up at his office and simply wait various lengths of time to be called in for a session of unspecified period (Kottler & Montgomery, 2011). Whilst Lacan's approach is regarded by many as unorthodox and harsh the impact of this style of work in these capacities have not been rigorously explored. Equally, and in contrast to the very short timed session, some therapists have considered and noted the benefits of longer sessions (eg. Mountford, 2005). As a researcher, I have struggled to find any studies to scientifically support the notion or highlight the benefits for the tradition of the standard counselling hour of fifty minutes. I wonder then why the training remains rigid to this? I consider the area of Counselling Psychology as being ideally placed to offer a challenge and development of more forward-thinking and innovative approaches to some of these traditional time-related components of therapy.

This sentiment and notion of time in therapy is echoed in reflections by Carl Rogers - the originator of person-centred counselling – an approach applied in a client study within this portfolio. In an interview in 1975, Rogers was asked in hindsight what he might do differently regarding therapy. Rogers replied;

"I think that if I were going back into individual therapy now, I would be far more flexible than I was with regard to time. I don't know what I would do, but I would experiment with various things. I have always worked with a fifty-minute hour and met once, twice, three times a week – but that was about it. I think I would try various things depending on the client and try and keep my own time as flexible as possible"

(Francis, 1975).

There is certainly scope as counselling psychologists to think more creatively about time, particularly in relation to the temporal position of the clients we work with therapeutically. The research presented in this portfolio adds to a growing, yet currently limited literature that links time to mental health presentations.

On an applied level, during my therapeutic practice as part of the doctoral training I began to notice strong themes of temporality in relation to certain mental health presentations. For example, more depressed individuals seemed to experience a sense of being 'stuck' in the past whilst anxious clients appear to live very much in the future, panicking and

obsessing about what might be. Many, whilst oscillating between past or future positions, appeared to fail to be very present for very long – this was sometimes very evident and useful to work experientially with in the sessions. Temporal challenges were most prominent to me in those seeking help for issues of addiction.

Individuals talked about life taking on a circular motion, with addictive behaviours going ‘around and around’ with little understanding as to why, or with any apparent ability to stop or any hope of change. Many describe negative recollections of their past and/or a distinct inability to envisage any hope or possibility for the future. Perhaps more significantly, many clients I have worked with and spoken to both in a professional and personal capacity, report profound shifts in their time perspective as they recover from mental health issues and/or addiction. This really sparked my interest in exploring this scientifically.

Over recent years there has also been much interest around present-time awareness (or mindfulness) and the benefits of this will be outlined in the research thesis. The practice of mindfulness suggests that if we could be more *present*, we could be more content and experience more happiness and sense of wellbeing. An interesting concept however at the same time a confusing one as I wondered why seemingly so many people reported varying degrees of difficulty with being ‘present’. Surely if it was so simple everybody would be doing it, I supposed. Certainly the clients I was seeing reported a distinct disconnection with the present yet a much more complex picture in terms of their overall relationship to and experience of time.

During a discussion I had once with Noah Levine – a counselling psychology graduate, ex-addict and notable Buddhist meditation teacher - regarding his extensive counselling and teaching work with addicts, he pointed out to me that people “*will always struggle with being present, until they have dealt with their past*”. Crucially, this statement echoed the difficulty many of the clients I had worked with reported in their struggles. This triggered my thoughts around relationships with time in counselling psychology practice and the impact of that on psychological wellbeing and led to the investigations presented here.

The portfolio begins with a publishable research paper based on the main research undertaken for this thesis. The second part of the portfolio presents a client study from a person-centred approach. The main presenting issue was self-harm, which the client likened to addiction, thus tying in with another key theme of this portfolio. Notions of temporality were observed and discussed throughout the therapeutic intervention that was also later reflected in the findings of the research thesis on time perspective and addiction. In line with a pragmatist philosophy, the therapeutic work presented in the case study in part B, involved helping the client to make sense of their actions having been an effective coping strategy that perhaps was now no longer helpful – essentially, it no longer worked. The client study reports positive therapeutic change and this is attributed in part to the phenomenological approach to understanding the clients' perspective of reality.

The final part of the portfolio presents a novel mixed methodological study into the predictability and changeability of time perspective and its relationship to addiction and mental health during a residential treatment intervention. The study answers calls for more mixed methodological research from the area of counselling psychology and adds to an emerging area of research that considers and explores modifications of time perception and how it relates to psychological wellbeing and pathology.

Overall, the three elements within this portfolio encompass a pragmatic philosophy in line with the highlighted psychotherapeutic approach and explore temporality in counselling psychology and most specifically the area of addiction. It is hoped this portfolio expresses a current position as a counselling psychologist trainee and reflects a specific area of research interest as well as the learning and growth gained throughout the course.

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Part A: Publishable paper

Below is a summary article of the main research undertaken in this doctoral study. This publishable paper is intended to inform the addiction research field regarding associative relationships with alcohol and drug use and subjective psychological perspectives of time. The study covers dual diagnosis of addiction and mental health and is aimed to provoke some thought into the use of temporality within treatment and psychotherapeutic intervention. The paper is intended for submission to Addiction focused journals for publication, such as: *Addiction Research & Theory* or *Journal of Groups in Addiction & Recovery*.

Changes in Time Perspective during residential Addiction Treatment. A mixed-methods study.

Abstract

This mixed-methods study investigates psychological perspectives of time in a group of sixty-three individuals seeking help for alcohol/drug issues and who successfully completed a residential addiction treatment intervention. Measures of subjective time perspective (TP) were taken before and after treatment using a quantitative scale (short-form ZTPI) and a qualitative component to capture additional phenomenological experiences of time. Measures of depression and anxiety were also taken pre and post treatment. Overall significant positive associations were found between time perspectives, in particular past-negative, present-fatalism and present-hedonistic time orientations and depression and anxiety. Significant negative relationships were also found between mental health and past-positive and future time perspectives. Distinct changes were reported in temporality between pre and post measures of the addiction treatment intervention from both quantitative and qualitative perspectives. Associations were again made with more positive mental health at the post-treatment phase. The potential use and implications of findings for understanding addiction and considering psychotherapeutic treatment is discussed.

Introduction

Addiction is described as a persistent, obsessive and compulsive drive to seek, obtain, take and recover from substance use (APA, 2013; Robinson & Berridge, 2003). It is a highly complex, multi-faceted issue that warrants further research into the causal, contributory and maintenance factors so that more informative and effective interventions can be developed and made accessible to service users. The

current study offers insight into the time perspective profile of addicted individuals as well as the psychological changes that occur during early stages of abstinence-based recovery. This research responds to calls for investigations into the modification of psychological time perspective, specifically in relation to mental health and psychopathology (Van Beek, Berghuis, Kerkhof & Beekman, 2011).

Addiction & Temporality:

The temporal experience of active addiction is distinct and largely characterised by a chaotic existence (eg. Erdos, Gabor & Brettner, 2009; Kemp, 2009). Seemingly regardless of drug of choice, users report being caught in spiraling addictive cycles together with strong reluctance or inability to employ any regular routine or structure to their lives. Time essentially becomes distorted. Long binges into the night disrupt circadian rhythms and can further alienate users from cultural norms or healthy social interactions (Kemp 2009; McClung, Sidiropoulou, Vitaterna, Takahashi, White, Cooper & Nestler, 2005). Addiction induced social alienation can lead to additional guilt and subsequent further usage (Kemp, 2009). There is often an utter preoccupation with the 'now' and a strong sense of immediacy with regards to obtaining an immediate 'fix'. It is the clinical presentation, above all others, most likely to miss, forget or arrive late for appointments, sometimes turning up on completely the wrong day in overcompensation (Kemp, 2009). Whilst many users describe a sense of immediacy and preoccupation with 'now', there is often an otherwise stark disconnection to the present moment, instead being fixated on their addiction. This kind of addict-focused 'now' is regarded as psychologically painful and troubling (Kemp, 2009; Wyllie, 2005).

Research originally stemming from the domain of health psychology has associated distinct subjective relationships to linear time perspectives (the past, present and future) to a variety of health-risk behaviours including alcohol, drug abuse and addiction (Beenstock, Adams & White, 2011; Apostolidis, Fieulaine, Soule, 2006, Keough, Zimbardo & Boyd, 1999). Zimbardo's Time Perspective Inventory (ZTPI) was designed to assess subjective temporality and comprises of five constructs; *past-negative*, *past-positive*, *present-hedonistic*, *present-fatalistic* and *future* (Zimbardo & Boyd, 1999).

Past-negativity is characterised by a tendency to think about the bad things that have happened in the past, regrets and guilt whilst *past-positive TP* in opposition represents those who favour happy, joyous and fond recollections. *Present-hedonism* represents a party-animal like approach to life, a carefree and impulsive attitude. *Present-fatalism* is considered as being focused on the now but in a

pessimistic and helpless manner. An individual scoring high in present-fatalism is likely to report that it doesn't matter what they will do, they have no control over their fate. Finally, a *future*-oriented outlook according to the ZTPI is synonymous with goal planning, conscientiousness and careful consideration to future consequences of current actions. Time perspective as measured with this scale is recognised as an individual difference variable and valid predictor of health actions and psychopathology (Van Beek, Berghuis, Kerkhof & Beekman, 2011; Boyd, Zimbardo & Strathman, 2005).

Significant associations are identified between time perspective, specifically past-negative TP with addiction and related personality traits including depression, anxiety, aggression and sensation-seeking (Van Beek, Berghuis, Kerkhof & Beekman, 2011; Zimbardo & Boyd, 1999). Temporal outlooks more heavily focused on past-negativity, (ie. regrets or remorse about things that have happened) are found to associate with higher levels of drug and alcohol use (eg. Chodkiewicz & Nowakowska, 2011). Shortened future time horizons, ie. reduced ability to envisage the future or to plan ahead are also often linked to substance abuse and health-risk behaviours (Fieulaine & Martinez, 2011; Apostolidos, Fieulaine & Soule, 2009; Alvos, Gregson & Ross, 1993). Most relevant to the current study, research identifies significant positive relationships between past-negative TP and both present hedonistic and fatalistic TP with problematic alcohol and drug use (eg. Chodkiewicz & Nowakowska, 2011). Such temporal outlook is also associated with poorer outcomes in abstinence-based addiction recovery (Davies & Kinman, 2012).

Temporal aspects of intervention:

Arguably, addiction treatment intervention vastly challenges temporality in a number of ways. For example, in contrast to the experience of the active addict, rehabilitation programmes are typically pre-determined in length and incredibly structured with virtually every hour of each day accounted for with activity. Circadian rhythms are restored through healthy daily routine. Much of the psychotherapy involves a systematic review of the past, whilst an increase in present-time awareness. Future planning is facilitated. In 12-step recovery, time horizons are effectively shortened by an emphasis being put on maintaining abstinence 'one day at a time' and periods of continuous sobriety are noted and celebrated.

Whilst a growing body of literature has developed an understanding of the kind of temporal profile most predictive of substance use issues as outlined in this introduction, few studies have considered how this may change during the

rehabilitative phase despite it being an apparent factor of treatment. The current study aims to investigate such alteration in order to identify potentially helpful aspects.

One qualitative study of recovering addicts involved in a year long abstinence based community analysed the speeches taken before and after participation and found stark differences in time perspective to be found in those who successfully remained abstinence. This included specific references to the past and future goals as well as a deeper connection to present experience. Relapsing participants were found to relate more vaguely and spoke in general terms about their linear time perspective. Interestingly, time-related shifts were *not* found in those who later relapsed suggesting that the noted adaptations in temporality were useful for continued abstinence (Erdos, Gabor & Brettner, 2009).

As active addiction is marked by particular temporal characteristics, it is theoretically plausible that recovery and abstinence be supported with more helpful and supportive time-related changes.

Current study aims

Time perspective is regarded a relatively stable individual difference variable (Zimbardo & Boyd, 1999). Much research to date investigating subjective temporality has captured associative relationships between time perspective and drug and alcohol use or state and non-state psychopathology (eg. Van Beek, Berghuis, Kerkhof & Beekman, 2011). Aside from the aforementioned study, limited investigations could be found at the time of writing that considers how subjective temporality alters, particularly in relation to a specific psychotherapeutic intervention.

The current study adopts a mixed methodological approach in order to offer a comprehensive insight into time perspective, addiction and associated depression and anxiety. This includes psychometric measures for time perspective using a short-form ZTPI as well as an exploration into the phenomenological experience of temporality during early stages of addiction recovery. This is one of just a few emerging novel pieces of research that investigate how temporality may change in relation to a psychotherapeutic intervention. Two hypotheses will be tested:

- H¹ – Significant relationships will exist between ‘Time Perspective’ and indications of mental health most often associated with addiction (depression and anxiety).
- H² – Overall ‘Time Perspective’ will significantly alter between pre and post treatment measures.

In addition to the testing of the stated hypotheses, a phenomenological component is also explored in order to support and further enhance the findings.

Method:

Participants:

63 (68% male) participants (active drug/alcohol addicts) were recruited via a specialist private addiction treatment centre. Participant ages ranged from 17 to 67 years old ($M = 38.2$, $SD = 11.0$). Thirty-eight (60%) of participants reported this was their first attempt at residential addiction treatment.

Intervention:

The intervention undertaken is regarded a typical group abstinence-based treatment and included; attendance of 12-step meetings, individual and group therapy (person-centered and CBT-based approach), mindfulness meditation as well as a range of group and individual activities such as exercise classes and yoga. Participants also made a start on working through the first four steps of the 12-step programme of alcoholics anonymous.

Design:

The study examined relationships between time perspective, depression and anxiety. Changes in temporality were investigated between pre and post stages of treatment using both a quantitative scale (ZTPI short form) and a qualitative element.

Measures:

A questionnaire was devised using the following components.

Time Perspective:

Zimbardos Time Perspective Inventory Short-Form (Zhang, Howell & Bowerman, 2013). The ZTPI is the most widely used psychometric measure of subjective time perspective however is criticised for being too lengthy at 56 items. The reliable 15-item short-form version was utilised in the current study. Both measure the 5 constructs of Zimbardos Time Perspective theory; *past-negative*, *past-positive*, *present-hedonistic*, *present-fatalistic* and *future*. Three items are indicated for each construct and averaged scores are noted for each.

Anxiety & Depression:

The HADS form was used in order to identify scores for anxiety and depression in a clinical setting (Zigmond & Snaith, 1983). Scores for depression and anxiety were noted separately for the purposes of analysis in the study.

Qualitative data:

An open text section was offered at the end of the questionnaire for participant comments regarding time and analysed using thematic analysis. In order to minimise the leading of response in anyway, the wording was purposefully neutral and open. The statement read: *"Is there anything you would like to add about your understanding or experience of time?"* Participants were then able to add any comments in the way they felt most appropriate. Out of the 63 participants, 51% responded to the qualitative component of the study.

Length of stay:

The length of stay in residential treatment ranged from 14 to 84 days ($M=30.7$, $SD=9.6$).

Results:**Quantitative findings:**

All data was collected concurrently, prior to treatment and then again at the end. In response to the stated hypotheses, the quantitative findings are presented first. The explorative identified qualitative themes follow.

Correlations coefficients between the study variables are presented in Table 1. Moderate strength significant positive relationships were found between *past-negativity* and both depression and anxiety. In contrast, significant negative correlations were reported between a *past-positive* outlook and depression and anxiety. *Present-fatalism* associated positively and significantly with both depression and anxiety and *present-hedonism* significantly positively related to anxiety, however not with depression. Significant moderate strength negative relationships were found between future time perspective and both depression and anxiety. The first hypothesis is therefore accepted: Time perspectives significantly associate with depression and anxiety. Due to the nature of correlational analysis, no causal inference can be assumed.

Table 1: Correlations between study variables

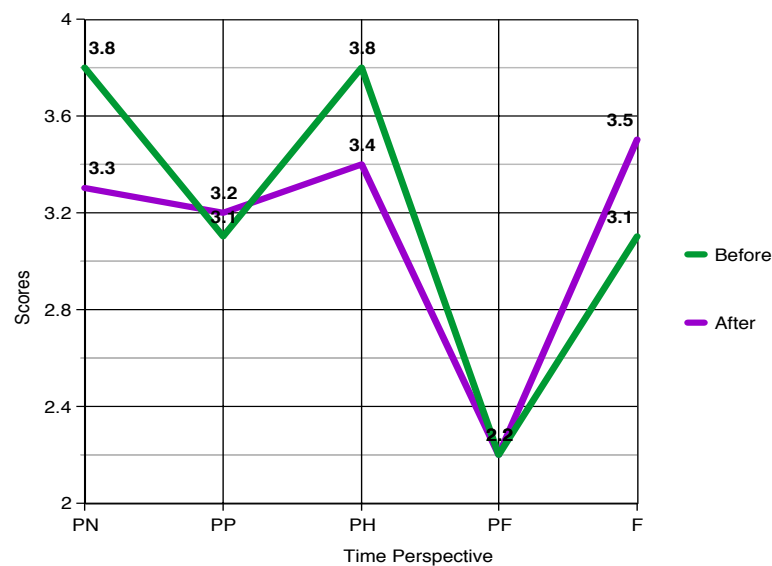
	PN	PP	F	PH	PF	Depression	Anxiety
PN	.00						
PP	-.25**	.00					
F	-.38**	.26**	.00				
PH	.19*	-.10	-.16	.00			
PF	.25**	-.16*	-.27**	.10	.00		
Depression	.47**	-.35**	-.57**	.19	.24**	.00	
Anxiety	.45**	-.34**	-.47**	.23**	.19*	.75**	.00

*p<0.05, **p<0.01

In order to test for significant *differences* in time perspective between pre and post treatment, a series of t-test analysis were conducted.

Significant differences were found between pre and post treatment measures for three of the time perspectives; past-negative, future and present-hedonism.

Figure 1 represents the change scores in Time Perspective between pre and post measures.

Figure 1: Changes in Time Perspective Before and After Intervention.

As can be seen in figure 1, Past-Negative and Present-Hedonistic TP – both temporal constructs associated with addictive behaviour - significantly reduced during the

treatment intervention. Future TP - most often linked to conscientiousness and health-protective choices - significantly increased. Overall three of the five Time Perspective constructs significantly altered between pre and post intervention. Therefore the second hypothesis is also accepted.

Table 2. Scores for measures taken before and after treatment intervention.

	Before		After			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>P</i>
Past-negative	3.78	.73	3.39	.80	3.25	.001**
Past-positive	3.18	.84	3.2	.78	-.29	.77
Present-hedonistic	3.76	.66	3.46	.73	3.40	.001**
Present-fatalistic	2.27	.69	2.27	.69	.02	.99
Future	3.16	.87	3.52	.81	-3.30	.001**
Anxiety	11.4	4.2	6.7	4.3	6.61	.001**
Depression	8.3	4.2	3.8	3.9	7.01	.001**

**p>0.001

Regression Analysis.

As many of the TP sub-scales demonstrated significant relationships with the mental health measures, a backwards regression analysis was conducted in order to evaluate predictors of change in the model in the noted significantly reduced scores of anxiety and depression.

Depression:

The results of the regression indicated the overall model of Time Perspectives and Anxiety together explained 60 per cent of variance for the reduction in depression score ($R^2=.60$, $F(5, 57) = 14.00$, $p<.001$).

The final step of the model indicated anxiety and two temporal sub-scales contributed to this outcome in a negative direction ($R^2=.59$, $F(3, 59) = 27.94$, $p<.001$). It was found that score increase in future TP significantly predicted reduction in depression ($\beta = -.20$, $p<0.05$). Score increases of present-hedonistic TP were also included in the final model and although suggestive of an association the result did not achieve statistical significance ($\beta = -.14$, $p=0.09$). Change scores in anxiety were a large indicator for change ($\beta = .69$, $p<.001$).

Anxiety:

Time Perspectives and Depression explained 60 per cent of the variance for anxiety ($R^2=.60$, $F(6, 56) = 13.72$, $p<.001$).

The final step in the model indicated depression and present-hedonism as significant contributors to this outcome. A reduction in depression statistically significantly predicted the reduction in anxiety ($\beta = -.73$, $p<0.001$) as did the reduction in present-hedonistic TP ($\beta = -.19$ $p<0.05$).

Table 3: Multiple regression results – model of change in Depression and Anxiety.

Predictor	Depression				Anxiety			
	<i>Beta</i>	<i>F</i>	<i>R²</i> (change)	<i>Sig.</i>	<i>Beta</i>	<i>F</i>	<i>R²</i> (change)	<i>Sig.</i>
Step 1								
TP & Anxiety		14.00***	.60	.001				
TP & Depression						13.72***	.60	.001
Final Step			.59				.57	
PN								
PP								
F	-.20			.027				
PH	-.14			.099	-.19			.028
PF								
Anxiety	.69			.001				
Depression					.73			.001

These results highlight the importance of two constructs in particular in relation to change scores in the study measures of depression and anxiety; future (F) and present-hedonistic (PH).

Qualitative findings:

In addition to the quantitative measures, thematic analysis was employed to analyse the data from the open text comments of the study questionnaire in order to identify relevant themes. The process followed guidance outlined by Braun and Clarke (2006) suggesting themes be based on two factors:

1. The extent to which it addresses the research question, and
2. Prevalence across the data.

The identified themes and related occurrence for each are outlined in Table 4.

Table 4: Themes and sub-themes prevalence

Theme title	Sub-themes	Prevalence BEFORE	Prevalence AFTER
Theme 1: The Past <i>"I think about the past"</i>	1a. Thinking about the past – neutral or undefined. <i>"Always thinking of the past"</i> 1b. Past negative / past regret. <i>"I am haunted by the past"</i>	4 9	7 0
Theme 2: The Present <i>"The power of now"</i>	2a. Recognising the importance and benefits of being present (post treatment). <i>"Being more present is wonderful!"</i>	0	12
Theme 3: The Future <i>"The future arrives"</i>	3a. Thinking of the future - neutral or undefined. <i>"I think about the future"</i> 3b. Worries and fear of. <i>"I worry a lot about the future"</i> 3c. Hopes and goals... <i>"I am now setting goals for the future"</i>	2 8 4	7 1 7
Theme 4: Amount <i>"Time is running out"</i>	4a. Never enough <i>"There is never enough time!"</i> 4b. More time (post treatment). <i>"After treatment, feel I have more time"</i>	10 0	0 6
Theme 5 – Pace <i>"time just flies by"</i>	5a. Slowly <i>"time goes very slowly"</i> 5b. Quickly <i>"[time] goes way too quickly"</i>	5 5	3 2
Theme 6 – Relationship to time <i>"I am accepting..."</i>	6a. Control <i>"After treatment [I] feel more in control of time"</i> 6b. Planning and organising <i>"I still need more planning in my day"</i>	4 3	5 6

Theme 1. The past

Notions of thinking about the past were noted at both stages of data collection. This was described in either a neutral, undefined way (sub-theme 1a) or negative manner (sub-theme 1b). Stark changes were noted in the prevalence between the two stages.

Sub-theme 1a. Thinking about the past – neutral or undefined.

“...always thinking of the past...”

Notions of thinking about the past in a neutral or undefined manner were noted both before and after treatment although in slightly different contexts. Before treatment participants tended to indicate much of their time can be spent reminiscing. After treatment participants noted a shift in less time spent thinking about the past: *“I don’t tend to think about the past anymore”*.

Sub-theme 1b. Past negative:

“I am haunted by my past”

Past negativity directly relates to a temporal dimension measured in the first part of the current study. Particular notions of regret were described by participants prior to treatment as exemplified by:

“When I look back at the past, all the years of my life that I have wasted in my addiction...”

Past negativity noted by participants related to drug/alcohol-using choices as well as more general regrets about behaviour.

“I am haunted by my past – things I have done to others and what had been done to me”.

By the end of treatment there was a distinct lack of past-negativity or sense of regret about the past. As described in sub-theme 1 there was a reduced reference to the past in general after treatment. When regrets were specified they tended to be in the context of motivation in relation to addiction recovery. For example:

“I don’t want to waste anymore time like I have in the past. My addiction has took many years off me, I refuse to let it take anymore of me”.

Theme 2. The present

“The power of now”

Before treatment no notion of living in the moment was mentioned – only reference to the past or future. Oscillations between past and future implicitly positions one in the present however this was noted without substantial connection to the now. After the intervention a significant shift occurred and there were notably more references to ‘being present’. Post treatment comments also reflected recognition of the learnt importance of being present in relation to wellbeing. Notions of present-time awareness were mentioned in almost half of the participant post-treatment comments as outlined in more detail in the following sub-theme.

Sub-theme 2a. Recognising the importance and benefits of being present.

“Being more present is wonderful!”

This theme was solely identified in the post-treatment data and demonstrates a stark development of awareness of being present. One example highlights such transition:

“Being in treatment has changed my understanding and experience of time, especially in mindfulness and the power of ‘now’.”

This shift is likely to be a direct result of the teachings during the treatment programme as mindfulness was a key component. The idea of living ‘one day at a time’ is also heavily embedded with the 12-step philosophical approach to abstinence-based addiction recovery. Participants are encouraged to reduce their temporal horizon to the day in order to help achieve sobriety and maintain abstinence, moment by moment, step-by-step, day by day.

“Before treatment I ruminated about the past in a negative, regretful way. I also panicked and stressed about the future. I have learned, via treatment, to live in the present. It is a great relief.”

The experience in the benefits of being more present is identified in the post-treatment findings as well as struggles in achieving this. This awareness is touched on during the specific treatment approach in relation to how being more present may aid the management of anxiety or depression. The shift demonstrated in the study findings support the concept that time perspective can be a malleable

construct and may be usefully incorporated into effective psychotherapeutic treatment.

Theme 3. The future

“the future arrives...”

All aspects of the linear model of time were identified in the study data. Within the future dimension, three further mutually exclusive sub-themes were recorded. The first (3a) reflects the findings of the past dimension (1a). The second describes largely undesired apprehension, worries and fears of the future. Sub-theme 3c represents a more optimistic and positive type of future-oriented thinking in relation to goal-setting and plans.

Sub-theme 3a. Thinking of the future – neutral or undefined.

“I think about the future”

Neutral or undefined thoughts about the future were described at both stages of data collection. Examples of this include: *“I am always looking to the future”* and *“always thinking about the past or future”*.

The findings reflect the amount of time participants spend in a particular mental temporal dimension, past or future, yet anything but present. As this sub-theme describes thoughts of temporality in a neutral way, no further conclusions can be made regarding the content. However, shifts were noted in the reported increased amount of time spent thinking about or referring to the future at post-treatment.

Sub-theme 3b. Worries and fears of...

“I worry a lot about the future”

Prior to treatment many participants outlined explicit worries and fears about the future - often paralleled with regret and negative views of the past. Many participants described ‘overwhelming’ feelings of anxiety regarding the future before starting treatment:

“Trying to be strong, but the anxiety of what is coming can be a bit overwhelming”.

Another example includes:

“I look to the future but become overwhelmed at times by how much I have to change to stay clean and sober and therefore have a happy future”.

Similarly to past concerns, the future focus is shown to alter between pre and post treatment. After treatment participants reported less time spent worrying about the future and reduced anxiety as demonstrated by comments such as:

"I don't tend to worry about the future anymore".
and
"I have learnt to stress less about the future."

Future anxieties appeared to be replaced with a sense of hope that is outlined in the following sub-theme.

Sub-theme 3c. Hopes and goals...

"I am now setting goals for the future".

Prior to treatment any mention of goal-setting was in the vain of lack of, for example:

"{I have} no goals or ambitions".

There was also a distinct sense of failure, pressure alongside notions of 'time running out' and 'not enough' as highlighted in further sub-themes. The following segment taken before rehabilitation summarises these themes and associated undertone of pressure:

"Sometimes I think time is running out and I put myself under a lot of pressure to set goals and complete tasks in very regimented time frames. I have big plans and goals that I want to accomplish and I feel much of my future has been thought about and planned."

Another example echoes a lack of future planning, goals and pace:

"Time just flies by without progress or positive things happening in my life and I blame myself for letting things not change or happen."

A somewhat bleak cycle emerges from attempts to set goals for the future, failure, followed by regret and negativity highlighting a link between future and past.

In contrast after successful completion of treatment participants report plans and goals with an optimistic outlook:

"I am now setting goals for the future"
and
"After this I intend to go full swing with life. I have a timetable and intentions of maintaining complete sobriety".

Summary of past, present and future themes:

Notable differences were found between pre and post treatment in past, present and future that directly align with the scale used in the first part of the study. Prior to treatment, participants reflected on the past in a regretful, negative way. Simultaneously there was considerable mention of fear, worries and anxieties about the future. These themes were not evidenced after completion of treatment. After successful completion of treatment participants reported much less time spent thinking about the past and/or future. Relationships to the past and future also shifted from generally negative to positive. A distinct increase in awareness and greater sense of being 'present' emerged during the intervention. Post-intervention, there were more reflections about increased awareness of how much time is spent thinking about the past or future as well as the importance of being more in the 'now'.

A further three temporal themes were identified across the data and are outlined next:

Theme 4: Amount

"Time is running out"

Across the data time was described as a quantifiable amount. Prior to treatment statements reflected there never being enough, alongside subsequent feelings of pressure relating to this. After treatment a clear shift was evidenced to there being 'more time'. This is detailed in the following sub-themes.

Sub-theme 4a. Never enough:

"There is never enough time!"

Notions of there '*never being enough time*' were identified in the data prior to treatment commencement. Some examples of this include:

"there is never enough time"
or
"I feel I don't have enough time"

'Never enough' was often described alongside feelings of time constraints, pressure and a sense of urgency.

"Sometimes I think time is running out and I put myself under a lot of pressure to set goals and complete tasks in very regimented time frames"
and
"I feel I cannot keep pace with what is required of me".

This theme also appeared underpinned by anxiety about not completing tasks on time, hurriedness and pressure.

"I feel like there is never enough time. I am very pressured and am in a rush a lot of the time... I hate thinking about the past and I worry about the future a lot."

This sub-theme was dominant prior to treatment although importantly, no mention of this was made at all after the intervention programme. Instead, reflections of change in this area were noted as outlined in the next sub-theme.

Sub-theme 4b. More time

"After treatment, I feel I have more time".

After treatment there was a noticeable report of: *"I feel I have more time"*.

More time was teamed with a markedly reduced sense of stress and pressure after treatment. For example;

"I don't feel pressed for time anymore like I used to. I have found myself much calmer and relaxed since treatment. It has helped put a lot into perspective."

The sub-themes identified thus far begin to form an overall temporal profile of an active addict. This includes focus on past regrets, simultaneous worry about the future and experience of time pressure - not enough and of time running out. Post-treatment data captures a sense of more time together with feeling less pressured and more relaxed. This is important when considering the factors that may act as a precursor or maintain alcohol and drug use. The changes noted in the study findings appear helpful to the participants as noted:

"After treatment I don't feel so rushed for time – I don't tend to think about the past or worry about the future anymore – it has all changed for the better".

Overall more statements specified an increased awareness of temporality and the helpful changes experienced alongside that at the post-treatment stage.

Theme 5: Pace

“Time just flies...”

The fifth identified theme relates to the pace of time experienced. Participants simply described time as passing either slowly or quickly. Some subtle patterns emerged in the data with regards to how the pace links to the first three themes and are outlined next.

Sub-theme 5a. Slowly

“Time goes very slowly”

Time was described as moving slowly or ‘standing still’ at both stages of data collection although this was more prevalent before treatment. Reference to slowness was often connected to future anticipation, for example;

“Time goes very slowly for me when I am anticipating something”

and

“Time slows when waiting”.

Any reference of slow pace prior to treatment was regarded negatively;

“I actually feel that my perception of time has altered in a negative way – it is slow distorted”.

Another example of slowness being reported as problematic alongside a number of the other identified themes prior to treatment is:

“I am very busy, multi-tasking, doing 3 things at once, working to deadlines, always feeling I haven’t completed everything I need to do. When I drink I slow down... then I slow down too much, I don’t bother doing things. I get hungover and feel bad about it and about not having enough time to do everything”.

After treatment less reference was made to time being experienced as slow. When slowness was reported it was associated with ‘tough times’ and alongside an awareness of being anything but present.

“Time to me takes longer if I am not present or able to sit within myself”.

At post-treatment, the data demonstrated a greater focus of being more present and deviations were noted and reflected on including the association of slowness and future anticipation.

A faster pace was captured in the next sub-theme.

Sub-theme 5b. Quickly

“Time goes way too quickly”

A similar number of statements were found to support both sub-themes *slowly* and *quickly* before and after treatment. Prior to treatment participants described notions of time moving ‘too quickly’. This sub-theme also related to sub-theme 4a pre-treatment as exemplified;

“Time passes too quickly, I feel I don’t have enough time, that it goes too quickly”.

A fast pace of time was associated to both enjoyable and difficult times by the participants. One example that supports the saying ‘*time flies when you’re having fun*’ includes:

“I find enjoyable times pass more quickly than tough times”.

Faster speeds of time also related to past regrets as exemplified by the following statement;

“Time just flies by without progress or positive things happening in my life and I then blame myself for not letting things change or happen”.

This reflection suggests a lack of control over time and is identified as a further theme.

Theme 6: Relationship to time

The final theme reflects aspects of relationship to time; specifically with regards to sense of control and time management. Both were prevalent across data points and changes were noted between them.

Sub-theme 6a. Control

Prior to treatment, notions of control were more implicit and often referred to as an inability to control or manage time. In the post-treatment data, participant comments reflected an increased sense of feeling more in control of time, for example:

"I now, after treatment, feel more in control of my time".

Overall, a more positive stance was captured regarding managing time and ties in with planning as identified as sub-theme 6b and a sense of having more time as described in sub-theme 4b.

"I can wake up and start the day earlier, I feel I have more time."

Powerlessness and control are central themes in the 12-step addiction recovery approach used in the intervention and the observed shifts relate to the teachings from the first step regarding powerless and lack of control over things, such as addiction and time. This is suggested in the following example:

"I am seeing that I can't control much, including the future".

Another example from a participant after treatment summarises the teachings from the 12-step programme regarding these themes:

"One cannot manage time, only manage oneself in relation to time".

Following the treatment intervention time is regarded more as an entity that cannot be controlled, however an acknowledgement is made that personal views and attitude in relation to this can be changed for the better and crucially, may be helpful to aid successful recovery from addiction.

Sub-theme 6b. Planning and Organisation.

This final sub-theme reflects specific notions of planning and organising. Before treatment participants noted their lack of ability to plan, organise or engage in any kind of useful routine. This also included feelings of having no direction or future goals as captured by the following example.

"...unsure of where I want my life to go. No goals or ambition."

After treatment, participants reflected on the importance of routine, scheduling and planning ahead. For example;

"I have a timetable drawn up – both physical and mental – with intentions to maintain sobriety."

"I feel I have more time but need more planning in my day."

This kind of change is arguably expected given the focus and emphasis of scheduling and planning in any residential addiction treatment programme.

The next quote combines both planning for the future and present-time awareness as described in theme 2.

"I'm learning 'one day at a time' but am also planning for the future."

The findings support a distinct lack of planning or organisation prior to treatment and an increase in awareness of importance of this, along with specific future planning by the end of treatment.

Themes summary

The data from the qualitative component of the study identify a number of pertinent temporal themes that both support and further enhance the findings from the quantitative measure used in the first part as well as previous literature. Much of the themes are identified across both pre and post treatment stages and furthermore reflect distinct changes between the two.

In addition to the identified paralleled themes of past, present and future relevant to the quantitative scale, further themes were captured in the data and reflect neutral or undefined relationships to such linear view of time, as well as more detailed insights into each domain, for example, differences between fears about the future and hopeful goals and plans. The thematic analysis also captured a deeper insight into the experience of present-time connection that differs to the ZTPI measure. This view encapsulated a mindful relationship to the present, rather than hedonistic or fatalistic perspective as supposed by the ZTPI. Further themes related to relationships to time, amount and pace were also identified.

Overall, prior to treatment, participants' temporal profile included high levels of regret and negativity towards the past. This coincided with preoccupation about the future, in particular fears, worries and anxieties about what might happen. A distinct sense of time passing very quickly, time running out, there never being enough time and associated pressure were reported at the stage of active addiction. There was also a distinct lack of schedule or routine along with a lack of control and sense of powerlessness over time and time management. Importantly, this temporal profile changed considerably by the end of treatment. Those who successfully completed addiction rehabilitation reported a greater awareness of where their thoughts were temporally and a considerable amount of reflections post-intervention focused on recognising the importance and acknowledged benefit of being more 'present'. Comments relating to the future appeared to shift from worries and fears to hopes and goals throughout the intervention. After rehabilitation, participants reported feeling there was more time and experienced time passing more slowly. This furthermore tied in with reports of an increased

sense of control and management over time and routine post-treatment. The data therefore offers insight into the participants understanding of temporality along with experienced modifications during the treatment intervention.

Discussion

This study adds to literature linking time perspective, mental health and addiction. It also answers calls for exploration into the changeability of subjective time perspective specifically in relation to psychotherapeutic intervention (eg. Van Beek, Berghuis, Kerkhof & Beekman, 2011). Largely the TP construct is regarded a stable individual difference variable and investigating and capturing its changeability highlights the novelty of this research.

Associations

Results from the current study support previous research linking TP and mental health relevant to alcohol and drug use (Davies & Kinman, 2012; Beenstock, Adams & White, 2011; Chodkiewicz & Nowakowska, 2011; Keough, Zimbardo & Boyd, 1999; Zimbardo & Boyd, 1999). Specifically, *past-negative*, *present-fatalistic* and *present-hedonistic* views were identified as most significantly positively associated with depression and anxiety. *Future* and *past-positive* TPs were found to have a significant negative relationship to mental health. These findings support previous research in noting state and non-state associative relationships in TP and depression and anxiety. In addition to the correlational investigation the current study aimed to examine how this change occurs specifically in relation to psychotherapeutic treatment for addiction.

Temporal changes and study limitations

During the treatment programme the overall temporal profile shifted from one high in past-negativity, depression, past regret, present-hedonistic and fatalistic views teamed with considerable anxiety about the future, to one that is regarded as more healthy and 'ideal' (Zimbardo, Sword & Sword, 2012). This includes a more positive view of the past, a more hopeful, goal-oriented sense of future, planning, daily routine and more present-time connection to the moment.

The observed changes directly relate to the model of treatment intervention. The programme incorporated a typical mix of treatment approaches incorporating mindfulness, CBT and 12-step philosophy. All of these approaches focus on the 'here and now' and the latter two facilitate a systematic review of the past, relevant to the present and offer positive change potential for the future (Rachman, 1997;

Hawton, Salkovskis, Kirk & Clark, 1989). It could be supposed that the reported temporal change noted is expected from this mix of intervention, however, critically, this study did not control for confounding variables and so cannot state for sure the level of influence the intervention had on the observed change. This could of course be minimised by incorporating an experimental design or recruiting a control group and this is suggested for future research. Other weaknesses of the study include limitation of participant sample and recruitment methods.

Importantly the findings highlight the possibility to significantly alter time perspective and its suggested this is particularly applicable to the temporal related presentation of addiction and therefore addiction recovery.

Further Considerations

The 12-step approach offers considerable challenges of temporality right from the start with notions of shrinking future time horizons for maintaining abstinence ‘one day a time’. It is suggested engagement in the programme offers a ‘new freedom from the past’ (*Alcoholics Anonymous, 2001, p. 83*).

“We will not regret the past nor wish to shut the door on it” (Alcoholics Anonymous, 2001, p. 83).

Past regrets are directly challenged and reconsidered in a systematic process during step 4 of 12 in a similar way to cognitive behavioural therapy. Daily meditation is suggested and supports present-oriented connection to each day and each moment. Present-hedonism time orientation, most synonymous with addiction, significantly reduced as participants engaged in treatment. Present-fatalism did not appear to reduce and as captured by Zimbardo’s time perspective inventory relates to an attitude of powerlessness and a lack of control over ones own destiny. It represents a sense of ones own life being controlled by a greater force. PF can be regarded as a negative construct that relates to health-risk actions however, this notion is actually one encouraged by step 2 of the 12-step approach in order to overcome addiction.

“Step 2 - Coming to believe that a power greater than ourselves could restore us to sanity”

(Alcoholics Anonymous, 2001).

In this context a present-fatalistic view, one in which a belief of a power greater than oneself, perhaps of a spiritual nature, is actually encouraged in order to recover from addiction (*Alcoholics Anonymous, 2001*). Such concept and how it relates to time perspectives and wellbeing is worth more detailed exploration.

Implications for therapy

It is suggested that the findings from this study highlight the associative relationship between TP and addiction and mental health, as well as the overall change in temporal profile regarded as helpful and supportive in facilitating the management and overcoming of active alcohol / drug addiction. This offers important implications for counselling and psychotherapeutic interventions in terms of what kind of temporal profile is associated with clinical presentations specifically the challenges and changes that may be useful in facilitating as part of treatment. Most notably, in the current population this included cognitive readdressing of the past, supporting a mindful connection to the present, anxiety management and shifts from a less fearful view of the future to a more hopeful vision of ahead, one that involves goal-setting and planning. Routine and structure are also regarded as important in treating addiction, as is an increase in a present-fatalistic view in line with step 2 of the 12-step programme.

The findings from this study offer insight into the temporal psychological profile most associated with active addiction/health-risk actions and importantly, how that modifies in order to support positive change and recovery. Findings from both the quantitative and qualitative data suggest time perspectives significantly altered throughout the duration of the residential addiction treatment intervention.

A revised Time Perspective Inventory

Significant negative relationships were found between future time perspective and depression and anxiety, as well as past-negative and present-fatalistic views and supports previous research suggesting FTP as a predictor of healthier lifestyle choices (Anagnostopoulos & Griva, 2012; Zimbardo & Boyd, 1999). FTP positively correlated with past-positive TP, another temporal indicator of positive psychological wellbeing (Van Beek, Berghuis, Kerkhof & Beekman, 2011; Zimbardo & Boyd, 1999). The additional data from the qualitative component however, offered important further insights into the nuance of future time perspective otherwise not captured by the ZTPI. The ZTPI regards future time horizon as a positive construct, describing planning and goal setting however, the insights offered from the current study importantly recognise two distinct notions of future time outlook. One relative to 'hopes and plans' and the other, a more anxious, perhaps less desirable outlook reflecting 'worries and fears'. Similarly with the present-orientations, the ZTPI outlines two notions of present TP with both fairly negative connotations. The findings from the qualitative component of the current research captures a different kind of present, one not synonymous with care-free,

hedonistic or fatalistic views, but instead one that describes a more mindful and connected relationship to the present. Considerable research supports that this kind of present-time awareness associates with more positive mental health, reduced depression and reduced alcohol and substance use (Smith, Ortiz, Steffen, Tooley, Wiggins, Yeater, Montoya & Bernard, 2011; Witkiewitz & Bowen, 2010). These pertinent findings call for a revision and perhaps an update of measures of subjective time perspective in order to incorporate these important additions.

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Part C: Research thesis

An exploration of psychological perspectives of time in addiction and early stages of rehabilitation. A mixed-methods study.

Abstract:

This study employed a mixed methodological approach to investigate time perspectives in a group of sixty-three individuals seeking input for problems with alcohol and/or drug use and subsequently successfully completed a residential addiction treatment intervention. A quantitative scale that utilised Zimbardos Time Perspective Inventory (ZTPI) along with a number of other established measures for related mental health was administered before and after successful completion of the therapeutic treatment. Alongside the scale was an opportunity for participants to add reflections or thoughts on their own experience or relationship to time and thus made up the qualitative research component.

The research was approached in two parts. The first aimed to test two hypotheses relating to relationships between time perspective and mental health as well as exploring alterations in psychological perspectives of time throughout the intervention. It was intended that the second, qualitative component would support and further enhance the findings from the first.

Significant relationships were found between time perspectives and mental health. Significant changes were also reported between pre and post treatment measures. Additional phenomenological reports related to and added to these findings. These results are explored and compared to existing literature. Limitations and suggestions for future research is outlined and implications for Counselling Psychology are discussed.

Introduction

An overview:

The basis of Zimbardos 'Time Perspective Theory' investigated in this study outlines 'time perspective' as a subjective perception that influences individual experience, interpretation, choices and behaviour (Zimbardo & Boyd, 1999; Keough, Zimbardo & Boyd, 1999). Time perspective (TP) captures a psychological profile of ones conscious relationship to time and describes a 'mental landscape' that positions us in relation to the past, present and future (Zimbardo & Boyd, 1999; Savickas, 1991; Lewin, 1951). It is essentially a cognitive frame that serves a psychological function (Zimbardo & Boyd, 1999). Zimbardo and Boyd suggest TP profiles are habitualised and learnt thus creating a temporal bias to the past, present or future and importantly, this dominant time perspective then effectively becomes the lens through which we view the world (Zimbardo, Sword & Sword, 2012; Zimbardo & Boyd, 1999; Lewin, 1951).

The TP construct has been regarded as a fairly stable individual difference variable and certain dominant perspectives of time and temporal profiles have been identified as predictors of a variety of health-risk/protective behaviours and characteristics - in particular and most relevant to the current study - alcohol and drug use, addiction, as well as associated mental health such as depression and anxiety (Van Beek, Berghuis, Kerkhof & Beekman, 2011; Chodkiewicz & Nowakowska, 2011; Erdos, Gabor & Brettner, 2009; Keough, Zimbardo & Boyd, 1999). To clarify, health-risks are defined as an action, pattern of activity or indeed lifestyle that greatly increases the chance of preventable disease or injury – this includes alcohol and drug use, dietary choices, physical exercise habits and sexual health practices (Baban & Craciun, 2007; Steptoe & Wardle, 2004).

Research suggests that those who engage in heavy use of alcohol and drugs tend to have a dominant and strong sense of negativity toward the past and are guilty and

remorseful (Erdos, Gabor & Brettner, 2009; Zimbardo & Boyd, 1999). At the same time, they also tend to be carefree, hedonistic 'party-animals', choosing to 'live for the moment' with very little regard for future consequences (Boyd, Zimbardo & Strathman, 2005; Zimbardo & Boyd, 1999). Previous research from the area of health psychology led to proposals of interventions focusing on the supported increase of future considerations of present actions.

Limited research to date has investigated the role of time perspective in relation to counselling psychology. Research has also largely neglected changeability of the construct, however, studies are beginning to emerge that investigate and observe shifts in temporal experience and will be explored further in this introduction. This study aims to analyse associations and changes in time perspective during a therapeutic intervention for addiction and thus addresses a number of gaps in the existing related research literature. Additionally, it is argued many psychotherapeutic approaches have temporal themes weaved throughout them to varying degrees and that it may be helpful to work more explicitly with this in therapy. The notions of temporality, its application and relevance to addiction and related mental health issues are explored in this paper signifying the relevance between time and counselling psychology.

By its very nature, time is a concept that permeates much of the human psyche and its particular presence in addiction, its role in intervention and recovery is explored in this study.

Time

What is time? An outline:

Before exploring the psychological notion of time, time perspective and its known implications to mental health, it is important to firstly articulate a working definition of 'time' – a task in itself that is problematic. A number of complex

theories exist around time and its truth remains a great debate amongst philosophers, physicists and psychologists. Edward Hall wrote about many different kinds of time in his book “The Dance of Life” (Hall, 1983) which the reader is directed to for more information as it serves a comprehensive basis of key concepts of time, some notions of which are considered relevant to addiction literature and are therefore briefly outlined in this introduction.

The application and use of time:

In the most simplest and everyday sense ‘time’ is regarded a useful measurement. A clock is used to determine passages of time, to organise and indicate the time of day - a practise utilised in ancient eras when sundials were devised for such purpose. These tools have allowed for the development of functional daily, yearly cycles and seasonal periods. Addicted individuals arguably lack routine and structure and the temporal experience of the addict is elaborated on in more detail later in this introduction. Time as a measurement is a useful instrument, however, the very fact that calendar time (eg. Bank holidays, Easter, British summertime) are socially specific and adaptable, demonstrates time in a sense is relative and not absolute. ‘Time’ cannot simply be objective – it is arguably a subjective concept (Osborne, 1995). The everyday functionality of time is essentially used to help position a sequence of events or to determine how long something lasts. It also positions the *past*, *present* and *future* – although how this is viewed directionally is culturally biased and further highlights subjectivity (Levine, 2006; Nunez, 2006).

Linear and Cyclical views of time:

As well as time being a practical clock and calendar instrument other notions of temporality exist, more specifically relating to how time is experienced. Two fundamental ideas regarding the ‘passing of time’ exist namely linear and cyclical. A linear view defines time as a continuous flow in one direction from past, through present, to future, at an unchangeable speed (Hall, 1983). It is a concept that positions a series of events or actions sequentially; in other words having a

beginning, middle and end - a viewpoint heavily embedded within Western culture (Levine, 2006; Hall, 1983).

Cyclical time on the other hand is the view that time goes around and around, repeating in cycles, such as the seasons (or the spiral of addiction). A cyclical view is also perhaps more familiar with religious ideas as captured by the reoccurring nature of the 'wheel of time' (or 'kala'), most noted in Hindu and Buddhist philosophy regarding life and death, reincarnation and karma (Layton, 1994). Cyclical time does not necessarily aim towards an end result as opposed to the one-directional view of linear time. It describes a repetitive cycle of ongoing events (Hall, 1983). These notions both describe a very real, human and conscious experience of lived time.

How *we experience time* in these two fundamental ways naturally impacts on the way we relate to ourselves, others and the world we live in. In his book '*A Geography of Time*' (Levine, 2006) social psychologist Robert Levine observes how temporal experience differs radically across cultures. The linear 'event' view understandably creates feelings of hurry and a 'race against the clock' mostly reported and observed in Western parts of the globe (Levine, 2006). A circular view, more typically associated with Indian and Far Eastern cultures, supports an experience of continuity and markedly less pressure or urgency (Levine, 2006). Oliver James, a clinical psychologist, makes similar observations of how time and timing is experienced differently cross-culturally in his book '*Affluenza*' often with stark variations on aspects of mental health and psychological wellbeing (James, 2007). Research specifically investigating relationships between time, time perspective and mental health are also explored later in this chapter.

Micro time:

The linear and cyclical views of time additionally relate to 'micro' time, another notion described in Hall's '*The Dance of Life*' (Hall, 1983). In essence, the term

points to a cultural understanding and experience of time that differs vastly around the world on a collectivist level (Hall, 1983). A good example is that of the South American Aymara people who understand the future to be behind them and the past ahead thus crucially supporting the idea that time is subjective (Nunez, 2006). From this viewpoint, the notion of time can only be understood within a specific socio-cultural and historical context (Boswood, 2003). Micro time is so deeply embedded in any specific culture it is almost entirely beyond conscious awareness – it essentially forms the way of life (Hall, 1983).

Sync Time:

At an even more micro level is the notion of sync time. It describes individual *rhythm*. The speed and pattern in which activities are performed, communications played out and the general way in which life is organised is highly culturally specific and underpins the notion that time arguably shapes a region and defines a nation and its people (Levine, 2006). Any deviation from the cultural norm inevitably stands out and individuals deemed 'out of sync' are regarded as odd, disruptive or misfits and can lead to societal exclusion (Levine, 2006).

More relevant to the current research, this kind of 'deviation in time' is reported in people with mental health issues and those slipping into addiction. Evidence for this is outlined in the way certain psychological conditions associate with disturbances in time. Minkowski (1923), a psychiatrist and philosopher was one of the first to consider whether distortions in time related to certain symptomology in an article he wrote on schizophrenia. It is now noted that a distorted sense of time is a distinguishable feature of schizophrenia (Skrabalo, 2000). More specifically, in Western cultures, schizophrenics reportedly have an altered sense of time and do not perceive time as a linear, sequential flow of events (Franck, Posada, Pichon & Haggard; 2005). Psychological time is reportedly experienced as passing more quickly than recorded time by people diagnosed with mania and paranoid schizophrenia compared to depressives and non-paranoid states of schizophrenia,

who in contrast, experience time as passing very slowly (Franck, Posada, Pichon & Haggard; 2005; Orme, 1969).

Sync time in relation to psychiatric conditions is an interesting view to consider because if 'norms' are culturally specific deviations from that will differ across the globe and understandably so will the extent one is regarded 'different' or psychologically unwell.

Biological time and Circadian rhythm:

Circadian processes describe an innate 'time awareness' in line with and yet continuing in the absence of external cues (eg. the sun). Biologically, a circadian rhythm describes a natural oscillation of a 24-hour period relating to hormone production and secretion, energy and sleep patterns (Carlson, Heth, Miller, Donahoe, Buskit & Martin, 2007; Toates, 2007).

Relevant to illicit drug use, changes in circadian rhythms have been found to significantly relate to addiction and in particular, disruptions in this natural rhythm are known to increase the effects of cocaine (McClung, Sidiropoulou, Vitaterna, Takahashi, White, Cooper & Nestler, 2005). This highlights a clear connection with time, drug use and addiction in an objective, physiological way. There are emerging links between neurochemistry, psychological time and issues of addiction, although research is currently very limited – further studies are needed. As this current study forms a part of a doctoral portfolio in Counselling Psychology neurological studies are beyond the remit of this research. However, as an additional note, the author supports the view that cognitive neuroscience advances in the understanding of time and addiction, as well as in general psychopathology, needn't be exclusive to the area of counselling psychology. There is a strong argument for a marriage between biopsychology and counselling psychology as not only being possible, but crucial to further inform effective psychotherapeutic practice.

Timing:

An understanding and perception of timing is arguably critical to almost every aspect of human behaviour including development, social interaction and physical activities such as playing an instrument, driving a car and so on. As touched on previously, any deviation to socially devised norms stand out and would typically be regarded 'abnormal' or undesired within a group and this is evident in active addiction. Drugs and alcohol alter perceived time by affecting the speed of our internal clock as well as affecting the amount of attention we pay to it (Odgen, Wearden, Gallagher & Montgomery, 2011; Wittman, Leland, Churan & Paulus, 2007). Individual differences have also been found to relate to timing and time perception. For example, research suggests extroverts are more accurate at time estimations than introverts (Veach & Touhey, 1971). Examples of time-dependant activities also highlight the imperative links between time perception and memory. Remembering the series of actions needed to drive a car requires the accurate recollection of learnt timings, for example safe breaking distances. Without an ability to recall performing most activities would prove very difficult, if not impossible.

Memory and Time:

Unlike memory time does not have a dedicated sensory system. The brains judgment of temporal perception involves a complex distribution across many regions and parts including the cerebral cortex, cerebellum and basal ganglia (Harrington, Haaland & Knight, 1998). The latest advancements in neuroimaging technologies facilitate further knowledge into how time is experienced within the brain however studies in this area are currently in their infancy. Research in this domain offers crucial advances in the understandings of the experience or ability to recall and relate to time in developmental disorders or brain-injured patients.

A demonstration of how the theory of memory and how ones' past link to future expectations was highlighted at the 2011 *Nature of Time* FQXi International Conference where neuroscientist Kathleen McDermott spoke on '*episodic future thought and its relation to remembering*'. The presentation outlined the central relationship between recollection of the past and concurrent ability to project and envisage the future. Specifically, she described a case of 'KC' a man who experienced global amnesia after sustaining a brain injury as a result of a motorcycle accident in 1981. 'KC' has no recollection of the past and interestingly, simultaneously cannot envisage any future, describing every attempt to as a "big blankness" (McDermott, 2011). This example supports the notion of a link in drawing from one's past in order to foresee a future. Without memory, or an ability to recall the past, the capacity to envisage a future is compromised (McDermott, 2011). This is important when exploring subjective views of the past and its potential impact on future outlooks.

Past Recollection and Future Anticipation:

Renowned psychologist and cognitive neuroscientist Endel Tulving describes our ability to recall the past and foresee the future as 'mental time travel' (Tulving, 2002). Tulving coined the term 'episodic memory' to describe the recollections of autobiographical events (Tulving, 1972). This served to outline the distinction between knowing and remembering - the latter being a feeling located in the past (Tulving, 1972). This point from a psychological perspective resonates the importance of how memory provides a crucial link between past and future. Envisaged and future expectations are dependent on the recollection of the past and pivotally, that can be inaccurate or distorted (Tulving, 1983).

Our ability to place ourselves in the past or future has implications for our emotions and mental health (Webster, 2011). It contributes to our sense of self and how we think and feel about past behaviour or events subsequently impacts on decisions regarding future actions (Baddeley, Eysenck & Anderson, 2009). This

understanding potentially offers important insight into the development and maintenance of self-destructive actions like addiction. More relevant to the interventions of Counselling Psychology, there are also possible useful implications as personal narratives of the past can be adapted throughout therapy and may directly impact on psychological wellbeing and how personal futures are envisaged. This concept will be explored further and considered throughout this research. Next, philosophical and cognitive concepts of time are explored in relation to the current study.

Philosophy and lived experience of time:

Philosophical notions of time have influenced psychological concepts of temporality as well as underpinning paradigms of Counselling Psychology and psychotherapeutic approaches. Existential Psychotherapy for example, draws from philosophers such as Heidegger (1962) who notably conceptualised time as being an important psychological function. In one of the most important philosophical works of the 20th century, Heidegger outlines in *“Being and Time”* the fundamental importance of time describing the past, present and future as being distinct, separate entities, yet together forming a unity (Heidegger, 1962). This encapsulates a common understanding today.

Being able to relate to the past ‘in the present’ suggests a view of there *having been*, allowing the past to ‘exist’ in some way in the present time. The subsequent view of the future is then regarded a state of anticipation (Heidegger, 1962). In Heidegger’s *‘Being and Time’* (1962, p139) a notion of a *‘thrownness toward the future’* is proposed. Heidegger describes a *being-towards-end* as an acute awareness of an imminent end to one’s human life that serves as a driving force for how one lives their life and experiences their *present*. Heidegger suggests the extent of thrownness to the future as being heavily dependent on one’s experience and interpretation of the past – again linking important relationships between each temporal dimension.

By being able to recall the past and project into the future, Heidegger also suggests we step away from sequential, linear time (Heidegger, 1962).

How we view and experience time greatly impacts on our psychological experience (Savickas, 1991; Lewin, 1951). If we have a linear view of time, a comprehension of an imminent end, as Heidegger theorised, then it is likely we will be influenced by this view and indeed make choices and behave in ways as a result of that (Zimbardo & Boyd, 1999). This may differ from somebody who believes in a cyclical, continual view of time, life and existence. We all arguably perceive time in a subjective, idiosyncratic manner influenced by socio-historical and cultural norms. Heidegger (1962) outlined that the awareness we have of our own death deeply shapes how we approach and live our lives. This notion was relayed in a psychotherapists account of working with a client who described that they had always been very focused on the future yet upon being diagnosed with a terminal illness had experienced a definitive shift to the present moment, as well as being able to consider her past in ways previously unexperienced (Ellis, 2008, p111). Crucially, this highlights a conscious psychological shift in time perspective in response to heightened awareness of one's own mortality and supports the idea that this psychological function is changeable during therapy. Certainly, research in recent years highlight the significance that subjective time perspective and temporal positioning have on ones psychological experience, mental health and wellbeing and will be specified later in this introduction (e.g. Durayappah, 2011; Drake, Duncan, Sutherland, Abernethy & Henry, 2008).

Cognitive Development and Temporality:

Moving on to a conception of time most relevant to the current study is the applicable cognitive view of temporality. Piaget (1969) and Erikson (1968) proposed time as a functional cognitive structure that develops and adapts throughout the human lifespan. This idea points to time being a linear motion, from child to adulthood and toward end of life (Friedman, 2007). During childhood and

adolescence the formation of abstract notions and symbolic representations (including time) and an understanding of how the past, present and future interrelate are developed (Piaget, 1973). The development of temporal awareness and longer-term memory is typically acquired between the ages of six to eight years (Friedman, 1991). This indicates a cognitive milestone that is learnt, develops and further facilitates a temporal pattern to make sense of the present, orient in the past and anticipate the future (Friedman, 2007). It has been observed that this kind of developmental accomplishment is not so readily experienced in 'disturbed' youngsters (Erikson, 1968). Notably, Erikson (1968) reported what he termed as 'time diffusion' in adolescents with identity disorders. He noted some adolescents were unable to revise the past or create a personal history and simultaneously had great difficulty planning ahead or articulating a sense of future (Erikson, 1968). Changes in time perspective in later life have also been identified as suggested in Erikson's 'Integrity vs Despair' developmental stage when individuals experience a sense of mortality and reflect on their life (Erikson, Erikson & Kivnickal, 1986).

The cognitive view of time perspective forms the basis of Zimbardos Time Perspective theory and related measure that is utilised in the current study. A well-known example that informs Zimbardos idea is a longitudinal study on temporality in school children. In what has since become known as the 'marshmallow experiment', children between the ages of four to six years were offered a sweet treat and told they could either consume it immediately or they could wait a period of time and receive another one (Shoda, Mischel & Peake, 1990). The children who ate the marshmallow immediately were considered *present-oriented* (i.e. focused on immediate gains), whilst those who chose to wait up to twenty minutes were regarded as having a *future-orientation*, (i.e. the children evaluated and recognised the longer-term gains in waiting). When the follow-up study was conducted some ten years later a number of significant and interesting differences were identified between the two groups of children. This included stark variances in academic test results with the future-oriented children performing better than the present-

oriented group (Shoda, Mischel & Peake, 1990). Poorer outcomes were reported in the children who succumbed to earlier temptation including being less able to exhibit self-control in frustrating situations. They also tended to be indecisive and envious (Shoda, Mischel & Peake, 1990). The children who were able to delay gratification later demonstrated more confidence, self-reliance, ability to show attentiveness and stronger planning ability (Shoda, Mischel & Peake, 1990). Longer waiting preferences have also been associated with less substance use at later stages (Ayduk, Mendoza-Denton, Mischel, Downey, Peake & Rodriguez; 2000).

It is noted though that the follow-up measures in Shoda, Mischel and Peakes' study relied on reports from the childrens parents and potentially with scores collected in this manner external perceptions may have influenced findings. More comprehensive results could be obtained by incorporating a number of follow-up measures such as self-report scales and observations. However, the 'marshmallow experiment' proved a crucial contributor to support the idea that time orientation has important implications for cognition, personality characteristics and behavioural choices (Shoda, Mischel & Peake, 1990).

Summary of time:

So far an overview of time has been outlined. The application and practical use of clock time and measures have been explained along with lived experience notions including linear and cyclical, micro and sync time. It is suggested that these are socio-historically and culturally defined and appear to impact on psychological wellbeing. Circadian rhythm and timing have been described together with how they are affected by alcohol and drugs. Memory and the apparent relationship between past recollections and envisaged future are highlighted. Philosophical and cognitive theories of time have been discussed, particularly as they bear relevance to the underpinning of some approaches within counselling psychology.

Consecutively, the next section describes a definition and prominent theories of addiction. Following on from that, the interrelationship between the two concepts is then discussed in relation to and as relevant to the current study.

Addiction

A definition:

Drug and alcohol addiction is an extensive problem around the world with devastating affects on physical and mental health for the afflicted individuals, their family, friends and society at large. The direct impact on NHS services alone has been estimated by the Department of Health at around £3.6 billion per annum (Gyngall, 2011; DoH, 2008). The most common mental health issues related to drink and drug use include anxiety, panic disorders and depression (Kandel, Huang & Davies, 2001; Grant & Harford, 1995). There is a higher risk of suicide and suicide attempts amongst drug users and problem drinkers (Ilgen & Kleinberg, 2011; Wilcox, Conner & Caine, 2004; DoH, 1995). It is crucial that more research is done to investigate the causal, contributory and maintaining factors of this complex problem and that more effective interventions are devised and made accessible to service users. The current study aims, in part, to add to the literature aimed at understanding the psychological framework of addicted adults, specifically in relation to cognitive temporality.

Addiction is described as a ‘compulsive drive’ to seek, take, and recover from drug use (Robinson & Berridge, 2003). It is summarised as: “*the continued, and compulsive use of a mood altering substance or behaviour, despite having obvious adverse affects and/or consequences*” (Angres & Bettinardi-Angres, 2008). The development of addiction can vary in length and severity and the difference from casual substance use is regarded as a pattern of compulsion.²

² by substance the author refers to any addictive behaviour, although this study focuses on alcohol and drug use

The DSM-V includes a combined classification for “Substance-related and Addictive Disorders”. The previous DSM-IV offered no definition for addiction and instead outlined separate alcohol and substance *abuse* and *dependence* (APA, 2013; APA, 2000). The latest definition states this disorder relates to social or interpersonal problems exacerbated by the effects of the chosen substance (APA, 2013).

Diagnostic criteria include: ‘*craving or a strong desire or urge to use a substance*’, plus experiencing ‘*increased tolerance*’, ‘*withdrawal symptoms*’ and an ‘*obsessive*’ and ‘*persistent drive or intention to use, obtain, recover, cut down or control from the substance*’ (APA, 2013).

It is important to point out that clinical diagnosis tends to rely on self-reported disclosures of frequency, quantity and recollection of substance using behaviour which in itself is problematic and unreliable as denial is a core feature of those exhibiting such tendencies (Brady, Verduin & Tolliver, 2007).

Similarly to time, addiction is a highly complex, multi-faceted concern and many theoretical approaches have been proposed to explain such behaviour. Importantly, any dominant view of the etiology of addiction has direct implications for the way it is understood and subsequently treated. Perhaps the most comprehensive view of addiction to date is the bio-psycho-social-spiritual model originally coined by Wallace (1996) as it incorporates the main theoretical elements. Each component is described next, however, given the focus of this paper being on *time* in relation to addiction within the context of counselling psychology only a brief outline and critical appraisal of the main aspects of the model are presented.

The ‘BioPsychoSocialSpiritual’ model of addiction:

Biological perspective:

The American Society of Addiction Medicine (ASAM, 2011) defines addiction as: “*A primary, chronic disease of brain reward, motivation, memory and related circuitry.*”

(ASAM, 2011). Addiction and an addictive disposition affects and is further affected by dysfunctions in neurocircuitry and interactions within the brain's reward structures including memory of previous exposures to 'rewards' (ASAM, 2011, Linden 2011). The memory component leads to biological and behavioural responses to certain external cues (eg. drug of choice) that subsequently trigger and drive obsessive-compulsive desires in the reengagement of addictive activities (ASAM, 2011).

In line with a biological view of addiction treatment would then include medication to directly address brain chemistry and reduce cravings and relapse rates. In clinical trials two of the most popular prescriptions for this use (Acamprosate – A GABA agonist, and Naltrexone – an opiate antagonist) have been shown to significantly reduce the reported occurrence of craving and relapse (Williams, 2005; Mason, 2001). However this success does not come without undesirable side-effects such as anxiety, sleeplessness, headaches and nausea and critically prescription medication is not a long-term solution – this approach effectively replaces one drug for another. Research has indicated the cessation of acaprosate after six months of treatment led to a return of normal relapse rates (Pelc, Le Bon & Verbanck, 1994). Pharmaceutical treatments should ideally be used as a short-term intervention whilst psychological therapy is implemented to address underlying issues.

Psychological / Social influences:

Psycho-social influences go hand in hand as outlined in the prominent model of addiction 'social learning theory' (Bandura, 1977). Therefore the two components are described together here although related interventions differ. Psychological factors linked to alcohol and drug addiction and abuse include: impaired coping abilities, dysfunctional/impaired emotional regulation and/or stress tolerance levels, cognitive and affective dysfunction, particularly a compromised ability to deal with feelings, trauma, reduced social support, interpersonal difficulties, distortion in values, life purpose and subsequent attitudes, thinking and behaviour,

as well as the presence of co-morbid psychiatric diagnosis (ASAM, 2011; Singleton, Bumpstead, O'Brien, Lee and Meltzer, 2001). Psychotherapeutic talking treatments would focus on such applicable issues.

It is important underlying issues are addressed otherwise obsessive tendencies may simply resurface in other area, known as 'cross-addiction' for example, giving up drugs but then taking up gambling (Hirschman, 1992).

The social learning theory proposes human behaviour is influenced by the actions of those around them (Bandura, 1977). According to this theory alcohol and drug use is learnt and developed through observation or 'modelling' and shaped by consequences within the control of the individual (Beck, Wright, Newman & Liese, 1993). This notion highlights the importance of social influences on drink and drug use and importantly have also accounted, in part, for aspects of successful rehabilitation – such as that of the 12-step programme (McCraday, 2008; Miller & Rollnick, 2002).

Spirituality:

A spiritual view of addiction encompasses the 12-step programme that suggests addiction is a result of a 'spiritual malady' (Alcoholics Anonymous, 2001). The 'Big Book' (the main text of Alcoholics Anonymous) point to a spiritual malady as *"being driven by a hundred forms of fear, self-delusion, self-seeking and self pity", "self-will run riot"* (page 62, Alcoholics Anonymous, 2001) and an *"inability to be of real help to others"* (page 52, Alcoholics Anonymous, 2001). This spiritual approach encourages individuals to accept powerlessness regarding control over their addiction and a turning over of will to God or a 'Higher Power' (of individual understanding) in order to achieve and maintain abstinence. Notions of this programme are incorporated into aspects of dialectical behaviour therapy (DBT) - an approach originally developed for Borderline Personality Disorder or emotionally unstable presentations of which compulsive, addictive tendencies are

highly prevalent alongside (Dimeff & Linehan, 2008; Linehan, 2008; Grant, Chou, Goldstein, Huang, Stinson, Saha, Smith, Dawson, Pulay, Pickering & Ruan, 2008).

The 12 step model forms a key part of the intervention applied in this current investigation and the programme is explained in more detail in the interventions section of this chapter where further themes of temporality are explored.

Addiction summary:

In summary, the biopsychosocialspiritual model is a useful and relevant framework that not only helps to sketch an etiology of addiction but additionally outline to clinicians the components involved in the overcoming of addictive behaviour. As addiction is such a complex issue any successful treatment approach is best placed to incorporate a holistic approach considering biological functions, psychological understanding, social influences, and impacts of spiritual views (Wallace, 1996). The current National Institute for Clinical Excellence (NICE) guidelines based on evidence-based research and cost-effectiveness, reflect aspects of this model by recommending harm reduction, opiod substitution and abstinence-based treatment for addressing addiction (NICE, 2007).

Time and Addiction

Having described an overview of time and addiction sequentially, the following section is a more detailed discussion on how the two interrelate. An encompassing view of the temporal experience of active addiction and aspects of time in recovery and at the rehabilitation phase is considered. As some of the following describes the authors experience or views related sections are written in the first person.

The temporal experience of the active addict:

I would like to consider the temporal experience of the active alcoholic or addict based on research and my professional therapeutic experience as a counselling psychologist trainee working with this client group. In general, my experience echoes that of Kemp (2009) that above all others addicted clients are most likely to miss or forget appointments, turn up late, or arrive on completely the wrong day or time. From my practitioner experience consistent temporal themes are also very apparent in this client group. Many describe their days as “chaotic”, “unmanageable” and strikingly lacking in any kind of temporal structure. They report strong reluctance or inability to employ any regular routine or structure to their lives. Life is often described as very circular, reporting a sense of addictive cycles going ‘round and round’ repeating the same patterns of behaviour and feeling utterly confused and in despair about how they are unable to control or change these habits. The structure of a day becomes highly distorted very possibly shaped around the getting and using of the drug of choice. Long and heavy binges into the night directly affect the daily routine thus, as previously described, disrupting circadian rhythms and potentially further alienating users from a typical schedule and social or cultural norms (Kemp, 2009; McClung *et al.*, 2005). More withdrawals from routine can leave addicts vulnerable to increased distortions of time and alienation. There is an intense and overwhelming sense of immediacy and a need for the drug ‘now’. In fact the drug of choice arguably entirely dominates the ‘now’. Some recognise and report feeling shameful, regretful or bitter about the past teamed with great difficulty in thinking about or imaging any sense of future plans or hope. Many describe time as paralleled to their addiction, as an enormous pressure feeling an imminent ‘running out of’ and over concern there is ‘never enough’ and this psychological experience possibly fuels further use as highlighted in the following quote taken from a study exploring temporality in addiction:

“The substance user can be understood as someone trying to escape through drug and alcohol induced ecstasy from a physical and social reality marked by temporal dimensions”.

(Erdos, Gabor and Brettner, 2009).

These clinical observations fuelled a strong interest in exploring temporality in addiction more formally. As a scientist-practitioner my focus draws to the impact of psychotherapeutic interventions and how the parallels of time and addiction can be used to benefit clients. That said, I acknowledge that I approach the current research with my own experience and it is important to reflect on how this may influence the study. These reflections are considered in the methodology section.

Temporal aspects of intervention and recovery:

In contrast to the unmanageable temporal experience of the addict residential rehabilitation programmes are typically pre-determined in length and incredibly structured with almost every hour filled with a range of activities and compulsory routine forming an integral part of the treatment. Implementing a full daily schedule, time management skills, emphasis on the importance of 'being on time' and 'taking time out' are pivotal cornerstones of virtually any addiction treatment programme (Kemp, 2009; De Leon, 2000).

Much of the talking therapy involves discussion and review of personal history and the 12-step programme in particular includes a systematic appraisal of the past together with a strong emphasis on present-time awareness as suggested via regular prayer and meditation (Alcoholics Anonymous, 2001). The 12-step model is an abstinence-based programme and within this approach the focus shifts towards noting and celebrating periods of sobriety or clean time. The days and months of abstinence are rewarded with keyrings or 'chips' and regarded as a key marker for successful recovery. A key focus during residential treatment is on daily routine whilst planning for aftercare, future goals and continued recovery is also considered to some extent. In many ways, notions of temporality are vastly challenged during a residential treatment intervention. The following segments explore in more detail notions of temporality within psychotherapeutic approaches used in addressing addiction including the 12-step model.

Temporality in Counselling Psychology:

Themes of temporality are weaved throughout psychotherapeutic frameworks yet paradoxically, despite the concept being perceptible in dominant counselling modalities the explicit application or use of time as part of, or within psychotherapy is seemingly very limited and unexplored to date. In the following section the effectiveness of each psychological paradigm is explored and evaluated in relation to the treatment of addiction in an attempt to identify temporal-related positions that may hinder or more importantly, contribute toward a valuable intervention.

Psychodynamic theory/ psychoanalysis:

The psychodynamic paradigm is premised on aspects of temporality both in the conscious and unconscious (Ellis, 2008; Freud, 1956). The approach regards that present concerning issues relate to a past 'fixation' or 'temporal freezing' at one or more stages of Freud's (1956) psycho-sexual developmental theory and that this is effectively a function of the ego's defence mechanism (Modell, 1990). Notions of time and its existence are also evident in Freud's psychoanalytic theory such as the 'id' being suspended in the unconscious mind – a *timeless* place (Modell, 1990). Freud suggested the past lives on in the present through the influence of unconscious forces where nothing can be brought to an end, nothing is past or forgotten (Freud, 1921).

In the following quote Freud seems to summarise the difficulty in applying temporal notions to his theory:

"We have learnt that unconscious mental processes are in themselves 'timeless'. This means in the first place that they are not ordered temporally, that time does not change them in any way and that the idea of time cannot apply to them".

(Freud, 1961).

Although temporality is touched on throughout his works Freud neglected to offer any clarity on time or its application to the therapeutic process and little further development has been done in the psychoanalytical field to incorporate this (Ellis, 2008). The underlying notion in psychoanalysis that 'present' issues refer to past 'fixations' arguably positions the temporal vision into a '*present-past*' direction with little '*present-future*' or future consideration. Given the growing body of evidence that suggests a strong relationship to substance use and limited future time horizons it is perhaps little surprise that psychoanalysis is reported as an ineffective approach in the treatment of addiction (Roth & Fonagy, 1996). Current NICE guidelines explicitly state that psychoanalysis is not recommended for the treatment of addiction or drug/alcohol dependence however they do recommend abstinence-based treatment which analyst Carl Jung is credited for the development of the 12-step programme and this model will be explored in more detail shortly (NICE, 2007b).

Existential and Humanistic principles:

Existential and humanistic approaches with their philosophical roots are perhaps the most well positioned psychological framework to facilitate a reflective space for temporality as the approaches centre on the here-and-now, experiential reflection and responsibility with the goal being to help clients free themselves from their self-imposed limitations (Schnieder & May, 1995).

Existential-humanistic theory regards individuals as essentially alone in the world, longing for connection and validation from others (Yalom, 1980). It is supposed that an awareness of this solitude creates anxiety and forms the basis of therapy. Human experience is related to an understanding of time, specifically an awareness of imminent death as described earlier, positioning the focus primarily on the future (Heidegger, 1962). Only by thinking ahead to the future can a client then move backwards to understand the past thus facilitating growth within therapy in the present (Moustakas, 1994). By sharing and processing this during the therapeutic

work it is supposed an authentic self can be reached in the present (Schnieder & May, 1995; Moustakas, 1994). Heidegger (1962) also suggests individual human growth precedes any clock measure and that the internal experience of timing is more important.

Within this framework there is no concise system but a loose set of theories focused on exploring the meaning of life. Therapeutic approaches from this domain are not technique-driven and so pose problems in the measurement of their success in treating addiction. Low reports of life-meaning are associated with substance abuse though and it is argued that increasing sense of meaning in life may be useful in treatment (Nicholson, Higgins, Turner, James, Stickle & Pruitt, 1994; Shedler & Block, 1990).

Humanistic approaches focus on acceptance and growth whilst existential therapy aims for client responsibility and freedom; both aim to increase self-awareness and acceptance. They also therefore aim to address the underlying issues of substance abuse, however, by doing so, may not directly confront the main presenting issue and are perhaps most effectively used in conjunction with other more direct approaches (Barry, 1999).

Cognitive Behavioural Therapy – CBT:

Cognitive behaviour therapy (CBT) is a popular time-limited approach. CBT used for the treatment of substance abuse incorporates the compensatory model suggesting that those with alcohol or drug dependence issues do so in part by having developed maladaptive coping strategies (Parks, Marlatt & Anderson, 2004; Bandura, 1982). The treatment approach is then based on developing effective, healthy coping strategies, self-control capacities and an increased awareness of drinking or drug behaviours (Park, Marlatt & Anderson, 2004).

The focus of much of the model is on the here and now whilst formulating past events within a biopsychosocial framework to aid the clients understanding of how their current issues may have developed and manifested historically (Hawton, Salkovskis, Kirk & Clark, 1989). Simultaneously, consideration of how this affects the present and future is facilitated thus implying a linear view of time. The therapist helps the client understand the link between thoughts, feelings and behaviour with the focus being on how this affects the present and importantly, then to develop useful cognitive and behavioural tools to positively impact the future (Barry, 1999; Rachman, 1997). This effectively places the clients temporal positioning in the present, with directional links to both the past and the future.

Little evidence exists to support the effectiveness of CBT in the sole treatment of substance addiction and NICE guidelines do not recommend this approach for such presentations (NICE, 2007b; Ness & Tian, 2005; Morgenstern, Blanchard, Morgan, Labouvie & Hayaki, 2001). CBT is recommended if a comorbid issue of depression or anxiety exists and the client is abstinent or stabilized on an opioid treatment (NICE, 2007). CBT has been shown to be particularly effective in the management of anxiety and depression alongside substance use disorders (Hides, Samet & Lubman, 2010; Kushner, Sletten, Donahue, Thuras, Maurer, Schneider, Frye & Van Denmark, 2009; NICE, 2007). Serial interventions may leave the client vulnerable to relapse

though and concurrent treatment of substance use and depressive/anxiety disorders are recommended (Kushner, *et al.*, 2009).

One study examined an integrated CBT approach (one that combines treatment for a panic or anxiety disorder *and* alcohol use) and demonstrated that although the prevalence of a relapse was about the same for the 'CBT treatment as usual' and the integrated CBT group, the latter reported taking significantly less alcohol drinks (ie. the relapse was not as severe) and any drinking episode was less frequent (Kushner, Donahue, Sletten, Thuras, Abrams, Peterson & Frye, 2006). This offers some promise in utilising CBT as an integrated tool for dual diagnosed alcohol/drug dependents. In general, studies on the effectiveness of treating comorbid psychiatric issues alongside addiction or substance abuse are sparse and further research is warranted (Ness & Tian, 2005).

More recent third-wave approaches such as Mindfulness Based Cognitive Therapy (MBCT) emphasise connecting more consciously to the present moment and demonstrate some success in treating addictive disorders by helping to decrease cravings and increase acceptance and awareness (Bowen, Chawla, Collins, Witkiewitz, Hsu, Grow, Clifasefi, Garner, Douglass, Larimer & Marlatt, 2009; Zgierska, Rabago, Chawla, Kushner, Koehler & Marlatt, 2009). This type of intervention focuses on a conscious shift in temporality from the past or future to the present and research suggests this practise has a number of positive effects on mental health and psychological wellbeing (Young, 2011; Collard, Avny & Boniwell, 2008). Mindfulness therapy offers benefits in the treatment of addiction when used to treat concurrent mental health issues, such as depression and anxiety (Brewer, Elwafi & Davis, 2013; Brewer, Bowen, Smith, Marlatt & Potenza, 2010). However, this approach omits to appreciate the relationship between each of the perspectives of past, present and future, how they may interact, or any overall profile, that may be relevant in the understanding and treatment of addiction.

Motivational Interviewing:

Motivational Interviewing has been shown to offer some effect for addressing substance abuse and addiction and in stark contrast to psychoanalysis, is primarily *future-focused* (Miller & Rollnick, 2002; Miller, Zweben, DiClemente & Rychtarik, 1992). Originally developed within the health domain for aiding the cessation of undesired health-risk related habits such as smoking, this approach actively encourages the client to consider the longer-term consequences and impact of their current actions on their future therefore facilitating the development of a present-future linear view (Miller, *et al.*, 1992). In this approach the client is supported to develop a future goal, (for example, cutting down their alcohol intake) and any actions that deviate away from that (e.g. frequenting pubs) is then readdressed with the help of the therapist to consider how congruent the current actions are in line with future goals (Miller & Rollnick, 2002). Clients long-term goals in this approach have been found to remain stable yet the difficulty in keeping them in conscious focus is acknowledged and recognised as troublesome for some clients (Kemp, 2009). Those less future-oriented in thinking find it difficult to maintain a consideration of consequences and the therapist helps to support a reminder of their long-term goals (Miller & Rollnick, 2002).

Studies have questioned the long-term effectiveness of MI on the reduction of drug or alcohol use in adolescents (Sussman, Ping-Rohrbach & Spruijt-Metz, 2012). A meta-analytic review indicates that any post-treatment effect size is small (Jensen, Cushing, Aylward, Craig, Sorell & Steele, 2012). This indicates that motivational interviewing can facilitate some small shifts in time perspective (specifically extending future consideration) and this aids healthier choices, but importantly, this is not long-lasting (Jensen, *et al.*, 2012). Changes that are reported are slight and raises the question of what more can be facilitated in order to develop a positive shift away from shortened future time horizon to a more extended one, a longer lasting effect and subsequent reduced substance use.

The 12-step programme:

The 12-step approach is based on the disease model of addiction and regular attendance and engagement in its programme is regarded as successful in the management of addiction (Kaskutas, 2008; Gossop, Stewart & Marsden, 2007; McKellar, Stewart & Humphreys, 2003).

Psychologist William James, regarded as a pioneer of modern psychology, is credited for inspiring this approach alongside analyst Carl Jung (Alcoholics Anonymous, 2001). James first highlighted the significance of 'time perception' in his book *the Principles of Psychology* (James, 1890). In the chapter 'the perception of time' fundamental links were made between memory and a sense of time (James, 1890). Notably, James supports the stance of presentism stating that "*the feeling of past is a present feeling*" suggesting that only the present is real (James, 1890). Jung and James are credited for the formulation '*spiritus contra spiritum*' (Alcoholics Anonymous, 2001). This notion was originally outlined in a letter sent by Jung to Bill Wilson, the founder of Alcoholics Anonymous, translated as essentially '*it takes the spirit of God to overcome the spirit of alcoholism*'. In describing one patient's addiction to alcohol Jung described "*his craving for alcohol was the equivalent, on a low level, of the spiritual thirst of our being for wholeness, expressed in medieval language; the union with God*" (Alcoholics Anonymous, 2001).

The 12-step programme underpins fellowship groups such as Alcoholics (AA) and Narcotics Anonymous (NA) where ex-alcoholics and addicts regularly meet to share their personal experience, strength and hope of 'recovery' from active addiction. AA is the largest alcohol-related self help group in the world and is now the basis of over 250 worldwide fellowships applying the term 'anonymous' including narcotics, gambling, sex and love, overeating and co-dependence to name but a few (Alcoholics Anonymous, 2001; Kurtz, 1997). The only requirement for fellowship membership is 'a desire to stop' and thus with no charges or any other membership requirements, it is a highly accessible approach (Alcoholics Anonymous, 2001).

As outlined in the earlier biopsychosocialspiritual model, 12-step philosophy is positioned by the medical disease model of addiction, regarding recovery as reliant on complete abstinence. This is suggested achievable by consciously connecting to a higher power and living life one day at a time by spiritual principles (Alcoholics Anonymous, 2001). Clearly there are many individuals and clinicians alike that find this model unhelpful and unrealistic. It is argued the disease model is restrictive and suggests only a partial recovery can ever be made as essentially the viewpoint postulates that ‘once an addict, always an addict’ – total change is deemed impossible (Nixon & Solowoniuk, 2008). This is certainly not the experience of many people who have suffered with alcoholism or addiction and second stages of recovery are reported (Nixon & Solowoniuk, 2008; Kasl, 1992).

Exploring the multitude of components regarded as helpful within the 12-step approach is beyond the remit of the current research however investigation into what aspects of abstinence-based treatment seem to aid successful recovery from addiction is warranted. For example notions of powerlessness, spirituality, ‘handing over of self-will’ and ‘helping others’ are included in 12-step philosophy although for the current study the focus remains on its themes of temporality.

Time is evident in the approach from the very beginning with newcomers being encouraged to focus their abstinence and recovery in the *present*, by the means of fellowship slogans such as ‘*one day at a time*’, ‘*24 hour living*’ and ‘*just for today*’. Paradoxically, whilst a sense of focusing on the present reportedly aids abstinence based recovery, research points to the manner of *living for the moment* as a significant factor in fuelling addiction in the first instance and highlights the complexities and parallels of temporality in addiction and recovery (eg. Kemp, 2009; Zimbardo & Boyd, 2008).

Following on from an immediate focus on the present and achieving abstinence

moment by moment, day by day, a systematic review of ones past is suggested in the process of the step work. Meditation practice is also encouraged (Step 11) and thus potentially facilitating an ongoing present-time awareness. Temporality is threaded amongst much of the recovery programme with an emphasis on attending regular meetings at set times, which re-establishes a sense of routine otherwise lost in the chaos of active addiction. 'Clean time' is also considered important and celebrated accordingly. A detailed outline of the 12 Step Programme is available in Appendix A.

With the focus on maintaining abstinence 'one day at a time', the 12-step approach is perhaps the most explicit regarding themes of temporality and interestingly, is arguably the most successful and universally applicable intervention (Kaskutas, 2008; Gossop, Stewart & Marsden, 2007; McKellar, Stewart & Humphreys, 2003).

In summary

As outlined, aspects of temporality are touched on in the main paradigms of relevant interventions. Psychodynamic counselling is deemed unhelpful in addressing issues of addiction, in part, due to a lack of research to support its effectiveness. The present-past direction may be a factor in the unhelpfulness of the approach in opposed to the present and future focus of more effective techniques such as CBT, mindfulness and motivational interviewing. The 12-step programme offers a unique temporal transition in encouraging regularity and present-moment focus, along with a systematic review of the past. Despite evident themes of temporality in these modalities, no specific time-focused intervention is currently proposed.

As outlined, temporality relates to therapeutic approaches and many of the concerns and clinical presentations that bring people to therapy. Psychological perspectives of time associate with mental health-related issues as specified further in the following sections. An established measure of this concept is firstly explored.

Literature Review

Measures of 'Time Perspective':

As time is such an elusive concept, capturing a reliable psychological measure of time perspective is paramount to robust scientific research. A handful of psychometric measures have been designed to capture a quantitative score of psychological perspectives of time although most have focused on a singular temporal dimension thus neglecting to recognise the importance of an overall profile, for example, the Consideration of Future Consequences Scale (Strathman, Gleicher, Boninger & Edwards, 1994), Future anxiety scale (Zaleski, 1996) and present sensation-seeking scale (Zuckerman & Link, 1968). Two scales have been developed to encapsulate other dimensions including *past*, *present* and *future* - most notably, Zimbardo's (1999) Time Perspective Inventory (ZTPI) and Webster's' (2011) Balanced Time Perspective Scale (BTPS). The ZTPI is the only quantitative measure of time perspective to date that incorporates all three temporal dimensions (Zimbardo & Boyd, 2008). This tool has also been applied most widely in psychological research and was therefore applied in the current study. In their 1999 paper, Zimbardo and Boyd theorise that dominant perspectives of time are largely learnt and develop via a variety of personal and social influences and this has important, significant links to mental health including depression and anxiety, as well as personality characteristics such as aggression, conscientiousness and novelty/sensation-seeking traits (Zimbardo & Boyd, 1999).

The ZTPI outlines five dimensions of time perspective; two past, two present and one future. It is proposed that we have an indication of all of the constructs in unity and that an overall temporal profile is developed through experience and cognitive framing. Dominance in each has been shown to significantly reflect certain stable personality characteristics outlined below and is therefore regarded a reliable individual difference variable (Zimbardo & Boyd, 1999). In the following section the

ZTPI and its five sub-scales are explained in order to offer a deeper understanding of the construct and its application.

The ZTPI five temporal factors explored:

Past

Past-negative

A dominant past-negative (PN) TP describes somebody who thinks about his or her personal history in a very bleak, regretful or shameful way (Zimbardo, Sword & Sword, 2012; Zimbardo & Boyd, 1999). It represents a person who thinks about the bad things that have happened (Zimbardo & Boyd, 2008). Understandably a dominant past-negative view most highly relates to depression, suicidal ideation, low levels of self-esteem and higher reports of aggression, impulsivity and anxiety - characteristics that are all linked to alcohol and substance abuse (Van Beek, Berghuis, Kerkhof & Beekman, 2011; Laghi, Baiocco, D'Alessio & Gurrieri, 2009; Zimbardo & Boyd, 2008; Kandel, Huang & Davies, 2001; Zimbardo & Boyd, 1999; Grant & Harford, 1995).

Past-positive

In contrast, a person with a strong past-positive (PP) view will tend to readily recall fond memories of times gone by and will talk cheerily about 'the good ol' days' (Zimbardo, Sword & Sword, 2012; Zimbardo & Boyd, 1999). PP is associated with positive mental health, self-esteem and responsible health actions (Hamilton, Kives, Micevski & Grace, 2003). A past-positive time perspective significantly negatively relates to many of the past-negative associated factors highlighting complete oppositional characteristics between the two past temporal views (Zimbardo & Boyd, 1999).

Present-orientations

Within Zimbardo's Time Perspective Inventory, two types of present orientations are proposed – both relating to a focus on living in the '*now*' although with slight variations.

Present-Hedonism

A dominant present-hedonistic (PH) time perspective is synonymous with a 'living for the moment', thrill, sensation and pleasure-seeking attitude (Zimbardo & Boyd, 1999). High scores of PH also relate to a curious, explorative nature (Kashdan, Rose & Fincham, 2004), substance use (Fieulaine & Martinez, 2011) and life satisfaction (Boniwell, Osin, Linley & Ivenchenko, 2010).

Present-Fatalism

Similarly to PH, present-fatalism (PF) is associated with a strong sense of immediacy, however, with notable pessimism, a lack of focus, sense of little control and is highly associated with self-destructive actions and suicidal ideation (Van Beek, Berghuis, Kerkhof & Beekman, 2011; Zimbardo & Boyd, 2008; Zimbardo & Boyd, 1999). People high in present-fatalism TP are likely to have the helpless view '*what will be, will be – so there's no point in trying*' (Zimbardo, Sword & Sword, 2012). PF is also linked to alcohol and drug use (Daugherty & Brase, 2010).

The difference between the two present-orientations are most notably that present-hedonism represents a carefree, self-indulgent, 'party animal' type mentality whilst present-fatalism is related more to a negative, powerless and helpless outlook (Zimbardo, Sword & Sword, 2012).

Importantly, generally people with dominance in either present-focused time perspective tend to disregard future consequences and are less likely to plan for the

future (Zimbardo, Sword & Sword, 2012; Zimbardo & Boyd, 1999). Additionally, they are more prone to engage in risky behaviours including gambling, alcohol and drug use (Zimbardo & Boyd, 2008; MacKillop, Anderson, Castelda, Mattson & Donovan, 2006; Zimbardo & Boyd, 1999).

Future time perspective

A future focused time perspective (FTP) has received perhaps the most attention to date in psychological research initially and predominantly from the field of Health Psychology.

A dominant future time perspective has been found to significantly relate to many positive characteristics such as healthy lifestyle (Daugherty & Brase, 2010), conscientiousness, an ambitious drive to achieve long-term goals, ability to plan and an increased ability to delay gratification (Zimbardo & Boyd, 1999; Shoda, Mischel & Peake, 1990). It is a temporal perspective most often positively associated with high achieving, positive mental health and health-protective choices like condom use (Anagnostopoulos & Griva, 2012; Protogerou & Turner-Cobb, 2011; Dilorio, Parsons, Lehr, Adame & Carlone, 1993), safer driving (Keough, Zimbardo & Boyd, 1999) healthier eating choices and BMI (Adam & Nettle, 2009).

In contrast, studies link a shortened future time horizon – a restricted ability to imagine or foresee future situations or consequences – to a significant reduction in regard for outcome of current actions and therefore unsurprisingly significantly relates to increased health-risk behaviours including alcohol and drug use, substance abuse and heroin addiction (Beenstock, Adams & White, 2011; Apostolidis, Fieulaine, Soule, 2006; Keough, Zimbardo & Boyd, 1999; Petry, Bickel & Arnett, 1998).

Research investigating Time Perspectives

As previously explained, research investigating time perspective have largely derived from the domain of health psychology and have proved helpful in identifying predictive factors of health-related choices as well as general wellbeing. Much of the earlier research in this area focused on the importance of the future perspective. This was, in part, because studies had relied on the early future time measure - the Consideration of Future Consequences Scale (CFC), (Strathman *et al.*, 1994). Findings contributed to the development of intervention approaches such as motivational interviewing, that involve the conscious attempt of increasing a consideration for future effects, plans and goals and thus attempting to reduce current health-risk and simultaneously increase health-protective actions (Hall & Fong, 2003; Miller & Rollnick, 2002).

Principally, early research in this area sought to further validate the future dimension of the ZTPI – thus failing to consider or recognise any usefulness of other perspectives, or indeed any significance of the relationship and dynamic interplay between them. A growing body of research now demonstrates the importance of past and present time perspectives, particularly in relation to predicting depression, anxiety, emotional instability, and alcohol and drug use (Davies & Kinman, 2012; Pluck, Lee, Lauder, Fox, Spence & Parks, 2008; Keough, Zimbardo & Boyd, 1999). Furthermore, despite associations with mental health and allied issues, very little research has been conducted to date that explores the ZTPI from the field or perspective of counselling psychology in considering its relevance to mental health or application in therapy.

Recently however, few studies have begun to explore psychiatric contexts although findings are currently very limited despite strong associations between temporality and psychological symptomology, for example schizophrenia (Franck, Posada, Pichon & Haggard, 2005; Davalos, Kisley & Ross, 2003) and attention-deficit hyperactivity disorder (ADHD) (Kerns, McInerney & Wilde, 2001). One study by Van Beek, Berghuis, Kerkhof and Beekman (2011) compared time perspectives as

measured using the ZTPI and psychopathology in thirty-two individuals receiving psychiatric treatment for 'personality problems' against a convenience sampled control group consisting of forty-four participants not receiving treatment. As well as significant differences found between the two groups in time perspective and mental health, the findings specifically indicate strong significant positive relationships between measures of psychopathology; neuroticism, depression and suicidality with a dominant past-negative time perspective (Van Beek, Berghuis, Kerkhof & Beekman, 2011). Past-negative time perspective was reported as most highly indicative of psychiatric problems whilst present-fatalistic view also showed moderate relationships with neuroticism, depression and suicidality. In contrast, past-positive time perspective significantly negatively related to indicators of mental health problems (Van Beek, Berghuis, Kerkhof & Beekman, 2011). No significant relationships were found between mental health indices and either a present-hedonistic or future time orientation, again, suggesting that the future perspective is not as pivotal as perhaps initially regarded in earlier research. The study data was cross-sectional and so did not evaluate any changes between pre and post treatment outcome that could have yielded some important findings and this is an aspect of the research design the current study aims to address.

Overall, studies that have considered mental health measures in relation to TP tend to be of a descriptive cross-sectional nature and outline temporal features in relation to 'state' or 'non-state' psychiatric conditions. The author could find no published research paper at the time of writing that has scientifically investigated how time perspectives, as measured using the ZTPI, may alter in relation to mental health or psychotherapeutic intervention. This search included the use of EBSCO services and PsychINFO, and PsychARTICLE extensive databases as well as consultation with the committee of the international ZTPI time perspective research group.

One publication however, does report on trials currently being conducted on supporting the facilitation of conscious shifts in time perspective within a particular client group, namely ex-war veterans and those experiencing trauma symptoms and PTSD (Zimbardo, Sword & Sword, 2012). The work of psychologists Richard and Rosemary Sword essentially focuses on the explicit and conscious 'positive reframing' of one's time perspective particularly in relation to the past (Zimbardo, Sword & Sword, 2012). In their book *'The time cure – overcoming PTSD'* the authors explain they regard everybody as having a unique time perspective profile and that this significantly affects how one views and experiences their world (Zimbardo, Sword & Sword, 2012). They state that those with PTSD are heavily weighted with a dominant past-negative view with a simultaneous limited future time perspective. Crucially, the authors regard that *'we always have a choice'* the key stance of the therapeutic approach being that regardless of any current dominant TP profile it can be changed – and that *"by changing our time perspective, we can change our lives"*, (Zimbardo, Sword & Sword, 2012, p.24).

By cognitively readdressing how one views negative aspects of their past (eg. a traumatic event) and thus actively facilitating a more positive reframing of previous events and experiences, the authors claim a 'brighter future' is more easily accessed (Zimbardo, Sword & Sword, 2012). The therapists report that all thirty-two veterans they worked with therapeutically in this manner reported a significant decrease in anxiety, depression and PTSD symptoms (Zimbardo, Sword & Sword, 2012). In essence, the approach involves helping clients to reframe traumatic events or experiences that had led to diagnosis as 'positive learning experiences' and opportunities to grow from. This positive cognitive reframing is regarded as being key to shifting to a more useful temporal balance and in turn, positive mental health. This technique may in principle appear simple yet not only have positive effects been shown from this model, the authors claim the benefits appear to be long lasting (Zimbardo, Sword & Sword, 2012).

The work of Zimbardo and Swords on consciously supporting an explicit change in temporality in the treatment of a psychological condition is the only approach of its kind to be found to date. The application is in very early stages and with incredibly limited research, currently only reported by the practitioner theorists and originator of the scale. Either way this novel approach demonstrates that a dominant TP may be changed with the aid of a psychotherapeutic intervention for more positive mental health outcomes and underpins the interest of exploration in the current study.

Research most relevant to the current study: Time in Addiction

Aside from the studies already outlined, very limited research could be found regarding 'time' *and* 'addiction' although some literature has been written that has sought to gain a phenomenological understanding of the subjective, idiosyncratic experience in a psychotherapeutic context as described earlier (eg. Kemp, 2009; Ellis, 2008). Only one qualitative research paper could be found (at the time of writing) that investigates how this might change at an intervention phase. Two other studies capture quantitative measures of time perspective in relation to addiction rehabilitation in a cross-sectional manner. These three research papers, outlined below, were published within the last few years, further highlighting the novel interest in this area.

The first study conducted in Poland analysed the dominant time perspectives of one hundred and sixteen men and women commencing therapy for alcohol addiction and found, as anticipated, those entering treatment were predominantly focused on the past, and simultaneously, scored high on present hedonist and fatalist dimensions (Chodkiewicz & Nowakowska, 2011). These findings support the notion that past, and present hedonistic/fatalistic views highly and significantly associate with alcohol and substance use. The research also found that the alcohol addicted patients scored low on future temporal horizons when entering treatment for addiction. As a criticism, the 'temporal orientation questionnaire' used in the Polish

study does not distinguish any differences in positive or negative orientations in past perspectives like the ZPTI does and so it is not clear how the participants related to their past particularly. Additionally, the research did not repeat any measures of the participant scores throughout or at post treatment and so failed to offer any insight into the changeability of time perspectives during the intervention. However, overall the study further supports existing literature on predictive temporal dimensions and addiction.

Davies and Kinman (2012) conducted a quantitative cross-sectional correlational study exploring time perspectives, as measured with the ZPTI, in a group of a hundred and one recovering alcoholics recruited as members of Alcoholics Anonymous (Davies & Kinman, 2012). The study investigated relationships between time perspective, self-reported compulsive desires to drink, anxiety and spirituality. Moderate positive significant relationships were found between past-negative, present-hedonistic and present-fatalistic TP and measures of anxiety and compulsive desires to drink. The PN, PH and PF time perspectives also demonstrated significant negative relationships to indicators of successful rehabilitation: length of abstinence and spirituality and thus offers an important insight into the role of time perspectives in recovery for alcoholics engaged in a 12-step programme (Davies & Kinman, 2012). No significantly strong relationships were found between a future TP and measures for successful rehabilitation suggesting that perhaps this perspective is not as key to cessation or health-protective behaviours as previously proposed in earlier health psychology literature. The limitations of this study include, again, the cross-sectional design and thus failing to analyse any changes throughout a recovery process as well as disregarding the capturing of any phenomenological component that may have elaborated findings.

Erdos, Gabor and Brettner (2009) sought to investigate temporal perspectives in the discourse of recovering addicts completing a year-long involvement in an abstinence-

based treatment community. The research employed content analysis methodology to analyse recorded speeches made by patients at both *pre* and *post* stages of participation in a Hungarian based addiction intervention (Erdos, Gabor & Brettner, 2009). Stark temporal shifts were found in recovering addicts throughout the intervention that, importantly, were *not* found in those participants who later relapsed. This suggests that certain shifts in time perspective relationships relate to successful rehabilitation and may aid recovery from addiction (Erdos, Gabor & Brettner, 2009).

Other observations made in the Hungarian study included graduates relating to their past in very different ways to those who relapsed (Erdos, Gabor & Brettner, 2009). Those more able to state specifics and recall past events with detail were found to have more successful outcomes. Participants less successful in addiction recovery tended to speak very vaguely or referred to the past more generally. The identification of present or retrospective '*turning points*' (ie. able to leave the past behind and start again in a sense) – in essence 'detaching' from ones past - were also referred to by graduates, but critically were absent in those who later relapsed. Those who relapsed also seemed to favour *linear* time views in opposed to *cyclical* notions – the latter being virtually nonexistent in either speech of the less successful participants (Erdos, Gabor & Brettner, 2009). This suggests a cyclical view of time as linking to successful rehabilitation outcomes from addiction.

Additional notable features from Erdos, Gabor and Brettners insightful study include reference to ones 'present'. Relapsing participants spoke very vaguely and generally about their present and sense of 'being present' whilst addicts later experiencing more success in abstaining from drugs or alcohol would speak about specifics regarding what was happening presently or how they were feeling in the 'now' (Erdos, Gabor & Brettner, 2009).

Many of the introductory speeches made at the beginning of the addiction treatment omitted any reference to the future. If any mention was made at all it tended to be brief and vague closing gestures such as “I hope I can be successful” (Erdos, Gabor & Brettner, 2009). Notions of future time perspective analysed again at graduation stage revealed that relapsing participants seldom spoke about future goals or aspirations however, more than half of the addicts who remained abstinent referred to anticipations and plans for the future (Erdos, Gabor & Brettner, 2009).

Importantly, and relevant to the current study, the coding results in the qualitative research demonstrated that twenty-six recovering addicts talked about notions relating to ‘*anticipating the future based on past experiences*’ whilst none of the addicts who later relapsed mentioned this in their graduation speech (Erdos, Gabor & Brettner, 2009). Crucially, this indicates that some development and demonstration of relating ones past to the future is indicative of success in addiction recovery. The study provides a useful exploration of temporality in addiction intervention, however a key criticism of this study is that it did not employ any standardised scientific measure of time that may have offered more conclusive findings, with less risk of researcher bias. Also, the period of time analysed in the study was a year-long and subsequently fails to indicate the initial or specific timescales of pivotal temporal change.

Rationale for the current research

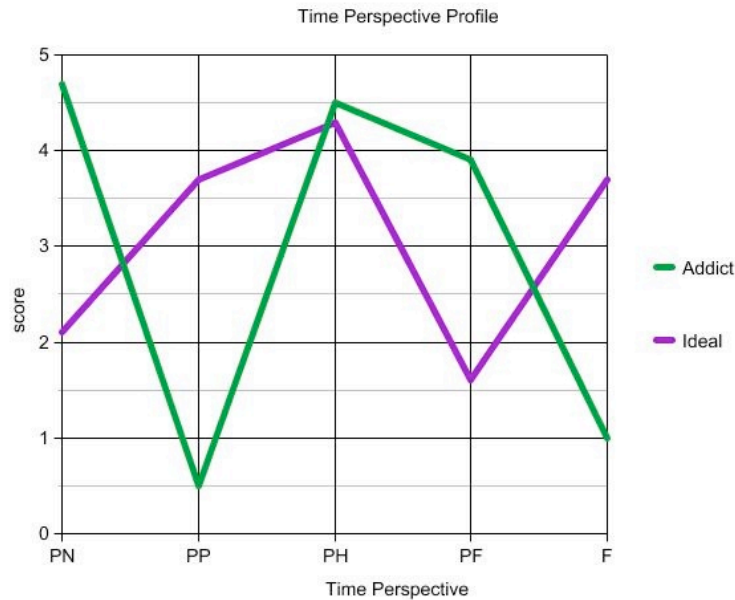
Given the temporal notions inherent within addiction I believe there is great scope to apply a focused approach in the treatment of this presentation. The current study aims to investigate the predictive time perspective profile of an active addict and consider how this may begin to change in early recovery to further inform the idea of how this may be useful to consider and apply in psychotherapeutic intervention.

Previous findings indicate the overall time perspective profile of an addicted individual as being one high in past-negativity as this has been shown to

significantly relate to alcohol, substance abuse and addictive tendencies as well as associated characteristics including depression, anxiety, compulsivity and less successful outcomes in rehabilitation (Davies & Kinman, 2012; Chodkiewicz & Nowakowska, 2011; Zimbardo & Boyd, 2008; Kandel, Huang & Davies, 2001; Grant & Harford, 1995). A past-positive TP is regarded an oppositional construct to past-negative, those engaging in health-risk actions tend to be low in past-positivity (Zimbardo & Boyd, 1999). Strong present-hedonistic and present-fatalistic time orientations also significantly correlate with drug and alcohol consumption and less successful recovery outcomes (Davies & Kinman, 2012; Keough, Zimbardo & Boyd, 2008; Apostolidos, Fieulaine, Simonin & Rolland, 2006; Henson, Carey, Carey & Maisto, 2006). A large body of research suggests a limited and shortened future time horizon correlates to higher self-reported levels of smoking, alcohol and substance use whilst in contrast, an extended future view relates to healthier, health-protective choices and conscientiousness (Apostolidis, Fieulaine, Soule, 2006; Apostolidos, Fieulaine, Simonin & Rolland, 2005; Wills, Sandy & Yaeger, 2001; Keough, Zimbardo & Boyd, 1999; Zimbardo & Boyd, 1999). This overall temporal stance of addiction is one high in past-negativity (PN), present-hedonistic (PH) and fatalistic (PF) views and simultaneously low in past-positive (PP) and future (F) perspectives. This is in stark contrast to the theorists' proposed 'ideal' time perspective for mental well being which is low in PN and PF and high in PP, PH and F (Zimbardo, Sword & Sword, 2012).

Figure 1 is a visual representation, based on previous research regarding the expected overall time perspective profile of a person most likely to engage in substance abuse or addictive behaviours compared to that of the proposed healthy 'ideal' TP profile (Zimbardo & Boyd, 2012).

Figure 1: Overall Time Perspective Profile of active addiction compared to proposed ‘ideal’.



(‘ideal’ data as of 17th September, 2013) Source: Time Paradox, 2013.

As can be seen in figure 1., the addict is likely experiencing an oppositional temporal perspective than that of the proposed ‘ideal’ viewpoint in almost every construct except the present-hedonism where the scores are similar.

The predictive quality of time perspective in relation to mental health and health behaviours is useful and informative, however, little scientific research has yet explored the role of time perspective in rehabilitation or at an intervention stage aside from Swords early reports on work with ex-war veterans experiencing PTSD (Zimbardo, Sword & Sword, 2012). Studies into substance and alcohol use have also largely failed to incorporate temporal aspects of the past, focusing instead on future and present domains. In order to gain a full and comprehensive understanding of this concept in addiction, studies should include the whole linear temporal landscape.

The current study addresses the aforementioned criticisms by aiming to capture a comprehensive measure of time perspective by utilising the ZTPI scale designed to

measure past, present and future temporal dimensions as well as incorporating an additional phenomenological response of experience and relationship to time. Further to the limitations of the three relevant studies previously mentioned, the current research employs a mixed methodology and seeks to observe changeability within a short-therapeutic timeframe, using a within subjects repeated measures design. As yet, no study could be found that analyses temporal change in this way, specifically in relation to addiction and/or associated treatment intervention. The current study investigates time-related profiles in a group of addicts entering a typical residential treatment programme incorporating an abstinence-based 12-step model and CBT therapy.

Summary

To summarise, an outline of the main theories of 'time' and addiction have been described in this introduction. The temporal experience relative to active addiction, recovery and rehabilitation has been discussed. Principal counselling psychology modalities have been explored specifically in relation to themes of temporality and reported effectiveness in treating addiction-related presentations. It is stated that whilst almost all psychotherapeutic paradigms seem to touch on notions of time, no single therapeutic intervention offers guidance or facilitation in the explicit use of temporality as part of a psychotherapeutic intervention. The only approach known at this stage applying such idea is Swords (2012) novel work on treating PTSD with a 'time perspective therapy' and it is reported that this approach is demonstrating some positive results (Zimbardo, Sword and Sword, 2012). An overall 'time perspective profile' of the active addict has been proposed and this is in vast contrast to the theorists suggested 'ideal' time perspective (Zimbardo & Boyd, 2012).

As time perspectives have been indicated as a valid predictor of substance-using behaviour it is argued this may also be a useful psychological component in aiding the cessation of such health-risk actions. Numerous studies have reported

associations between time perspective, mental health and substance abuse, yet very few have considered the *changeability* of the temporal construct during a rehabilitation phase or therapeutic intervention. It is theoretically plausible that explicitly facilitating a conscious shift in time perspective or an overall TP profile is potentially useful in aiding more positive mental health and perhaps, specifically supporting addiction recovery. The aim of the current research is to explore this further and investigate what changes, if any, occur in time perspective in the early stages of an addiction intervention in order to discuss potential outcomes and implications of this.

No study could be found at the time of writing that investigates the changeability of time perspective using the ZTPI and furthermore, little research could be found on this construct from the field of counselling psychology. Three relevant studies have been outlined that investigate temporality in addiction yet none of them employ a mixed methodological approach.

Given the complex and elusive nature of both *time* and *addiction* and the overall research aim being to explore what works, it was felt an integrated investigation would be best placed to offer the most comprehensive insight into the role of time perspective at an early intervention stage and to address the research question with methodological research rigor. Further justifications for this approach are made in the methodology section.

Overall, it is argued that investigation regarding temporality in addiction and how this may begin to change in early recovery is a warranted novel research area and addresses a number of gaps in existing literature.

Based on previous research outlined in this introduction, the findings point to a number of hypotheses:

Hypotheses:

H¹. Significant relationships will exist between Time Perspectives and three mental health factors associated with addiction; anxiety, depression and compulsion.

H². Overall 'time perspective' will significantly change between pre and post treatment measures.

In addition to the testing of the stated hypotheses, an exploration of a phenomenological nature is included in this study to support and further enhance the findings.

Research Methodology and Epistemology:

Background and overview:

The primary aim of this research is to investigate psychological ‘time perspectives’ in relation to addiction and allied mental health and more specifically, how this may alter during an addiction treatment intervention. The study answers calls for research into the possible changeability of the TP construct, generally regarded a stable individual difference variable (e.g. Van Beek, Berghuis, Kerkhof & Beekman, 2011; Zimbardo & Boyd, 1999).

Addiction is proposed as a pertinent area in which to investigate time perspectives due to previous research outlined in the introduction linking certain dominant time perspectives to compulsive risk-taking behaviours including alcohol and drug use (Keough, Zimbardo & Boyd, 1999). As well as substance use and addiction, allied issues of depression and anxiety have been linked to a distinct time perspective profile characterised by high levels of negativity toward the past, strong present-hedonistic and fatalistic views and a shortened future time horizon (Beenstock, Adams & White, 2011; Fieulaine & Martinez, 2011; Zimbardo & Boyd, 2008).

Similarly, an optimal time perspective profile is proposed by the theorists depicted by low levels of past-negativity, together with strong past-positive, present-hedonistic and long-term future views and a low score in present-fatalism. This kind of temporal view is most associated with positive mental health, self-esteem and healthy lifestyle choices (Zimbardo, Sword & Sword, 2012; Hamilton, Klives, Micevski & Grace, 2003).

The explicit and implicit notions of temporality weaved throughout some of the most successful treatment interventions for addiction and allied mental health issues – namely 12-step philosophy and Cognitive Behavioural Therapy (CBT) – have been explored in the introduction and as explained, indicate aspects of

temporality as being an important psychological construct and therefore of relevance to the field of Counselling Psychology.

In the following section an overview of the chosen methodology and epistemological positioning for the study is presented. The virtues of the chosen approach are explored. The adopted and related tools for data collection and study design including consideration to ethics are then detailed. Personal reflection are offered throughout and where applicable are written in the first person.

Personal reflexivity in relation to the research and methodology:

Willig (2008) suggests considering ones own role as a researcher as part of the initial research process, and proposes a number of questions including '*What assumptions have I made?*' and '*What kind of knowledge do I aim to produce?*' (Willig, 2008). These considerations served as a helpful and important first starting point in this project as by being posed with the above questions I acknowledged, as a researcher, that I am already assuming that both the concepts of 'time' and 'addiction' *exist* and are *experienced* in some way. In explaining how I came to be interested in time perspectives, specifically in relation to addiction, I hope to acknowledge my viewpoint and how it may affect the research and my relationship to it and vice versa (Gough, 2003).

I have always been fascinated by time yet my curiosity of its existence and use in a therapeutic context arose from experiences during training. Primarily, as a practitioner psychologist, my observations of issues around temporality within therapy was very noticeable to me and sparked my interest. Most notably this seemed particularly prominent with individuals seeking therapy for addiction or self-harm issues (as described in '*the temporal experience of the active addict*' section in the introduction). Many describe a distinct inability to envisage any hope or possibility for the future possibly due (as some theorys suggest) to dominant negative recollections of their past – thus suggesting a key link between the two

temporal dimensions. I noted client relationships to time, their past, present and future and witnessed this seeming to shift throughout the therapy without necessarily addressing it directly. Interestingly, many addicts I have worked with and spoken to in both a professional and personal capacity, report profound shifts in their relationship to and experience of time as they recover from addiction. I therefore acknowledge I address this research question with views and experience to encourage and support the idea that time is an apparent feature in relation to addiction. As previously detailed, research suggests time perspective is a valid predictor of alcohol and drug use, however, as a counselling psychologist, my immediate thoughts turn to “and then what..?” I wondered about therapeutic input, rehabilitation and the recovery phase and how that might relate to temporality, particularly as contrasting temporal profiles are linked to mental wellbeing and healthier lifestyle choices. My attention shifted to “what works?” and this approach to the query falls in line with the chosen epistemology.

In approaching this research I was wary of impressing my experience and narrative onto any interpretation of findings and it’s important to consider this when designing investigation methods (Willig, 2008). In some ways, this concern influenced the design of the research methodology but otherwise I used supervision and personal writing in order to reflect on this and to attempt to distinguish and separate my own view with the research as much as possible. Furthermore, in keeping with my preferred therapeutic model of a person-centred approach I endeavored to maintain focus on the experience of the participants. I do however acknowledge I expect the findings from the current study to echo the clinical observations outlined and perhaps reveal more detail about this phenomenon. As a result, I deliberately chose to recruit participants from a centre where I did not work or have any therapeutic involvement in, thus avoiding any possibility of directly introducing or highlighting themes of temporality during the intervention or having the research influence my practice.

Due to the arguably subjective nature of both concepts I aimed to produce and capture an overarching, comprehensive evaluation incorporating both a generalised and quantifiable measure to form the focus of the study as well as more personal phenomenological accounts. The first part of the study is a testing of hypotheses using an established and validated quantitative scale. This data-driven approach can reduce researcher bias as the findings rely on indisputable statistics (Coolican, 2004; Tashakkori & Teddlie, 2003). The second part of the study measure includes a brief qualitative component analysed using thematic analysis, an approach less focused on interpretation.

Thematic analysis involves the coding of data without trying to fit it into any pre-determined frame and would therefore add a rich phenomenological element to meet the primary aim of attempting to provide a comprehensive response to the research question whilst aiming to reduce researcher interpretation or bias. However, it is worth noting that despite these attempts to reduce researcher influence

“researchers cannot free themselves of their theoretical and epistemological commitments and data are not coded in an epistemological vacuum”

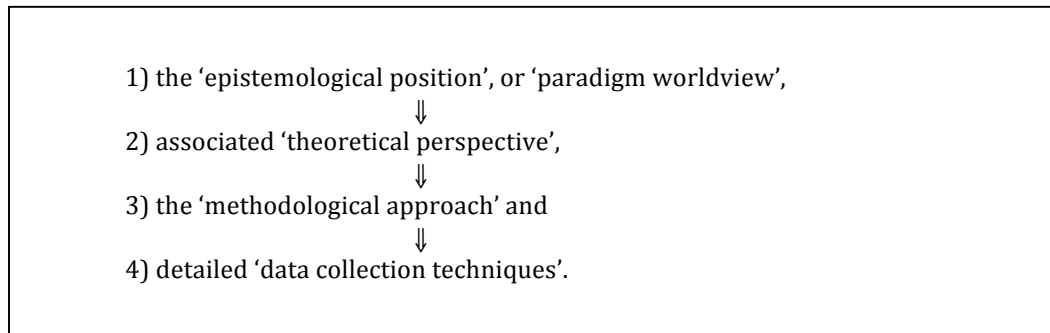
(Braun & Clarke, 2006, p. 84).

This highlights the importance of a reflective and aware approach in data analysis even with the small component utilised in the current study. As well as keeping a reflective journal, I also found discussions with my research supervisor helpful to develop clarity about my role as a practitioner and researcher and more specifically, to help design the qualitative query in an open and neutral way.

Further considerations in the development of the research:

Reference was made to the systematic ‘four levels’ approach outlined by Crotty (1998) when considering how best to address the research question. Crotty describes that when planning research attention needs to be given to the following four distinct aspects and how they each influence the other:

Figure 2: Crotty four levels approach in designing research



Source: Crotty (1998).

The original research question centred on “how do time perspectives change?” and reverting back to this aided the identification of the epistemology, methodological approach and design and data collection techniques. The overall aim of the study is to investigate time perspectives and addiction and early stages of addiction recovery specifically in order to a) support and further develop previous research, b) ascertain if additional clinical observations were scientifically meaningful or relevant and c) investigate the changeability of the TP construct (something that has so far been neglected in psychological research to date). I also endeavor to investigate and consider any potential implications or use of temporality within psychotherapeutic approaches of counselling psychology.

Rationale and reflections on a Mixed Methodological investigation:

This study primarily seeks to test the idea of associations and changeability in ‘time perspectives’ as measured by Zimbardos Time Perspective Inventory ZTPI (Zimbardo & Boyd, 1999). In addition, the investigation also endeavours to capture the ‘voice’ of the participants and includes a phenomenological element to support and further enhance the findings from the first part; therefore a mixed methodology is necessary. As outlined in the introduction section, a small number of separate, either quantitative or qualitative studies have been conducted to examine time perspectives in alcohol/drug user samples, however, no single research that has combined the two methodologies concurrently could be found at the time of writing.

The current study attempts to address this gap in the literature by employing a mixed methodology to analyses time perspective and specifically, how this may change during an intervention with one group of participants undergoing addiction treatment. This is primarily investigated with the use of the ZTPI scale.

Consideration was given to the fact that the very use of this validated measure indicates a researcher bias to some extent and relies on a cognitive linear view of temporality, however the ZTPI is the most widely used and comprehensive measure of time perspective used in psychological research to date and forms an integral focus of the investigation. This approach aims to deepen the understanding of temporal experience within the area of addiction and specifically in early rehabilitation.

Because of my acknowledged views of time, its role in mental health and addiction - developed, in part through my experience as a psychotherapeutic practitioner – a mixed methodological approach was regarded the most suitable means to attempt to reduce researcher bias influencing any interpretation of results as can sometimes be the case with purely qualitative designs (Coolican, 2004; Tashakkori & Teddlie, 2003). The following quote summarises the importance of such an approach:

“Scientific research needs to be seen for what it truly is; a way of preventing me from deceiving myself in the regard to my creatively formed subjective hunches which have developed out of the relationship between me and my material”.

(Cited in, Reason and Rowan, 1981: 240).

Historically in psychological research initial dominant phases of quantitative and then later qualitative approaches were applied and calls were made amongst psychology academics from around the late 1970's for research methods to be combined and applied concurrently in order to seek richer, more comprehensive findings (Jick, 1979). More recently, there has been a call for new mixed method studies specifically from the field of Counselling Psychology – due to the advantages and insights such an approach can offer (Division of Counselling Psychology, 2013; Havercamp, Ponterotto & Morrow, 2005). It has also been proposed that a mixed

methodological approach can lead to a more pluralist psychology, akin with counselling psychology perspectives, thus facilitating a flexible, diverse and more encompassing approach that importantly aids in achieving comprehensive research insights and conclusions (Hanson, Creswell, Clark, Pretska & Creswell, 2005).

Mixed Methods – issues and virtues of a MM approach:

As previously outlined and in considering how best to address the research aims, it was felt a mixed methodology leads to a broader and deeper insight into the investigated phenomena as well as subsequently offering the best potential benefit to clinicians and clients regarding the findings (Gergen, 2001). Furthermore, the complex and contradictory issues that a dialectical perspective of adopting competing epistemologies within one mixed methodology study can bring were considered (e.g. Greene & Caracelli, 1997).

A key problematic issue since the emergence of mixed methods research is securing a rationale for combining qualitative and quantitative methods when met with apparently incompatible worldview paradigms. It has been argued that a 'mixed methodology' is simply not possible due to potentially conflicting underlying epistemologies given the typical and historic positivist stance of quantitative and variations of constructivism allied with qualitative research (Greene & Caracelli, 1997; Guba & Lincoln, 1994).

In order to address this methodological issue a number of proposed ideas were contemplated. One notion is to simply ignore paradigm issues as adopted in some areas of psychological study and defined as a-paradigmatic (Green & Caracelli, 2003). This would not be suitable for research in counselling psychology as it would be neglectful to the philosophy and epistemology that underpins the approach. Another approach is multiple paradigms, for example, combining a postpositivist (quant) stance with a relativist (qual) view. It is proposed that more than one paradigm can be used in one mixed study and that each method can 'complement'

each other (Morse, 2003). The dialectical approach suggests that great insights can be achieved by mixing investigative models, however this does leave the 'mixing' to individual researcher choice and justification – it is not clear which paradigms are to be mixed or how that is best achieved and perhaps some paradigms arguably align more than others (Greene & Caracelli, 2003). A dialectical methodology also lends itself to obvious concerns given the contradictory assumptions of ontological and epistemological stances and it is regarded as a potentially conflicting approach, undesirable for the aims of the current study.

A third mixed methodological position and one that is adopted in this current study is a 'single paradigm' approach. One such epistemology that encompasses both qualitative and quantitative methods is 'pragmatism' and this is an approach advocated by mixed method researchers (eg. Morgan, 2007). Principally, the 'single-paradigm' model overcomes the issues of the multiple approach and its potentially opposing assumptions. Furthermore, it is argued that pragmatism is an ideal single paradigm for mixed methodological studies within the field of counselling psychology given its focus on 'what works' and on solving 'real world' problems (Feilzer, 2010).

The research aims as well as the mixed methodological approach akin to the epistemological stance of pragmatism. In this study, a pragmatist perspective naturally encompasses both the theoretical lens and epistemological paradigm.

Rationale and reflections: Epistemological Position/Theoretical View:

The epistemological position and theoretical lens of any psychological investigation are important determinants in how research questions are approached as they form the basis for how knowledge is sought, gained and essentially endeavour to address the idea of *how we know* (Kvale, 1996). The epistemological stance of the researcher therefore plays a crucial role in how the research question is addressed and is a pivotal consideration tied to the aims of the study.

The epistemological position and theoretical lens adopted in this research is *pragmatism* – a practical approach that considers immediate and subsequent consequences of a studied phenomenon, rather than being overly concerned with philosophical theory or dogma (Collins, 2013). A key feature of a pragmatic investigation is that the research question is regarded as more important than the underlying epistemology (Hanson, Cresswell, Plano Clark, Petska & Creswell, 2005; Tashakkori & Teddlie, 2003). Pragmatism is concerned with what works and problem solving and this stance also reflects my position as a practitioner psychologist.

Pragmatism was developed by pivotal figures, most notably psychologist and philosopher William James, in a quest to explore the meaning of truth (Hanson, Cresswell, Plano Clark, Petska & Creswell, 2005; James, 1907). A pragmatist viewpoint proposes truth as being what is *useful* to believe and the value of such is therefore dependent on the functionality to the person who holds it (James, 1907). This concept bears direct relevance to the current investigation as Zimbardo & Boyd (1999) suggest ‘time perspective’ serves a psychological function as a cognitive structure influencing how we experience and relate to our world. It could also be viewed that an individual’s experience regarding the ‘truth’ of *time*, as relevant to the current study, also serves some individual function and this study aims to investigate this. As outlined in the introduction, James was also a key contributor to the development of the ‘12-step’ programme – an approach to addiction recovery also central to this research - thus further connecting the pragmatist approach in specific application to this investigation.

The overall research queries of the current study include: *What notions of temporality are linked to active addiction? What is the time perspective profile associated with addiction and common allied psychological issues? How might this differ from the TP profile of psychological wellbeing? How does temporality change during a residential rehabilitation treatment intervention? Based on such findings,*

what aspects, if any, maybe useful to consider in a psychotherapeutic intervention and in potentially aiding longer-term recovery?

A pragmatist approach focuses on the query and the practical use of the findings (Creswell & Plano Clark, 2007). The mixed methodology utilises the key quantitative scale related to temporal theory, as well as further explore a phenomenological experience of the concept under investigation. It is not the aim of the study to solely explore in great detail the *meaning* of either phenomena, as that would have addressed a different question, more so, the focus is to investigate specific aspects of them within the construct and to consider, in line with a pragmatic approach, '*what works*' (Cherryholmes, 1992). Pragmatism respects both objective and subjective knowledge and therefore is ideal for application to counselling psychology research and alongside a mixed methodological approach as adopted in this current study (Cherryholmes, 1992). It is also a popular and widely utilised stance in mixed methods research (Tashakkori & Teddlie, 2003).

Furthermore, the practicality of a pragmatic approach lends itself to understanding complex phenomena in applied settings, thus further applicable to the current study and implications relevant to the area of counselling psychology. The value of pragmatism in bringing together objective and subjective views arguably mirrors that of the union of the domain of counselling psychology where counselling typically draws from interpretation and meaning in a subjective manner, whilst psychology, as a science, aims for objective understandings (McCleod, 2011; Lange, 2009 cited in Hanley, Cutts, Gordon and Scott, 2013).

In the next section the study data collection tools and techniques are outlined.

Data collection tools and techniques to best address the research question:

Questionnaire format

As the focus of the study centres on 'Time Perspectives' as measured by Zimbardos Time Perspective Inventory (ZTPI) scale it was decided that a questionnaire based format including this measure would be the most suitable tool to address the research question. Essentially a questionnaire allows the answering of specific questions and related quantitative scoring for analysis of the factors under investigation. A valid measure of time perspective as captured by the ZTPI would not have been possible through purely qualitative measures such as interviews or focus groups alone.

Survey based scales for the other psychological measures investigated in the research (depression, anxiety and compulsion) were considered best utilised alongside the ZTPI for comparison. It would also make for a cohesive and concise way to obtain self-report data. Therefore, a questionnaire made up of a number of pre-existing and valid smaller scales, together with demographic information, was devised. Established psychometric scales such as the ones used in this study demonstrate validity and reliability and add to the vigorous, scientific nature of the approach (Coolican, 2004). This style of information gathering also employs a nomothetic approach most suitable for identifying individual difference variables, generalising and averaging findings across a given population, helpful in the study context (Maltby, Day & Macaskill, 2010).

In a bid to capture the most comprehensive and robust findings, a mixed methodological design incorporating both quantitative and qualitative data was chosen. The main focus of the data collection was on the quantitative scale (Part 1) as previously described and in line with the focus of the study being on the investigation of Zimbardos 'Time Perspective theory'. In addition, a free-text open-ended question was also included and this forms the qualitative, second part of the research (Part 2). A survey questionnaire also serves as a useful triangulation tool in this way to further enhance findings (Bogdan & Biklen, 2006). Both parts of data were collected simultaneously, twice, at two separate points in time (pre and post

residential treatment) by the same participants, thus forming a within subjects, repeated measures design.

The aim of the quantitative data (part 1) is to provide statistical data and analysis in relation to the research question, specifically the testing of hypothesis, whilst the qualitative data (part 2) is used to support, further enhance and add to the findings from part 1. Part 1 will be analysed using SPSS, specifically correlational, t-test and regression analysis, and Part 2 with thematic analysis.

Summary

Overall, it was decided that a mixed methodology and the related tools for data collection would best address the research question comprehensively, as well as align with the underlying epistemology. It is also expected this approach would lead to further hypotheses to be investigated in future research. Consideration was given to the context and participant group regarding the collection of data and therefore a questionnaire format was felt the most appropriate and most easily administered given the extent of the time and recruitment limitations of the study. The quantitative design directly addresses the research questions and the qualitative aspect explores the lived experience of the concepts under investigation. Next, the methodology and design process of the study questionnaire is explained in detail.

Method

Participants:

Inclusion/exclusion criteria:

Participants were recruited through a private clinic that specialise in providing residential treatment for a variety of addiction issues. The participant criteria included specifically seeking help for drug and/or alcohol problems. As time perspectives have been validated cross-culturally, participant nationality was not of particular concern, however, the exclusion criteria included those with a poor command of the English language. The focus for inclusion was on active addiction and therefore, the subsequent seeking, admittance and successful completion of a residential stay at the addiction treatment centre. Participants unable to complete their stay were excluded.

Sample size:

A statistical power analysis program was used to estimate the minimum sample size needed for part 1 of this research. Using a priori power analysis based on an $\alpha = 0.05$ (*one-tailed*) it was suggested a sample of 45 participants would be needed to provide a 95% chance of detecting a moderate effect size ($d=0.5$) (as defined by Cohen, 1992) when analysing the data from part 1 of the study questionnaire. The study recruited 63 participants.

Participants and sample demographics:

63 individuals recruited from a residential treatment centre successfully completed the intervention process. (Please note: a more detailed outline of the treatment is included later in this section).

43 (68%) of the participants were male and 20 (32%) female. The age of participants ranged from 17 to 67 years old ($M = 38.2$, $SD = 11.0$). 40 (64%)

participants stated they had not previously attempted a 12-step programme of recovery before and for 38 participants (60%), this was their first time entering treatment.

The participant sample included a range of nationalities. 16 (25%) described their nationality as Australian, 14 (22%) as British, 11 (18%) American and the remaining reported a variety from around the world. A wide range of personal beliefs were represented across the sample with 14 (22%) describing their faith as Spiritual, 13 (21%) as Catholic and both Agnostic and Atheist views accounting for a further 8 (13%).

Design:

The study examines relationships between time perspective and mental health related to addiction. Changes between pre and post treatment intervention and temporality using both the ZTPI scale and qualitative methods are also investigated.

Ethical consideration and approval:

As this study forms a part of the completion of a Counselling Psychology Doctoral program it was a key requirement that full ethical approval from the City University Ethical Committee be obtained before the commencement of the research. The approval was granted in March 2012.

In line with the British Psychological Society's Code of Conduct and ethical guidelines a number of other measures were put in place to ensure adequate ethical consideration and protection of the study participants (BPS, 2007). It was not expected that participants would be harmed in any way by participating in this study however participants were offered via the cover sheet a full written explanation of the objectives and aims of the research. This form also outlined that any information provided is on a voluntary basis and that there is no obligation as part of their treatment to participate. It was also made clear that all responses

would be anonymised and no personal details be asked for that may identify any individual. Information would be held in electronic format for the purpose of the research and paper copies were destroyed. Participants were given the right to withdraw at any time by contacting the researcher and contact details were provided.

Moreover, the questionnaire was designed to be short and focused on subject areas unlikely to cause the participants distress or raise any ethical issues. If the participants had any questions or concerns they were advised to speak to a professional within the treatment centre during residency, to contact allied organisations or the researcher and/or research supervisor.

Following ethical approval from City University research committee the questionnaires were prepared in paper format and subsequently made available to be administered and completed by volunteering participants.

The Questionnaire:

Part 1:

Each of the components used in the final questionnaire are detailed below.

Measures:

Time Perspective ZTPI:

The key measure in this study was 'Time Perspectives' as captured by Zimbardo's Time Perspective Inventory (ZTPI) (Zimbardo & Boyd, 1999). Zimbardo's Time Perspective Inventory is a scale designed to assess an individual's dominant and overall balance of 'time perspective' across five proposed constructs; *past-negative*, *past-positive*, *present-hedonistic*, *present-fatalistic* and *future* (Zimbardo & Boyd, 1999).

The scale consists of 5 sub-scales of temporal perspective: *'past-negative'*, *'past-positive'*, *'present-fatalistic'*, *'present-hedonistic'* and *'future'*. Respondents are asked to rate *'how characteristic or true is this of you?'* against each of the statements on a 5 point likert scale (1 = very untrue, 2 = untrue, 3 = neutral, 4 = true, 5 = very true). There are three items for each perspective (Zhang, Howell and Bowerman, 2013; Fieulaine, Apostolidis & Zimbardo, 2010).

Examples of *'past-negative'* items include *'I think about the bad things that have happened to me in the past'* and *'Painful past experiences keep being replayed in my mind'*. *'Past-positive'* items include *'Happy memories of good times spring readily to mind'* and *'Familiar childhood sights, sounds, smells often bring back a flood of wonderful memories'*. *'Present-hedonistic'* domain is represented with items such as *'It is important to put excitement in my life'*. Examples of *'present-fatalistic'* include *'Since whatever will be will be, it doesn't really matter what I do'*. Some examples of *'future'* focused statements include *'I complete projects on time by making steady progress'* and *'When I want to achieve something, I set goals and consider specific means for reaching those goals'*.

ZTPI Validity and reliability:

The original ZTPI scale is regarded a reliable and valid measure of time perspective (Keough, Zimbardo & Boyd, 1999; Zimbardo & Boyd, 1999). The five-factor structure was established along with internal consistency using student samples (Zimbardo & Boyd, 1999). It is now the leading psychometric measure of subjective time (Zhang, Howell and Bowerman, 2013). The ZTPI demonstrates predictive utility in correlational, experimental and case study research (Keough, Zimbardo & Boyd, 1999; Zimbardo & Boyd, 1999). Having been applied in over twenty countries since its introduction the ZTPI is also validated and shows good internal consistencies (eg. .63-.84) in cross-cultural studies (Sircova, & sixty members of the International Time Perspective Research Project, 2014).

In the introduction of the scale, test-retest reliability were established and ranged from .66 - .85 (Zimbardo & Boyd, 1999). The validity of the construct was then analysed against a number of existing measures, including specific depression and anxiety scales as well as a number of personality characteristics and demonstrates construct, convergent, divergent, and discriminant validity (Zimbardo & Boyd, 1999).

The original ZTPI scale consists of 56-items, a length criticized for being too lengthy and time consuming, especially when used in conjunction with other scales or for certain populations (Webster, 2011). A reliable shorter-form 15-item version was later developed and validated as an equivalent 5-factor structure to the original 56-item scale (Zhang, Howell & Bowerman, 2013; Fieulaine, Apostolidis & Zimbardo, 2010). This 15-item scale is utilised in the current study as it is considered much more suitable for use in multi-scale measures such as the one applied in this study. Its use also serves to add to the research literature implementing this more recently devised scale.

The short-form scale is considered a reliable and valid version of the ZTPI and reports strong convergence validity and test-retest reliability scores to the original with a range of .63 - .80 (Fieulaine, Apostolidis & Zimbardo, 2010). Within the current study the Cronbach's alpha for overall time perspective (TP) was .54. For each of the time perspectives the Cronbachs alpha reports as: past-negative = .40, past-positive = .48, future = .61, present-hedonistic = .66 and present-fatalistic = .52.

Depression, Anxiety and Compulsion:

As described in the introduction section, depression and anxiety are both highly linked to alcohol, substance abuse and addiction as well as increasing the likelihood of relapse (eg. Kushner, Frye, Donahue, Book & Randall, 2007). Therefore reliable measures for these were required for the questionnaire.

Common scales used for this type of data in clinical settings include; the CORE-OM consisting of 34 items, however this scale is designed to assess 'psychological distress' in opposed to a single presenting problem and therefore dismissed as an option for the aims of this research. The GAD-7 (measuring anxiety) and PHQ-9 (depression scale) are also commonly used measures. However if the GAD-7 and PHQ-9 were used conjunctively (as needed to be to provide measures of both anxiety and depression) it would equate to a combined 16 items and may add to creating too long a questionnaire – a considered concern in the design of this study. Another reliable psychological measure is The Hospital Anxiety and Depression Scale' (HADS) designed to combine and includes scores for depression *and* anxiety (Zigmond & Snaith, 1983). As previously described, great consideration was given to the length of the overall questionnaire and so the shortest and most inclusive measure (14 item HADS) was subsequently selected. The HADS is intended to be used primarily in clinical settings to detect levels of anxiety and depression in patients with ill-health. This was also deemed relevant to the current study given the medical model regarding addiction as a disease (eg. McLellan, Lewis, O'Brien & Kleber, 2000). The HADS scale is furthermore considered the most appropriately worded to capture the experience of the sample as some of the wording from the other scales seemed to potentially risk confusion with symptomology associated with drug/alcohol use. For example, responses to questions in other scales including GAD and PHQ aimed at assessing 'difficulties with sleeping' or 'eating habits' could be misleading indicators of depression and anxiety in this context as these issues may be commonplace for drug users.

The HADS is a form of 14 statements, 7 aimed at assessing anxiety and 7 for depression. Each offers a response scale of 0-3, giving the range of score from 0-21 for either anxiety or depression (Zigmond & Snaith, 1983). A unidimensional measure can also be utilised for overall mental wellbeing however, for this study anxiety and depression were measured independently for a more detailed analysis.

A review of studies using this measure identified a clinical point to identify depression and anxiety as 8/21 (Bjelland, Dahl, Haug & Neckelmann, 2002). 46% of participants met this clinical cut-off point for depression and 78% for anxiety at commencement stage of treatment.

Validity of the HADS:

A review of 747 research papers that have used the HADS were analysed in order to review the validity of the scale (Bjelland, Dahl, Haug, Neckelmann, 2002). Good factor structure, discriminant validity and internal consistency for the anxiety and depression subscales are demonstrated. Cronbach's alpha for anxiety ranged from 0.68 0.93 and for depression from 0.67 - .90. HADS is considered to perform well in assessing the symptomology of anxiety and depression in psychiatric and primary care settings as relevant to the current study (Bjelland, Dahl, Haug, Neckelmann, 2002). The cronbach's alpha for the current study showed .66.

Compulsion to 'use':

Compulsive desires to 'use' and related strength of any compulsive urge were measured using two single-item statements. The first asked for a self-report indication to frequency of compulsive desire to use (if any) with a choice of one of five Likert-style ratings; *0 = Never, 1 = Once a month, 2 = Once a week, 3 = Almost every day, 4 = Every day*. This was followed by the second item asking for a self-report indication of *how intense* that, if any, compulsion tends to be on a scale of 1-10: (1=little or no desire, 10=very strong desire). The two scores were combined to give an overall score of compulsive desire with a possible range of 1-14.

Part 2

Open-ended question:

After the quantitative based scales a final open-ended (optional) question was posed to offer participants the opportunity to freely write about their 'experience of

time' that may not have otherwise been captured by the measures. To minimise leading the response in any way, the question was simply worded:

"Is there anything you would like to add about your understanding or experience of time..?"

As discussed earlier, the question aimed to present as neutral as possible in opposed to leading a response such as "how has this changed?" or "has this helped?"

Furthermore, this way, participants could be invited to reflect on this question and answer it with their addiction or recovery process in mind, or in more general relationship to their understanding of time. Again with sensitivity to the context of the data collection and sample group ie. addicted individuals entering/leaving residential treatment perhaps in a poor mental or emotional state as well as compromised abilities for concentration and articulation, and with not wanting to potentially alienate any individuals, this open-ended question was also left optional to avoid creating difficulty for those unable to articulate their thoughts or views in writing at the times of data collection.

A full copy of the questionnaire used in the current study is available in Appendix C.

Procedure:

Piloting the study:

An initial questionnaire was put together, piloted and reviewed by a group of 10 Counselling Psychologist trainees who commented on the length, readability, universal accessibility and the meeting of the research aims. The final questionnaire was then discussed with and reviewed by the researcher and research supervisor before being agreed and forwarded to the university research committee for ethical approval. Approval was granted.

Data collection process:

A paper copy of the Questionnaire (Appendix C) was prepared for participant use as

well as a covering note informing the participants of the aims and expectations of the study (Appendix B).

The rationale of the study was described on the front cover sheet of the questionnaire, and it was explained that participants were giving their permission for the responses in the questionnaire to be used for analysis. The cover note, as well as informing participants of the voluntary nature of agreement to partake in the study, also outlined instructions on how to withdraw from the study if at any stage they changed their mind. It was made clear that participation or refusal to take part would in no way influence any treatment provided and that it was purely optional if people wanted to complete the questionnaires.

With regards to obtaining consent for participation, it was stated on the covering note that by 'ticking' a box participants: *"acknowledge and understand what is required to participate in this study, that it is voluntary, you have the right to withdraw at any stage"*.

Participants were invited to contact the researcher if they had any queries or wanted more information about the study. An invitation was also opened for participants to receive a summary of findings. It was intended that a summary of the research findings be prepared for those who expressed an interest in receiving this information. No reward was offered for participating in the research.

The questionnaire and optional qualitative data responses were collected at both *pre* and *post* points within the setting of a residential treatment intervention. The participants were recruited and data collected between April 2012 and February 2013. The criteria for meeting pre-treatment was that the questionnaire be completed on the day of arrival at the residential service and post treatment data were taken after successful completion of stay on agreed discharge date. The length of stay in treatment residency ranged from 14 to 84 days ($M = 30.7, SD = 9.6$).

Participants agreeing to take part in the study were asked to complete the form in paper format. It was estimated to take between 4-10 minutes to complete.

Participants were invited to discuss any questions or concerns regarding the survey with their counsellor, group or the researcher. Contact details were provided of the researcher and research supervisor.

Data analysis process:

Quantitative analysis: SPSS

In order to test the hypothesis, statistical analysis using SPSS investigates correlations between time perspectives using the ZTPI and the three mental health measures (H¹). Changes in these measures between pre and post intervention will then be evaluated using t-test analysis as this aims to test differences between the variables (H²).

The qualitative component of the study will be examined using thematic analysis in order to identify main themes in participants experience.

Qualitative analysis: Thematic analysis

Thematic analysis is considered the natural choice for qualitative analysis akin with a pragmatist epistemology and theoretical positioning. Thematic analysis is commonly used in qualitative research and employed to identify and examine patterns, or specifically 'themes' in the data and serves an ideal approach for this purpose and study aim (Braun & Clarke, 2006).

The analysis comprised of a number of stages as suggested by Braun and Clarke, (Braun & Clarke, 2006) firstly becoming familiar with the data by reading and re-reading the overall group of responses. Statements were highlighted and additional comments were made to note the key point/s made in the data. The aim was to assist the process of identifying emerging themes. A number of initial emerging

patterns were noted before the findings were then split into two groups relevant to collection times of the data in order to determine if the initial broad themes were evident across both *pre* and *post* intervention as this links to the original research question. Across the two groups initial codes were generated to outline how and where patterns began to occur. At this stage the coding was based purely on explicit statements from the participant comments within the data in order to reduce researcher influence or interpretation of any implicit meaning in the findings.

The data was worked through line-by-line to match each relevant statement to the emerging themes. After distinct themes were identified, this process began to include some more implicit meanings within the data although much of the data was explicit in its nature. A tally of theme prevalence across the data was also collated at this stage. This process was repeated several times whilst the overall categories and emerging sub-themes were considered and re-considered until there became a clear distinction. Themes without a strong prevalence or reoccurrence (classified as less than three occurrences in either group) were eliminated.

At this point the original aim of the study was considered directly alongside the identified categories to ensure the emerging themes addressed the research question. Based on the emerging themes, consideration was then given to the overarching patterns and the extent to which they acknowledged *change* across the two data groups as in line with the research question. Final themes were decided on and clarity on what each described were noted. These were checked over by the research supervisor in order to confirm existence and prevalence of unbiased themes and a thick description of the results was then written as detailed in the results section.

Braun and Clarke suggest that data can be analysed in an inductive “bottom up” manner or a theoretical, deductive “top down” way (Braun & Clarke, 2006). The current study aims to provide a meet of these two approaches by implementing

both quantitative and qualitative methods. The quantitative component of the study is used to test two clear hypotheses and therefore employs a hypothetic-deductive “top down” scientific method. The qualitative component of the study, in contrast, utilises an open inductive approach to the analysis and so essentially forms a data-driven investigation.

Study expectations:

It is expected that individuals seeking help with and entering treatment for addiction would present highly with levels of depression, anxiety and compulsive tendencies around their addictive behaviour however, it is worth noting that a characteristic with this presentation is denial and an underreporting of symptomology and this will be considered (Brady, Tolliver & Verduin, 2007). Higher levels of these measures of mental health are expected to correlate with certain time perspectives, in particular, stronger reports of past-negativity, present-hedonistic and fatalist views and in contrast, a shortened future time horizon (Pluck, *et. al.*, 2008; Zimbardo & Boyd, 1999).

The treatment intervention

The therapeutic intervention at the residential centre used to recruit participants in this study represents a typical addiction treatment approach principally based on the 12-steps programme - an abstinence-based model, CBT techniques and mindfulness meditation. The details of the approach are outlined below. The centre provides treatment for up to twelve people at a time and activities and therapy include individual and group work sessions. Participants are provided with individual accommodation within a communal shared setting.

As with any residential addiction treatment programme a full and detailed daily and weekly schedule is mandatory, importantly assisting the clients to experience and

develop a new, healthy and helpful regular routine often absent prior to rehabilitation. At the treatment centre residents are given a strict daily schedule where almost every waking hour of every day is accounted for with a range of group or individual activities. This includes group psychotherapy, attendance of 12-step meetings, individual counselling, mindfulness meditation classes, physical activity and exercise as well as a range of complementary therapies.

The mindfulness meditation practice and development of *present-time awareness* is an integral part of the treatment programme and meditation classes were conducted twice a week by a qualified mindfulness trainer. Much of this treatment approach focuses on the concept of being 'present' in the moment in order to more effectively work out rational solutions to difficulties. A cognitive-behavioural therapy (CBT) approach is also taught to clients in order to provide them with a rational, logical way of viewing and helping themselves with problems.

A process group is attended daily as well as group workshops that include learning specific CBT tools and techniques in relation to addiction triggers and relapse prevention. The CBT work includes relevant techniques for anxiety and/or depression, depending on the clients needs. Overall, in this programme, CBT is used to build resilience factors and to address 'unhelpful thinking styles' and irrational beliefs that perpetuate addictive behaviours.

During the residential stay clients begin to learn the 12-step programme for addiction recovery and attend at least two traditional 12-step Alcoholics Anonymous meetings a week. Two group therapy sessions are attended everyday and this includes sharing feelings, process work and focused discussions on the principles of the 12-step programme. A mix of these groups are provided to allow for differences in client learning styles and to ensure a consistent and repeated exposure to the techniques, skills and concepts of the overall approach in order to offer the best chance in assisting long-term sobriety.

A minimum of two one-on-one individual psychotherapy sessions are offered each week and are used to discuss specific issues and to support the 12-step and CBT principles from the group work - in all providing continuity of the 12-step / CBT approach.

During the residential stay it is noted that most clients reach Step 4 in the 12-step process. Importantly step 4 is a cornerstone in addressing ones past.

Step 4 *“Made a searching and fearless moral inventory of ourselves”*.

Essentially this step calls for a systematic and thorough review of ones past conduct, harms (both done to others and done onto them), resentments and fears. With regards to *the past*, the overall treatment approach with clients focuses on themes of ‘shame’ and ‘guilt’ over past actions and how these are regarded as key components in keeping the individual ‘sick’ in the present. CBT thought-challenging techniques are taught to clients so that they can be used to help individuals reconsider events and related thoughts and feelings.

An outline of the 12 steps is listed in Appendix A.

The elements of the treatment approach are typical of many residential treatment centres and include strict adherence to the schedule and routine, attending 12-step meetings, CBT and mindfulness taught in both group and individual settings.

Research design overview

The key aim of the survey is to capture a temporal profile of a sample group of individuals undertaking an intervention for addiction. The primary research aims are two-fold. Firstly, the study seeks to identify associations between time perspective and mental health allied with alcohol and drug abuse. The study then utilises a repeated measures within subjects design to analyse the differences

between the key dependent variables: time perspectives, anxiety, depression and compulsion prior and post addiction treatment intervention. The predictor variable in this case relates to the points of data collection. At both stages of data collection there was an opportunity for participants to add any further information in the form of written free text on their thoughts and/or experience of or relationship to time. The completion of the quantitative aspect of the questionnaire was compulsory in order to take part in the study. The short qualitative component at the end was optional.

In designing a suitable questionnaire sensitivity to the context of participant criteria and nature of individual ability to focus and concentrate for lengths of time was considered in the process and therefore a primary aim was to develop a clear and concise scale that could be completed easily within 4-10 minutes.

The quantitative data was statistically evaluated using correlational analysis, hierarchical regression and paired t-test designs. The qualitative responses to the final open-ended question was investigated using thematic analysis from a pragmatist perspective to identify content in relation to the phenomenological experience of time and how this may alter between the commencement and completion of a rehabilitative addiction intervention.

Results and Analysis

Both styles of data were collected concurrently although the quantitative statistics were analysed and are presented here first (part 1), followed by the identified qualitative themes (part 2).

The participant demographics are noted in the methodology section and describe a diverse range of sample demographics.

Part 1: Quantitative Analysis of findings from Questionnaire:

H¹: Significant relationships will exist between Time Perspectives and three mental health factors; anxiety, depression and compulsive desires.

Correlational analysis was used in order to test for significant relationships between time perspectives and mental health factors. The assumptions for this procedure were met including continuous data and linear relationships in the variables.

Overall, significant low to moderate strength relationships were found between Time Perspective, anxiety, depression and compulsive desires to use and therefore the first hypothesis is accepted. Table 1. illustrates the significant correlations found. All correlations were based on one-tailed statistical significance as relationships were expected.

Past-Negative TP

Past-negative TP significantly and positively associated with anxiety ($r = .45, p < 0.01$); depression ($r = .47, p < 0.01$) and compulsion ($r = .35, p < 0.01$). This demonstrates that the higher the past-negativity score, the higher the self-reports of anxiety, depression and compulsion.

Past-Positive TP

In contrast, and supporting an oppositional construct, significant negative relationships were found between past-positive TP and two of the mental health measures. A significant negative relationship was reported between past-positive TP and anxiety ($r = -.34, p < 0.01$) and depression ($r = -.35, p < 0.01$) however, no significant correlation was found between this TP and compulsion.

Present-Hedonistic TP

A significant positive association was found between present-hedonistic TP and anxiety ($r = .23, p < 0.01$) yet not with any other of the mental health measures. However it is worth noting there was near significance between PH TP with compulsion ($r = .14, p = 0.07$).

Present-Fatalistic TP

Present-Fatalism TP positively and significantly correlated with depression ($r = .24, p < 0.01$) and anxiety ($r = .19, p < 0.05$). No significant relationship existed between PF TP and compulsion.

Future TP

Significant negative relationships were found between future TP and anxiety ($r = -.47, p < 0.01$); depression ($r = -.57, p < 0.01$) and compulsion ($r = -.31, p < 0.01$). This indicates that the higher the score on future time perspective, the lower the report of anxiety, depression and compulsion.

The below table illustrates the reported overall correlations between all variables.

Table 1: Correlations between study variables

	PN	PP	F	PH	PF	Depression	Anxiety	Compulsion
PN	.00							
PP	-.25**	.00						
F	-.38**	.26**	.00					
PH	.19*	-.10	-.16	.00				
PF	.25**	-.16*	-.27**	.10	.00			
Depression	.47**	-.35**	-.57**	.19	.24**	.00		
Anxiety	.45**	-.34**	-.47**	.23**	.19*	.75**	.00	
Compulsion	.35**	-.09	-.31**	.14	.08	.54**	.44**	.00

**p<0.01 *p<0.05

In summary, from the results in this study, anxiety most highly significantly associated with a strong past-negative view, as well as to a lesser extent, a present-hedonistic outlook. Higher self-report rates of depression were significantly linked to higher scores of past-negative and present-fatalistic TP, such findings, indicating a difference between the two present constructs. Depression was found to negatively and significantly relate to past-positivity and future time orientations suggesting that the more positive about the past and the stronger the ability to plan and envisage the future, the less anxiety and depression is reported. Compulsive desire significantly and positively correlated with a past-negative TP and negatively with a future TP. No other significant relationships were found between compulsion and the other time perspectives however a near significance correlation was reported with present-hedonism, again supporting the characteristics of the time construct within this model with an anxious, obsessive-compulsive disposition. It is noted that correlations do not imply causality.

H²: Time Perspectives will significantly change between pre and post treatment measures.

Tests of normality were explored in the change scores between pre and post measures and were found to demonstrate a normal distribution in all the time

perspectives apart from past-positive. As the assumptions were met for four of the constructs individual paired t-test analysis was used to determine if the change for each perspective was statistically significant. A non-parametric test was used for past-positive TP. The below table outline the results for the tests of normality.

Table 2: Tests of normality

TPs	Kolmogorov-Smirnov			Shapiro/Wilk		
	Stat.	df	Sig.	Stat.	df	Sig.
PN	.10	63	.20	.98	63	.28
PP	.19	63	.00	.90	63	.01
PH	.12	63	.03	.97	63	.10
PF	.11	63	.08	.98	63	.27
F	.15	63	.01	.97	63	.13

normality levels met where significance exceeds .01

This analysis found significant differences between pre and post treatment measures with three time perspectives specifically past-negative, future and present-hedonistic (one-tailed). No significant differences were found for past-positive or present-fatalistic perspectives.

Participants reported more past-negativity before treatment ($M = 3.78$, $SD = .73$) than after completion ($M = 3.39$, $SD = .80$). The difference was found to be significant ($t = 3.25$ (62), $p = 0.001$ (one-tailed), $d = .51$).

Present-hedonism was also found to reduce following treatment as average scores were reported as higher before treatment ($M = 3.76$, $SD = .66$) than after ($M = 3.46$, $SD = .73$). The difference was also statistically significant ($t = 3.40$ (62), $p < 0.001$ (one-tailed), $d = .43$).

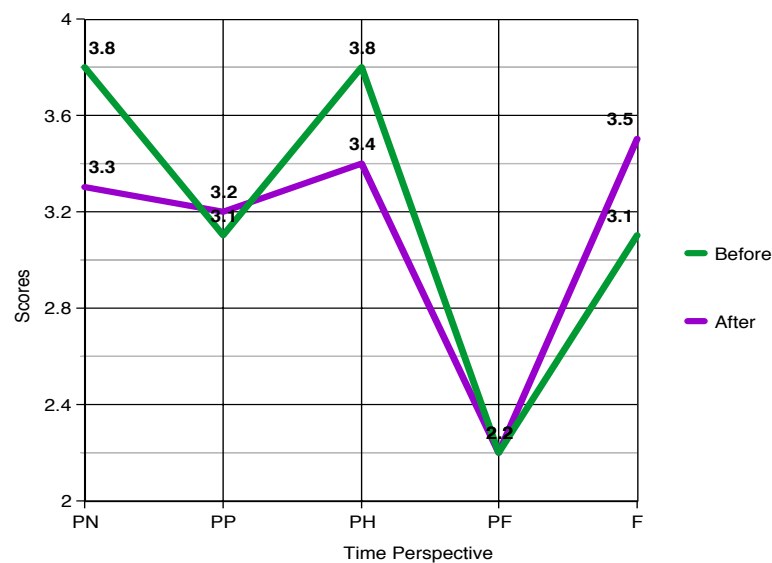
Future time perspective was found to increase after treatment. Participants reported lower levels of future time perspective before treatment ($M = 3.16$, $SD =$

.87) than after ($M = 3.52, SD = .81$). The increase was found to be statistically significant ($t = -3.30 (62), p = 0.001$ (one-tailed), $d = .43$).

Scores for both past-negative and present-hedonistic time perspective significantly reduced during treatment, whilst the future time perspective significantly increased.

The figure below illustrates the changes in Time Perspective between pre and post measures

Figure 3: Changes in Time Perspective Before and After Intervention.



In summary, Past-Negative and Present-Hedonistic – both temporal constructs associated with addictive behaviour - significantly reduced during the treatment intervention used in the current study. Furthermore, a Future TP, more often linked to health-protective choices significantly increased. Overall, three of the five Time Perspective constructs changed and therefore the overall temporal profile were found to significantly alter between the pre and post measures of the intervention. Therefore, the second hypothesis is accepted.

Relationship to mental health outcomes and time perspective changes:

As time perspectives relate to mental health measures used in the study additional analysis is noted in relation to how these changed throughout treatment too. It was expected that measures of anxiety, depression and compulsion would reduce throughout a residential treatment intervention and so analysis is one-tailed.

Highly significant differences using t-test analysis were found between pre and post treatment measures for all three aspects of mental health; anxiety, depression and compulsion. Specifically all three mental health measures were found to significantly reduce after successful completion of treatment. The differences also demonstrated a normal distribution and so parametric paired t-tests were used.

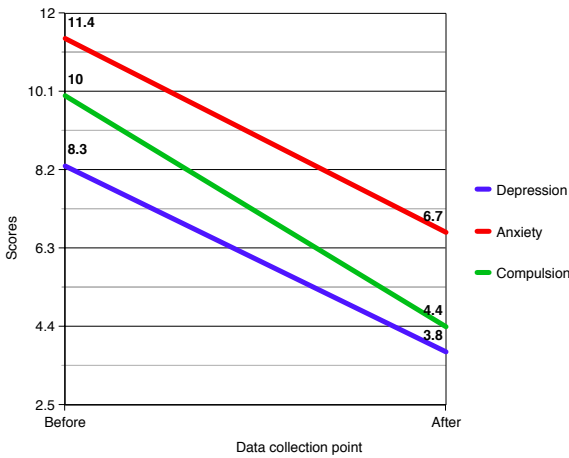
Anxiety significantly reduced from before treatment ($M = 11.4, SD=4.8$), to after treatment ($M=6.7, SD=4.3$), ($t = 6.61, (62), p < 0.001, d=0.83$).

Depression reduced from before treatment ($M= 8.3, SD=4.2$), to after treatment ($M=3.8, SD=3.9$). The difference was statistically significant ($t = 7.01 (62), p < 0.001, d=0.88$).

Compulsion also significantly reduced, indicating before treatment ($M=10.0, SD = 3.2$) and after ($M=4.4, SD=3.2$). The difference was statistically significant ($t = 9.83 (62), p < 0.001, d=0.65$).

The reduction in report of mental health is illustrated in figure 4.

Figure 4: Change scores in mental health measures before and after treatment.



Additional statistical analysis – multiple regression

As reported in the first hypothesis, many of the TP construct sub-scales demonstrated significant relationships with the outcome measures in the study. Significant differences in time perspective and mental health measures were also reported between pre and post treatment as reported in the second hypothesis.

In order to establish time perspective as an overall construct as well as identify sub-constructs as a predictor of change relating to the significantly reduced scores of anxiety, depression and compulsion a backwards hierarchical multiple regression equation was calculated.

Depression:

The results of the regression indicated that overall *Time Perspectives* explained 31 per cent of variance for the change in depression ($R^2=.31$, $F(5, 57) = 5.08$, $p<.001$). An examination of the betas indicated that two temporal sub-scales significantly contributed to this outcome in a negative direction ($F(2, 60) = 12.75$, $p<.001$). It was found that score increases in past-positive TP significantly predicted reduction in depression ($\beta = -.35$, $p<0.01$), as did score increases in a future time perspective ($\beta = -.36$, $p<0.01$).

Anxiety:

Time Perspectives explained 30 per cent of the variance for anxiety ($R^2=.30$, $F(5, 57) = 4.88$, $p<.01$). Score changes were reported in future TP significantly predicting a reduction in anxiety ($\beta = -.26$, $p<0.05$), as did score increases in past-positive TP ($\beta = -.38$, $p<0.001$). Together the model including FTP and PPTP combined accounted for 25 per cent of the variance.

Compulsion:

The regression results also indicated that Time Perspectives explained 17 per cent of variance for the change in compulsion at near significance ($R^2=.17$, $F(5, 57) = 2.27$, $p=.06$). Overall, past-negative TP accounted for 14 per cent of the variance for

compulsion. It was found that the reduction in past-negative TP score significantly predicted reduction in compulsion ($\beta = .37$, $p < 0.01$).

Table 3: Multiple regression results.

Predictor	Depression			Anxiety			Compulsion		
	Beta	F	R ² (change)	Beta	F	R ² (change)	Beta	F	R ² (change)
Step 1									
TP		5.08***	(.31)		4.88**	(.30)		2.27 (p=.06)	(.17)
Final Step									
PN							.37	1.54	(.14)
PP	-.35**			-.38***					
F	-.36**	4.70*	(.30)	-.26*	2.34**	(.25)			
PH									
PF									

***p<0.001, **p<0.01, *p<0.05

The series of multiple regressions indicate significant relationships between predictor mental health outcomes and time perspectives. Specifically, the results highlight the importance of three constructs in particular; past-positive (PP), future (F) and past-negative (PN) in relation to change scores in the study measures of depression, anxiety and compulsion. However, it is important to note that not all variables were included in each model (eg. depression, anxiety and compulsion) and therefore, it is difficult to know precisely how much the time perspectives are predictive of outcome.

In summary, the study hypothesis were met and accepted as significant relationships between time perspectives and mental health measures associated with addiction were reported. Time perspectives were found to significantly alter between pre and post intervention measures and therefore the second hypothesis was also supported. Furthermore a series of multiple regressions were conducted to identify specific temporal constructs within the model indicative of significant change in the mental health outcome measures, however it is noted that not all

variables were included in the model. The results so far create an overall time perspective 'profile' of comparison between pre treatment (ie. an active addict seeking treatment) and post (after a specific therapeutic intervention) and this will be explored further in the discussion section.

As stated in the introduction and methodology section, a qualitative exploration of participant experience regarding temporality at both data collection points (pre and post) were taken and used for analysis. The results of which are stated in the following section. How these relate to the quantitative findings is briefly outlined before exploring any additional indications of phenomenological experiences of time and in which way this may alter throughout an addition treatment intervention.

Part 2. Findings from the qualitative data:

As previously explained, the open-ended item at the end of the questionnaire invited the opportunity for participants to add comments or thoughts on their '*understanding or experience of time*' and the question was posed in such a way as to avoid potential bias or influence from the researcher. It was hoped this data would support and further enhance the findings from the first part of the questionnaire by allowing a space for elaboration and individual interpretation otherwise not captured by the quantitative measure. Out of the sixty-three participants of the study, 51% responded to the optional question and provided data that were then used for qualitative analysis.

The process employed thematic analysis in order to identify and report any relevant patterns and themes. A theme was identified based on two factors as suggested by Braun and Clarke (2006):

- 1) the extent to which it addresses the research question; and
- 2) its prevalence across the data.

A summary table of themes and respective sub-themes are outlined in Table 4, followed by a more detailed report of findings. The occurrence of each theme in the data is also noted in Table 4.

Qualitative analysis findings:

The first three themes portray the overall temporal landscape (past, present and future) that directly relate to the aspects of time perspective as measured by the time perspective inventory (ZTPI). These are reported first as they compliment the theory and findings from the quantitative measure. A further three themes were identified that were not captured by the quantitative measure utilised in the first part of the study. The fourth theme describes how participants viewed time as an 'amount', the fifth refers to 'pace' or 'speed' and the sixth and final identified theme describes an experience specifically in relation to a sense of 'control' over time.

Stark differences in each of these themes are identified when comparing responses taken *before* and *after* addiction rehabilitation treatment and are discussed in this following section. The findings presented here both compliment and additionally enhance the results from the first part of the study.

Table 4: Themes and sub-themes prevalence

Theme title	Sub-themes	Prevalence BEFORE	Prevalence AFTER
Theme 1: The Past <i>"I think about the past"</i>	1a. Thinking about the past – neutral or undefined. <i>"Always thinking of the past"</i>	4	7
	1b. Past negative / past regret. <i>"I am haunted by the past"</i>	9	0
Theme 2: The Present <i>"The power of now"</i>	2a. Recognising the importance and benefits of being present (post treatment). <i>"Being more present is wonderful!"</i>	0	12
Theme 3: The Future <i>"The future arrives"</i>	3a. Thinking of the future - neutral or undefined. <i>"I think about the future"</i>	2	7
	3b. Worries and fear of. <i>"I worry a lot about the future"</i>	8	1
	3c. Hopes and goals... <i>"I am now setting goals for the future"</i>	4	7
Theme 4: Amount <i>"Time is running out"</i>	4a. Never enough <i>"There is never enough time!"</i>	10	0
	4b. More time (post treatment). <i>"After treatment, feel I have more time"</i>	3	6
Theme 5 – Pace <i>"time just flies by"</i>	5a. Slowly <i>"time goes very slowly"</i>	5	3
	5b. Quickly <i>"[time] goes way too quickly"</i>	5	2
Theme 6 – Relationship to time <i>"I am accepting..."</i>	6a. Control <i>"After treatment [I] feel more in control of time"</i>	4	5
	6b. Planning and organising <i>"I still need more planning in my day"</i>	3	6

Theme 1. The past:

"I think about the past..."

The first theme relates to a key factor in the measure of 'time perspective', specifically it outlines the participants' consideration to the *past*. This temporal view was found to have a high prevalence across both *before* and *after* data sets and took the form of either one of two mutually exclusive further identified sub-themes.

Either the past was described in a neutral or undefined way, describing the extent somebody thinks about past in general (sub-theme 1a), or the past was referred to in a negative, regretful manner (sub-theme 1b). Therefore the first sub-themes are identified as:

- Sub-theme 1a. Thinking about the past – neutral or undefined.
"[I am] always thinking of the past".
- Sub-theme 1b. Past Negative: *"I am haunted by the past".*

An element of neutrality or unclear definition regarding feelings about the past are identified in the sub-theme 1a although there were also a strong prevalence of recollections of the past being very negative and regretful as acknowledged with sub-theme 1b. Overall, an awareness of the past and ones relation to it was clearly evident across both data points. Moreover, stark shifts are identified in the sub-themes between the before and after points of data collection as outlined. The findings are presented in summary across these two groups.

Sub-theme 1a. Thinking about the past – neutral of undefined. ***"always thinking of the past..."***

There was a strong occurrence of identification with 'thinking about the past' in the findings although most notably, no further indication about whether this related to positive or negative recollections were made. This sub-theme were evidenced by statements such as:

"I am always thinking about the past", (Ap. D, l. 1)

"I find myself thinking about the past, often" (Ap. D, l. 2).

These particular quotes were taken from the *before* treatment data set. The *after* responses reported a noticeable difference and acknowledgement in the reduced amount of time spent thinking and reflecting on the past and in fact referred to notions along the lines of:

"I don't tend to think about the past anymore..." (Ap. D, l. i)

and

"I don't tend to think about my past so much". (Ap. D, l. ii)

In the post-treatment data, there is a distinct shift in awareness of amount of time spent thinking about the past (or future) and a greater sense of '*presence*' that is not identified in the *before* treatment data set. Findings relating to the 'present' are explored in theme 2 and future in theme 3.

Overall, this theme reflects a positioning of one 'living in the past' when it comes to identifying where present thoughts are generally placed prior to the intervention. Importantly, this appears to shift after successful completion of treatment by a notable increased self-awareness of where, in time, attention and thoughts tend to be as well as a reduction in the amount of time spent thinking of the past.

Sub-theme 1b. Past Negative:

"I am haunted by the past"

The second sub-theme - 'past-negative' - more strongly relates to a notion measured quantitatively in the first part of this study. In particular a notion of negativity toward the past was observed with regret being particularly prominent in the before data set. An example of this is as follows:

"When I look back at the past I regret all the years of my life that I have wasted in my addiction". (Ap. D, l. 3).

The past negativity observed in the study findings do not necessarily relate to specific individual drug/alcohol-using choices as described in the following example. They also relate to more general regrets about things they have done to other people as well as painful experiences:

“I am haunted by my past – things I have done to others and what had been done to me”. (Ap. D, l. 4).

In the *after* stage of data collection there was a distinct lack of mention of regrets about ones past and as described in the previous section, a reduced reference to the past in general.

When regrets of the past were mentioned in the post-treatment data it seemed to serve as a motivational factor for maintaining and continuing recovery. For example:

“I don’t want to waste anymore time like I have in the past. My addiction has took many years off me, I refuse to let it take anymore of me”. (Ap. D, l. iii).

Finally, notable differences were found before and after treatment with the latter reflecting considerable reference to the lessened amount of time thinking about the past, for example: *‘I don’t tend to think about my past so much’*, and instead, awareness of being more *present*, as well as reflecting on the importance and benefits of that. This acknowledgement of living in the present-moment leads to the second identified theme.

Theme 2 – The present.

“The power of now”

Following on from past and in line with the time perspective inventory a theme of present temporality was also noted in the data. Reference to ‘being present’ was noted in terms of participants noting their experience of how connected to, awake

and aware they are of the present moment. The reference to presence reflects a mindful, present-time awareness and it is quite apparent from the overall findings that a key shift in awareness of the *present* is evident across the pre and post treatment data collection points.

At the first stage, upon entering rehab, there was a distinct lack of mention of the present or notions of *living in the moment*. Instead, participants described themselves as either thinking about either the future or the past or a combination of the two concurrently, with little notion of an in-between or present time. This oscillation between the past and future implicitly positions them in the *present*, however this seems to be without any real or full conscious connection as associated with mindful-awareness or flow type of presence. To example a quote from the data, essentially addicts are;

“Always thinking about the past and the future” (Ap. D, l. 5)

Furthermore, as described in more detail within the past and future themes, a negative, regretful view of the past alongside simultaneous worry and fearful anticipation of the future was evidenced as a prominent experience of time in the before treatment data. This notion is supported with statements such as:

“I find myself thinking about the past often – bad memories – [and] worry in advance about the future”. (Ap. D, l. 6).

“Regrets about the past, past decisions. Worry a lot about the future”. (Ap. D, l. 7).

“I hate thinking about my past and I worry about the future a lot”. (Ap. D, l. 8).

Implicitly, these kinds of comments position one in the present, although with little conscious awareness or direct lived connection to it. The findings from the post-

treatment stage describe a much more explicit relationship to and awareness of living in the present moment. There is also a strong theme of recognising the importance of being present. In fact, notions of the present are mentioned in almost half of the participant post-treatment comments as described in more detail in the sub-theme.

Sub-theme 2a. Recognising the importance and benefits of being present.

“Being more present is wonderful!”

The post-treatment data demonstrates a considerable shift in focus to the present moment from either the past, the future or both. One example summarises the trend of such transition;

“Being in treatment has changed my understanding and experience of time, especially in mindfulness and the power of ‘now’”. (Ap. D, l. v).

This shift can be regarded as a direct result of the treatment approach as the practise of mindfulness forms a component of the therapeutic programme. Mindfulness is taught as developing an awareness of present moment experience. The notion of trying to live ‘one day at a time’ is also heavily embedded within the 12-step addiction model as a way of helping addicts achieve sobriety by encouraging their temporal focus to be on the *now* and maintaining abstinence moment by moment, step-by-step, day by day.

“Before treatment I ruminated about the past in a negative, regretful way. I also panicked and stressed about the future. I have learned, via treatment, to live in the present. It is a great relief”. (Ap. D, l. vii)

It is apparent from the contrast in lack of reference to the *present* prior to addiction treatment to the greater focus *after* intervention that coming to focus more on the *now* is a notable shift for the sample.

The importance and benefits of being *present* is identified in the post-treatment findings. At the same time much of the data at the latter stage identifies struggles with being present and the difficulty in this may warrant further investigation. This notion is something that is touched on as part of the therapeutic treatment approach as clients are encouraged to consider how not being present may maintain mental health problems such as anxiety as well as fuelling addictive cycles. Still, this shift further supports the notion that time perspective can be a malleable construct and crucially, may be incorporated into effective psychotherapeutic treatment.

Theme 3. The future.

“the future arrives...”

In line with the temporal landscape perspectives of *past*, *present* and *future* were identified as individual themes. Within the future construct a further 3 sub-themes were found. The first, 3a, relates to similar findings with the past domain and describes a neutral or undefined reference to the future. The second 3b, describes worries and fears of the future. It is considered that the anxious anticipation found during the analysis is an undesired characteristic. On the other hand, a more positive type of future-orientation was identified as sub-theme 3c and relates to effective planning and goal-setting for the future. Each of these sub-themes was found to be mutually exclusive. They are described in more detail in the following segment.

Sub-theme: 3a. Thinking of the future – neutral or undefined.

“I think about the future”

In much the same way as described with neutral or undefined thoughts of the past, a sub-theme was identified to depict the nature of attention and time spent thinking about the future. Examples of this from the pre-treatment data include

“I am always looking to the future” (Ap. D, l. 9)

and

“Always thinking about the past or future”. (Ap. D, l. 10)

As described in sub-theme 1a, this demonstrates essentially the amount of time the participants thoughts are identified as being in a temporal space that is anything but present – either the past or future - in a neutral or undefined way. This suggests a slight difference in the other identified sub-themes of associations with the past as being negative or regretful or the future being something to worry about. Many of the comments simply refer to *‘thinking about the future’* yet do not detail whether this is in a positive way (ie. hopes, goals) or with a more negative view (worries, fears, etc) and so no conclusions can be drawn from this other than the simple demonstration of amount of time participants spent thinking about either the future in a neutral or undefined manner.

Shifts were however noted on the reduced amount of reported time spent fretting about the future in the post-treatment findings and this is outlined in more detail in the next section. The most prominent theme emerging from a future perspective was that of *worries and fears* of times to come and this is explored further in sub-theme 3b.

Sub-theme 3b. Worries and fear of...

“I worry a lot about the future”

A considerable amount of the findings outline participants explicit concerns and fears of the future. This was more often than not paralleled with regrets and negative views of the past however it was also noted as a standalone key theme in many of the comments, particularly before treatment commenced. A great majority of the comments identified as sub-theme 3b explicitly stated;

“I worry about the future”. (Ap. D, l. 11)

Anxiety itself is characterised by apprehension of what may or may not come to happen and is highly related to compulsion and addiction. It is clear that thoughts

about the future relate to considerable anxiety in the *before* treatment findings and that thinking ahead was ‘overwhelming’. One comment taken before starting rehab stated:

“Trying to be strong, but the anxiety of what is coming can be a bit overwhelming”. (Ap. D, l. 12)

Another echoed this notion with regards to addiction treatment specifically:

“I look to the future but become overwhelmed at times by how much I have to change to stay clean and sober and therefore have a happy future”. (Ap. D, l. 3).

As with past-concerns, a focus on the future shifts between pre to post treatment with the latter comments generally describing some reduction in the amount of time spent worrying about the future, as well as less anxiety regarding what may come, for example:

“I don’t tend to worry about the future anymore” (Ap. D, l. ix)
and

“I have learnt to stress less about the future”. (Ap. D, l. x)

A change that was also noted between the two stages of data collection regarding the awareness of time spent feeling bad about the past or worrying about the future and the futility of this. Overall, such themes of worry and apprehension were reported much more before treatment than afterwards.

Sub-theme 3c. Hopes and goals...

“I am now setting goals for the future”

A third, future-related sub-theme was identified across the findings was one of a more positive outlook, describing hopes, dreams and goals. In contrast to the doubts and apprehensions associated with fears and worries about the future as described in sub-theme 3b, this theme (3c) seems to represent a much more optimistic and determined view. The following quote was taken prior to treatment

starting although items identified as falling into this category were sparse amongst the pre-treatment data;

“I believe strongly in achieving what I set as goals for the future”. (Ap. D, l. xi)

Before treatment, the sub-themes included more explicit reference to having

“no goals or ambition” (Ap. D, l. 25).

Some reference was found regarding planning and working towards goals or deadlines however this was marred with a distinct sense of failure and pressure. Similarly, notions of ‘time running out’ and there being ‘never enough’ tied in with mentions of planning or goal-setting and due to the prevalence of these additional themes across the findings, were later identified as separate sub-themes explained in more detail in sections 4a – *never enough time* and 5b – *time goes too quickly*. This is demonstrated in the following items taken *before* rehab:

“Sometimes I think time is running out and I put myself under a lot of pressure to set goals and complete tasks in very regimented time frames. I have big plans and goals that I want to accomplish and I feel much of my future has been thought about and planned.” (Ap. D, l. 13).

Whilst this notion demonstrates some overt thinking ahead it appears teamed with embedded tones of self-pressure and punishment. This sentiment is echoed in another example that highlights the pace of time as well as feelings about a lack of future planning or working towards goals:

“Time just flies by without progress or positive things happening in my life and I blame myself for letting things not change or happen”. (Ap. D, l. 20).

From this a temporal cycle begins to emerge from one attempting to make plans for the future, seemingly failing or imagining a bleak outcome, feeling regretful about it, then linking future thoughts back to past regrets. As described earlier clear parallels are identified between past-negative views and future worries and

anxieties. This pattern appears to be prominent in addicts and also links to the memory and future expectancy theory noted in the introduction.

In contrast, the goals and hopes described *after* successful completion of addiction rehab suggest a more optimistic outlook.

"I am now setting goals for the future" (Ap. D, l. xii).

and

"After this I intend to go full swing with life. I have a time-table and intentions of maintaining complete sobriety". (Ap. D, l. xiii).

Summary of Past, Present and Future themes

In summary of the first three themes that align with the quantitative measure used in the first part of the study it is found that notions of past, present and future exist from the data. More specifically, participants at the start of treatment reflected on the past in a negative way and in direct contrast this was not evident at the end of treatment. Instead, overall participants demonstrated an increased awareness of how much time they would spend thinking about the past or indeed future post intervention. Before treatment participants expressed worries, fears or anxieties about the future and this also appeared to shift throughout treatment. At post treatment, mention of future involved more positive notions of plans, hopes and goals. There was a strong sense of present-time awareness by the end of treatment too which, again in contrast, was not touched on at all prior to the treatment intervention.

In addition to the first three themes allied to the first part of the research, a further three themes were identified in the data and are outlined next.

Theme 4: Amount

"Time is running out"

Theme 4 describes time as a quantifiable amount. Across the data a clear pattern emerged with a majority of pre-treatment statements reflecting on the experience of there being '*never enough*' time together with allied feelings of pressure in relation to this. Post-treatment there was a clear shift to a reporting of experience a sense of there feeling '*more time*'. This is outlined in more detail in the following two sub-themes.

Sub-theme 4a. Never enough

"There is never enough time!"

One very prominent sub-theme identified in the before treatment data was the notion of there '*never being enough time*'. This was a clear and explicit statement in most cases with comments being a variation of;

'There is never enough time' (Ap. D, l. 14)

or

'I feel I don't have enough time'. (Ap. D, l. 23).

This sense of there not being 'enough' time was often teamed with ideas of being in a rush, or experiencing time constraints and pressure.

A sense of time 'running out' and therefore feeling rushed and pressured to 'do' was described by some of the participants and examples of this describes:

"Sometimes I think time is running out and I put myself under a lot of pressure to set goals and complete tasks in very regimented time frames..." (Ap. D, l. 13).

"I feel I cannot keep pace with what is required of me". (Ap. D, l. 15).

The theme of *never having enough time* naturally relates to anxiety; worries about not completing tasks on time (as demonstrated in the previous quotation), pressure and a sense of rushing, as well as general concerns about the impact of that on/and

the future. Many of the participant statements that described the experience of there never being enough time were teamed with distinct anxiety and concerns about the future. The statement reads:

"I feel like there is a never enough time. I am very pressured and am in a rush a lot of the time... I hate thinking about the past and I worry about the future alot". (Ap. D, l. 15).

Sub-theme 4a was noted in almost half of the data prior to treatment and a detailed breakdown of the prevalence can be found in table 4. Most were concise and direct explicit statements of '*there is never enough time*' although a few were identified as slightly less explicit as outlined in the following quotation. An example of this and furthermore, one that also relates to future anxieties is:

"I do worry a bit of the past, but very, very little. The same doesn't go for the future though. I tend to think much, much more of the future and it is very stressful for me at times to know that so much needs to be done or prepared for to counter future's uncertainty". (Ap. D, l. 15).

The above comments begin to build a picture as to how aspects of a number of sub-themes identified merge together to form an overall profile of an addict prior to commencing rehabilitative treatment. This is outlined in more detail later on in this section however, for now, it is fair to state that a sense of there not being enough time coincides with a great deal of worry about the future and experience of pressure, stress and anxiety. This can become important when considering the psychological profile of somebody struggling with addiction and it may be that this temporal relationship acts as a precursor or maintaining factor in unhealthy alcohol or drug use.

In stark contrast *after* treatment a distinct lack of sub-theme 4a was found. In fact, no item was identified as supporting the experience of there not being enough time in the post-intervention data. There was however a considerable amount of

reflection about change in this capacity and this leads to the next sub-theme identified in this category.

Sub-theme 4b. More time

“After treatment, feel I have more time”

Following on from sub-theme 4a, the second notion that was identified under the caption of time being an *amount* was a sense of their being *more time*, most notably *after* treatment. This was apparent in clear, explicit statements such as ‘*I feel I have more time*’.

Moreover, a reduced sense of stress and pressure was noted and is exemplified by the following comment;

“I don’t feel pressed for time anymore like I used to”. (Ap. D, l. xvi).

Importantly, these changes seem to relate to a more helpful and desirable emotional state;

“I have found myself much calmer and relaxed since treatment. It has helped put a lot into perspective”. (Ap. D, l. xvii).

An increasing suggestion of psychological wellbeing in the post-treatment data begins to form a distinct temporal profile and one that differs from the starting point as experiencing *more* time and subsequently feeling less rushed and pressured. This was also teamed with changes in how the past and future is viewed, as described in earlier themes. For example;

“After treatment I don’t feel so rushed for time – I don’t tend to think about the past or worry about the future anymore – it has all changed for the better”. (Ap. D, l. xviii).

In general, more statements describing feeling more conscious of time, where one felt positioned in relationship to it, as well as how time is experienced were noted in the post-treatment data.

Theme 5: Pace

“Time just flies...”

The fifth main theme acknowledged from the data relates to the speed or *pace* of time experienced and with this comes an interesting paradox. Participants described their experience of pace of time as either very *slowly* or very *quickly* and at an overall glance, the prevalence for these were distributed evenly for each, across both before and after rehabilitation. However, on closer exploration a subtle and interesting pattern emerged that suggests a link between pace of time and themes 1-3, the past, present and future.

The two distinct sub-themes are described in the next sections followed by a summary of how the themes relate.

Sub-theme 5a. Slowly

“Time goes very slowly”

Statements describing time being experienced as either ‘standing still’ or moving incredibly slowly (eg. *“Time stands still or moves very slowly”*) were identified across both stages of data collection, however time experienced as moving slowly was more prominent *before* treatment. Furthermore this was teamed with another temporal notion of *future*-orientations. Slow pace was noted when participants were waiting or expecting something in the future. This is exemplified in statements such as:

“Time goes very slowly for me when I am anticipating something” (Ap. D, l. 16)

and,

“Time slows when waiting for something”. (Ap. D, l. 17).

A slowed experience of time was also reported as a negative position prior to treatment:

"I actually feel that my perception of time has altered in a negative way – it is slow distorted". (Ap. D, l. 18).

One example highlighted how 'slowing down' is given as a reason for alcoholic drinking and is in some way a desirable effect to counter feeling otherwise very rushed although this slow pace was then reported as becoming problematic.

"I am very busy, multi-tasking, doing 3 things at once, working to deadlines, always feeling I haven't complete everything I need to do. When I drink I slow down... then I slow down too much, I don't bother doing things, get hungover and feel bad it and about not having enough time to do everything". (Ap. D, l. 19).

Interestingly, this segment captures a number of temporal notions identified in the themes. For example, the first sentence described a sense of pressure and race against time. This fits sub-theme 4a – a perception that there is *never enough time* to get everything done. In this example the feelings of 'rushing' relate to then wanting to take steps to *slow the pace down*. In this case attempted by drinking alcohol. Paradoxically, the next line then describes the pace as becoming *too* slow (sub-theme 5a) which then leads to regrets (sub-theme 1b) and a further sense of '*not having enough time*'. As this example demonstrates, the data and some of the identified sub-themes build, in part, an interrelated temporal profile of an addict. A further exploration of how the sub-theme relate to one another pre and post treatment is discussed in the summary section.

After treatment considerably less notions of time being experienced as *slow* were noted. As previously described in sub-theme 4b, much of the data obtained after treatment described a sense of having *more time* and simultaneously feeling less stressed or pressured. Sub-theme 2a *being present* was also much more prominent

in the post treatment data set and these factors relate to the changes found in the *pace* of time noted post treatment.

As described across many of the sub-themes, at post-treatment, the data transitioned overall to a greater focus of being more *present* and deviations of that were reflected on. For example:

"I'm learning 'one day at a time' but still spend a lot of time planning for the future". (Ap. D, l. xx).

This example illustrates a conscious shift to living more in the moment (or day) and acknowledging an awareness of when thoughts drift towards other temporal states – either the past or the future.

Instead of slower speeds of time being reported when looking ahead to the future, as identified prior to treatment, after the intervention the slowed time was associated with '*tough times*' and specifically, in relation to not being *present*:

"Time to me takes longer if I am not present or able to sit within myself". (Ap. D, l. 21).

The quote is an interesting and important reflection on the experience of time changing in relation to ones temporal perspective of past, present or future. The findings from the data suggest that time is experienced as much *slower* when one is focused on the future, anticipating or waiting for something.

A faster pace leads onto the last sub-theme 5b.

Sub-theme 5b. Quickly

"Time goes way too quickly".

A similar amount of statements were found to reflect both sub-themes 5a and 5b across the two data collection points. From the pre treatment findings comments included notions of time moving *too quickly*. In the following examples the pace of

time passing suggests relating to a sense of pressure of not having enough as outlined in sub-theme 4a.

“Time passes too quickly” (Ap. D, l. 22)

and

“I feel I don’t have enough time, that it goes too quickly” (Ap. D, l. 23).

A paradox was found with comments relating to a fast pace of time relating to both enjoyable and difficult times. An example that supports the well known saying ‘*time flies when you’re having fun*’ includes:

“I find enjoyable times pass more quickly than tough times” (Ap. D, l. xxi).

However, in addition and in contrast to the previous sub-theme, a faster pace of time was also related to past regrets as demonstrated in the following segment taken before treatment:

“Time just flies by without progress or positive things happening in my life and I then blame myself for letting things not change or happen”. (Ap. D, l. 20).

This statement suggests a lack of control over how one manages time and a theme of ‘control’ is explored in the theme 6.

Theme 6: Relationship to time.

The final theme reflects relationships to time and specifically a sense of control and ability to manage ones own time or not. Differences were found in relation to this theme at pre and post treatment stages. Many of the identified items that associated with this theme were explicit however a few were more implicit as explained in the following sub-theme section.

Sub-theme 6a. Control.

Following on from the pace of speed in the previous sub-theme and the example used:

“Time just flies by without progress or positive things happening in my life and I then blame myself for letting things not change or happen”. (Ap. D, l. 20).

As stated, a notion of lack of control weaves through such beliefs, as if time is flying by and rendering an inability to make positive progress or otherwise in a very powerless manner. Interestingly after the intervention the view shifted to:

“I now, after treatment, feel more in control of my time”. (Ap. D, l. xxiii)

Furthermore this was teamed with an optimistic stance as captured by the following example:

“I can wake up and start the day earlier, I feel I have more time”. (Ap. D, l. xxiii).

Control and power are central themes to 12-step addiction recovery as Step 1 refers to admitting powerlessness over ones addiction. Shifts in control were found to relate to temporality in the data. For example, one item stated post-treatment:

“I am seeing that I can’t control much, including the future”. (Ap. D, l. xxiii).

This is likely to be linked to the concepts the sample would have been taught during treatment in line with 12-step recovery regarding control, power and powerlessness. One line summed up a direct understanding of the above in relation to time:

“One cannot manage time, only manage oneself in relation to time”. (Ap. D, l. xxiv).

In other words, time as an external phenomena is beyond ones power to control, however, an acknowledgement is made that ones attitude and views are within an ability to control and potentially change for the better, and importantly, to achieve successful recovery from addiction.

Sub-theme 6b. Planning and Organisation.

This sub-theme reflects notions of planning, scheduling and organisation. Prior to treatment comments were noted about the lack of planning, routine or ability to organise during active addiction. Following treatment participants reflected on the importance of schedule and planning as well as intentions of continuing with new routine. This is arguably an expected notable change during any residential addiction treatment given the nature and focus on teaching clients the importance of this. Daily scheduling and time keeping forms an integral part of most addiction treatment intervention programmes.

A distinct lack of planning ability was already recognised by some of the participants upon entering treatment as demonstrated in the following reflection:

"I am not nearly as planned or organised as before. Before, NEVER late for appointments and meetings. Now, often late and hate that feeling". (Ap. D, l. 24).

This sub-theme was only observed in a small number of responses prior to treatment and generally related to an awareness of the lack of planning or scheduling in their lives at that stage. For example:

"...unsure of where I want my life to go. No goals or ambition." (Ap. D, l. 25).

After treatment, the responses contained notably more indications of consideration to planning and scheduling as would be expected having been a pivotal learning point throughout treatment. The comments following the intervention pointed to recognition of the importance of routine and planning evident in the following examples:

"I have a timetable drawn up – both physical and mental - with intentions to maintain sobriety." (Ap. D, l. xii).

"I feel I have more time but need more planning in my day". (Ap. D, l. xxvi).

"I'm learning 'one day at a time' but am also planning for the future." (Ap. D, l. xxvii).

The volume of response relating to this sub-theme is small and too limited to draw much conclusion from however it was included in the results due to distinct lack of planning or reference to it prior to starting treatment, and then the inclusion and recognition of the importance of this following the intervention.

Specific and further exploration into the experience of this transition may be useful in distinguishing more detailed differences from proactive and helpful planning and apprehension and attempts to control and prepare for the future as observed in other quotations from the data, notably sub-themes 3c and 6a.

Study themes summary

As outlined, the findings from the qualitative component of this study reveal a number of prevalent temporal themes identified from the participant comments collected at both pre and post stages of treatment.

The first three themes directly relate to the first, quantitative part of the research, in particular, notions of past, present and future. However, in addition to the measures relevant to the ZTPI used in the first part, further themes capture more detailed distinctions of temporal constructs. In particular, this includes neutral or undefined relationships to past and future as well as further elaboration on past-negative and future perspectives. One important point to emerge from the data was a distinction of future time perspective specifically the difference between fears of and hopes for the future. The thematic analysis also captured a different kind of notion to 'present' that differs to the ZTPI measure. This is one that resembles a more mindful connection to the present moment, in opposed to hedonistic or fatalistic perspectives. Other themes that were identified included relationships to time, as

well as the amount and pace of time experienced. This data enhances the understanding of participants' temporality during the treatment intervention.

Overall, prior to treatment, participants reported a view of negativity and regret about the past, together with fear and worries about the future. There was also a distinct sense of there never being enough time, of time running out, pressure and essentially an ongoing race against time. At the stage of active addiction participants reported that time tends to pass very quickly. It was also noted that there was no schedule or routine along with a sense of not having any control, or being powerless over time and time management. A profound shift in this experience was reported upon successful completion of treatment. At the point active addiction was arrested and early stages of recovery were beginning, participants reported a greater awareness of where their cognitions or thoughts were temporally. After treatment a considerable amount of reflection was offered on the importance of being in touch with the present moment and participants reported more awareness of when their thoughts drifted to the past or future. Many more comments were noted on future plans and setting goals in opposed to worries or fears. The sense of there never being enough time was replaced with a notion of there being more time and allowance of being able to slow down and experience time as passing more slowly in opposed to a pressured rush. At the same time a greater sense of control and empowerment over the management of time and routine was noted.

Temporality relates to addiction in many ways and it may be that some of the temporal changes observed in this study are beneficial to aiding ongoing recovery. The study offers an important contribution to the literature on time perspective as it is one of the first to consider changeability of the construct in a psychotherapeutic context. Limitations of this study prevent any clear conclusions being made about the stability of changes or the longer-term benefits of this, however, the findings do point to a clear shift in time perspective and temporal experience and this has

important implications for gaining a deeper understanding into the issue of addiction and potentially how treatment can support helpful change. The findings and implications of this study are explored in more detail in the discussion.

Discussion

The study aim was to investigate psychological perspectives of time throughout the duration of a residential addiction treatment intervention. Using a mixed methodology, the research explored how time perspectives relate to addiction and allied mental health as well as how this alters during the early stages of an abstinence-based therapeutic intervention.

This is the first study to investigate time perspective and addiction using the ZTPI with a mixed methodological approach and is also one of just a few emerging pieces of research that investigates the impact psychotherapeutic intervention or rehabilitation has on psychological perspectives of time. The findings combine both quantitative and qualitative data that together both support and enhance the exploration of how time perspectives relate to addiction, allied mental health and factors of rehabilitation. The current study responds to recent calls for more mixed methodological studies from the field of Counselling Psychology as well as requests that have been made for further research to investigate the changeability of psychological time perspective, specifically in relation to mental health and psychopathology (eg. Van Beek, Berghuis, Kerkhof & Beekman, 2011).

The quantitative survey based findings from this research support the overall temporal profile of active drug and alcohol use and addiction with regards to past, future and present-hedonistic time perspectives as measured by the short-form ZTPI and as reported in numerous studies over recent years (eg. Beenstock, Adams & White, 2011; Keough, Zimbardo & Boyd, 1999). In addition, the qualitative component provides an additional insight into the phenomenological experience of

drug and alcohol addicted individuals in the early stages of abstinence-based recovery.

The findings from the current study reveal that as predicted the participant's psychological perspectives of time relate to mental health most commonly associated with addiction. Depression, anxiety and compulsion significantly related to a distinct time perspective profile as measured before treatment. Importantly, the participants overall time perspective was found to significantly alter between starting and completing a residential addiction treatment intervention. As reported in the results section, stark changes were reflected via both quantitative and qualitative research methods, the latter supporting and further enriching the primary findings. Next, a more detailed elucidation of the outcome is offered before considering the limitations of the current study, suggestions for future research, implications for counselling psychology and further conclusions and reflections.

Summary and exploration of findings

The findings from this research indicate a number of pertinent ideas. As described in the introduction and results sections of this thesis, two hypotheses were tested and in addition, a more general exploration of temporality from a phenomenological perspective was included in the study. In the following section the findings from this research are compared to the existing literature and discussed in more detail together with relevant interpretation and implications.

Temporality related to mental health

One of the primary key findings from the current study relates to the first hypothesis stating that *“significant relationships will exist between Time Perspectives and three mental health factors associated with addiction: anxiety, depression and compulsion”*. This hypothesis was accepted as low to moderate strength relationships were found between time perspective (as measured by the ZTPI) and the mental health measures.

The finding from this study supports and adds to previous research suggesting certain overall temporal profiles relate to and identify as allied to and a predictor of mental health. The following section outlines these conclusions in more detail.

Past:

A past-negative TP as measured with the ZTPI most positively and significantly related to depression, anxiety and compulsion suggesting the more pessimistically one views their past the more likely they are to be troubled by these kinds of mental health issues. This supports previous findings (Zimbardo & Boyd, 1999) and research already links this time perspective to depression, anxiety, alcohol and drug use (Davies & Kinman, 2012; Beenstock, Adams & White, 2011; Chodkiewicz & Nowakowska, 2011; Erdos, Gabor and Brettner, 2009; Keough, Zimbardo & Boyd, 1999). In contrast, past-positivity was found to negatively and significantly relate to depression and anxiety suggesting that the more constructively one views the past the less likely they will be troubled with these psychological concerns.

Past-negativity also proved to be a prominent theme in the qualitative data as many participants stated notions of regrets about the past at the stage of entering treatment. Past-negativity and regret are synonymous and is something that is considered a central theme in the mindset of addicts (Floyd, 2012). It is also regarded a subjective phenomena and addicts in particular have been noted as more likely to experience and report remorse about past decisions, risk-assessment and past consumption choices (Orphanides & Zervos, 1995). Floyd (2012) proposes that in early stages of active addiction individuals tend to live more in the future with preoccupation and concern about what is to come. In the middle and latter stages of addiction it is suggested there is substantially more dwelling in the past, unhappiness and regrets. The participants involved in the current study would be regarded as at the later stages of addiction to be requiring and seeking the services of a residential treatment intervention. Certainly a strong past-negative and past-

regretful view was evident from the data collected at the beginning of treatment that pivotally was seen to alter significantly during the intervention.

The regrets and negative view of the past noted in the current study findings may relate specifically to drug and alcohol use or events and general experience that precede the addiction. The design did not allow for detailed exploration of what the regrets specifically related to. However, what is clear is from the findings is that past regrets were much more prominent in the group at the stage of entering rehab than afterwards which is important when considering that past-negative recollections and regrets are regarded as maintenance factors to addictive cycles (Floyd, 2012; Nicolle, Bach, Frith & Dolan, 2011).

Past regrets are described in many personal accounts of drug, alcohol dependence and gambling addiction however a surprising lack of psychological research has been conducted to formally examine the relationship between regret and addiction despite acknowledgements of its role in decision-making (Giorgetta, Grecucci, Bonini, Coricelli, Demarchi, Braun & Sanfey, 2013). Regret is also implicated in clinical disorders associated with addiction and most relevant to the current study; depression (Leahy, 2001), obsessive-compulsive disorder (Sachdev & Malhi, 2005) and understanding 'chase' behaviour in pathological gambling (Nicolle, Bach, Frith & Dolan, 2011).

It is not uncommon for addicts to have experienced past trauma and this should also be an important consideration in treatment interventions (Linden, Torchalla & Krausz, 2013). Furthermore, the neurobiological basis of regret, most notably the orbitofrontal cortex is also highly related to the neural networks of rejoice thus suggesting a complex relationship between the two contrasting experiences that may also relate to reward patterns in addictive behaviours such a gambling (Chandrasekhar, Capra, Moore, Noussair & Berns, 2007). Overall, the interaction between regret and addiction is an area that warrants further research both on a

neurobiological level and also as predictive, maintaining and motivating factors to addiction.

The role of regret may be pivotal to consider at an intervention stage and therefore have direct relevance and implications for informing counselling psychology practice. Limited studies to date have examined the role of regret in rehabilitation however one recent study measured levels of regret amongst smokers and found that it served as a predictor of outcome, specifically relating to reduced smoking, more attempts to quit and more awareness and concern of the impacts of smoking on health as well as the impact on loved ones (Sansone, Fong, Lee, Laux, Sirissamee, Seo, Omar and Jiang, 2013). Another study investigating binge-drinking amongst university students suggests inducing regret may be effective in reducing alcohol use intentions and subsequent behaviour (Cooke, Sniehotta & Schuz, 2007). The indications from the present study certainly signify associations between negativity about the past, regret, depression and anxiety. Crucially, a notion of regret was not prevalent by the end of treatment. Regret is a notion identified in the study findings as a potentially important aspect within a presentation of addiction and as emerging studies suggest may play a role in motivation and outcome success.

The findings from the qualitative analysis also identified reference to the past and the future in an undefined or neutral way. Notions were indicated by participants but were not defined as positive or negative and instead reflected the amount of time spent thinking about the past or the future. This was again found to change during treatment and serves as a helpful additional point regarding understanding psychological temporality in addiction.

Present:

The ZTPI measure of time perspective outlines two type of 'present' time perspective both with fairly negative connotations. As previously detailed either 'present-focused' individuals are deemed to be present-*fatalistic* in other words, be

dominated with a hopeless and helpless attitude towards ones fate or they are reported as present-*hedonistic*, ie. having a care free, risk-taking 'party animal' approach to life. Both of these types of present orientation are often associated with depression and anxiety, alcohol, drug use and addiction (Anagnostopoulos & Griva, 2012; Van Beek, Berghuis, Kerkhof & Beekman, 2011; Apostolidis, Fieulaine, Simonin & Rolland, 2006).

In the current study present-fatalistic TP positively correlated with depression and anxiety. The present-hedonistic view correlated with just anxiety. Whilst this supports previous research it also aids in developing a more detailed understanding into the subtle differences between the two present-constructs. Present-fatalism for example, captures a more powerless and pessimistic outlook akin with depression and hopelessness whilst hedonism relates more to a debauched way of being connected to the present moment with increased angst and fear. Both present-fatalistic and hedonistic views positively correlated with past-negativity suggesting these constructs relate to a pessimistic position. Distinctions between these two are explored in more detail in the next sub-heading as they were also found to significantly change during the early stages of rehabilitation.

One notion reported in the phenomenological component of the study and one that seemed to link particularly with mental health was an additional present-time orientation that differs from those captured by the ZTPI. Aside from the two present-orientations Zimbardo's time perspective inventory is designed to measure the additional qualitative findings suggest there is another distinct and more importantly seemingly useful type of 'present-mindful' orientation emerging through the implemented addiction treatment intervention that associates with more positive mental health and one that may aid recovery (Bowen, *et al.*, 2009).

The experience reported by participants at the end of treatment described a connection to the present moment in a way previously unnoted. This awareness is

in stark contrast to the notion of 'cutting off from the present' most notable and pertinent to the psychological understanding of mental health issues as well as an actively addicted person. A large body of research supports that present-time awareness is associated with more positive mental health, reduced depression and alcohol and substance use (Smith, Ortiz, Steffen, Tooley, Wiggins, Yeater, Montoya & Bernard, 2011; Witkiewitz & Bowen, 2010).

Disconnection from the present moment certainly resonates with practitioner experience of working therapeutically with addicted individuals. It has been described that individuals struggling with this issue can be identified by the apparent lack of present-time awareness. Addicts tend to wonder off with their thoughts and attention to past or future - anywhere but 'here' - and as a result are never quite fully in the moment (Kemp, 2009). The participants increase in mindful present-time awareness as identified using thematic analysis further related to the reduction in the mental health scores noted in the first part of the study however the connection to this was not measured statistically.

The findings that describe ways in which one can experience the 'present' additionally demonstrates the virtues of employing a mixed methodological approach to research as a temporal construct has been identified in the qualitative findings that will not have been distinguished by the first part of the study alone.

Future:

Future time perspective was found to negatively and significantly relate to the mental health measures and this also supports previous research (Anagnostopoulos & Griva, 2012; Zimbardo & Boyd, 1999). The current findings suggest that the more future-oriented participants are in their thinking the less likely they are to experience depression, compulsion and anxiety and vice versa as no causal inference can be determined from a correlational analysis. The future time perspective as captured by the ZTPI also significantly and negatively correlated with

other temporal constructs most associated with indices of mental health – past-negative and present-fatalistic. A stronger FTP significantly and positively correlated with past-positive TP, again another temporal indicator of positive psychological wellbeing (Van Beek, Berghuis, Kerkhof & Beekman, 2011; Zimbardo & Boyd, 1999).

The indication that a strong future time perspective relates to lower levels of anxiety and compulsion highlights an interesting paradox as anxiety in particular is marked by apprehension, concern, worries and fears of what lies ahead. The findings from the second part of the study highlight an important differentiation in future time perspective as the participants described two very different and distinct relationships to the future as identified in the themes. From the phenomenological information gained from this study, two future-related themes were noted that describe; '*worries and fears*' and '*hopes, plans and goals*' and these both have important implications for associated mental health. This temporal perspective in relation to the future also changed considerably throughout the intervention and this will be discussed in more detail in the next section.

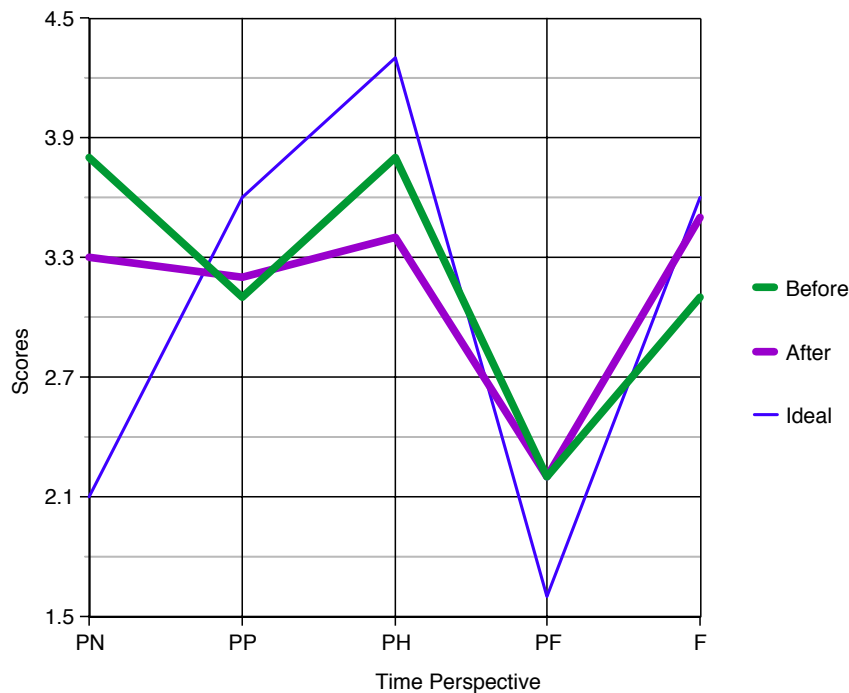
As anticipated, mental health indices were found to significantly relate to time perspectives as measured by the ZTPI. Specifically, mental health measures of depression, anxiety and compulsion associated with high levels of past-negativity and low levels of future orientation and past-positivity. The study findings also indicated present-fatalism as a correlate to depression and anxiety and present-hedonism linked to anxiety. The differences highlight distinctions between these two present constructs. Compulsion positively and significantly linked to a past-negative view although a significant negative correlation was found with higher scores on future time perspective suggesting that this temporal orientation relates to improved and reduced levels of mental health indices.

Temporal changes during treatment

The second key pertinent finding from the current study refers to the second hypothesis and relates to the significant modifications in time perspective found from before commencement to after successful completion of treatment. The results and analysis from both methodological perspectives indicate important alterations in psychological temporality, thus contributing to a comprehensive overview of these issues and the related changes that occur at a rehabilitation phase. Largely the TP construct has been regarded a stable individual difference variable and investigating its changeability highlights the novelty of the current research. At the time of writing this research, only one publication was noted that explores the changeability of the time perspectives construct within a psychotherapeutic context and again emphasises the emerging interest and application in this innovative area (eg. Zimbardo, Sword & Sword, 2012).

Figure 5 illustrates the overall time perspective profile using the ZTPI of the scores obtained before and after treatment alongside the proposed 'ideal' time perspective profile for wellbeing as explained in the introduction (Zimbardo, Sword & Sword, 2012; Zimbardo & Boyd, 2008). As can be seen in the graph the results demonstrate significant movement of time perspective towards the proposed 'ideal' profile in three out of five constructs.

Figure 5: Changes in Time Perspective pre and post treatment in relation to theorists 'ideal' TP profiles.



The changes indicate movement towards the proposed 'ideal' time perspective profile regarding past perspectives with a significant reduction in past-negativity together with a slight increase in past-positivity. Present-hedonism significantly reduced and moved in the opposite direction to that of the supposed optimal score. No change was indicated in present-fatalistic TP scores and FTP increased significantly to almost that of the proposed ideal range. Three head in the direction towards the proposed ideal time perspective profile for optimal mental health and wellbeing and the study findings suggest this shift may be beneficial and relevant to early stages of addiction recovery and related mental health (Zimbardo, Sword & Sword, 2012; Zimbardo & Boyd, 2008).

The significant reduction in past-negativity may well be a result of the therapeutic input from the intervention package. Therapy both on an individual and group level will involve processing the past. Also, much of the 12-step and counselling work involves a systematic review of the past, as outlined in step 4 of the 12-step

programme. The 12-step approach in particular suggests that those who follow the suggested programme will experience considerable change and a “*new freedom*” (Alcoholics Anonymous, 2001, p. 83) regarding the past.

“We will not regret the past nor wish to shut the door on it” (Alcoholics Anonymous, 2001, p. 83).

In this way, themes of temporality specifically in relation to the past and associated regrets are directly challenged and reconsidered. It may be that this element within the 12-step programme is pivotal to outcome success and it may prove valuable for future research to investigate this in more detail, perhaps in particular relation to themes of regret as discussed earlier.

The results from the current study demonstrate a significant reduction in past-negative and present-hedonistic perspectives in line with previous research, although no statistically significant change was indicated in either present-fatalism or past-positivity. It appears that a negative view of the past can be reduced yet that may not necessarily directly relate to an increase in past-positivity, again demonstrating the distinction between the two past constructs. The results of the multiple regression applied to the analysis of the current study indicate the slight increase in past-positive time perspective score during treatment as predictive of reduction in depression and anxiety scores. This has important potential in considering the treatment of such mental health presentation and is explored further under implications for counselling psychology. Furthermore, in the current study, past time perspectives as measured using the ZTPI demonstrate strong links with the future construct and new investigations may benefit from exploring relationships between the different time orientations and their long-term stability. More detailed suggestions for future research are noted in a later section.

Previous research points to the present-constructs, particularly present-hedonistic TP, as associating with health-risk behaviours (Fieulaine & Martinez, 2011;

Zimbardo & Boyd, 2008). This was found to reduce significantly during treatment. In the current study participants scored relatively low on present-fatalism before and after treatment – in fact there was no change in this TP throughout the intervention. This again highlights the disparity in characteristics of the two ZTPI present time perspectives. Present-hedonism actually reversed into the opposite direction to what is regarded by the theorists as optimal cognitive temporality, however, it is proposed that this result may be more helpful to individuals seeking help for addiction as they, by the nature of health-risk characteristics are expected to already score high on PHTP. Present-hedonism TP strongly associates with pleasure seeking, instant gratification, stimulation and excitement seeking, adrenalin-fuelling activities and short-term payoffs (Zimbardo & Boyd, 2008). People high in present-hedonism are playful and impulsive and unsurprisingly are regarded as most likely to engage in high-risk behaviours including alcohol and drug use and gambling (Zimbardo & Boyd, 2008; MacKillop, Anderson, Castelda, Mattson and Donovan, 2006). Individuals scoring highly in ZTPI present-orientations tend to be less conscientious and emotionally unstable compared to those scoring lower on the constructs and so the reduction in score found in the current study after successful rehabilitation treatment may bear a direct relevance to the addressing of the presenting issue and be helpful at an intervention stage to those already prone to engaging in impulsive, addictive behaviours (Zimbardo & Boyd, 2008).

As present-fatalism is also associated with high-risk actions like alcohol and drug use, it could be expected that this score would also reduce during an addiction treatment intervention. However, in the present study, scores for present-fatalistic time perspective did not change and again, this may relate to a strong component of the therapeutic treatment. Present-fatalist time perspective as captured by Zimbardo's time perspective inventory relates to an attitude of powerlessness and a lack of control over one's own destiny. Essentially it is regarded that an individual scoring high in present-fatalistic TP experiences their life path as being controlled by a force greater than themselves perhaps by something that they have no control

over (Zimbardo & Boyd, 2008). This directly relates to a key component emphasised by 12-step philosophy. Step 2 of the 12-step programme suggests that addiction is overcome by;

“Coming to believe that a power greater than ourselves could restore us to sanity” (Alcoholics Anonymous, 2001).

In the context of the study sample and in line with the 12-step approach to addiction recovery it would be actively encouraged to essentially develop a present-fatalistic view, particularly to develop a belief that a power greater than ourselves is ‘in control’ in order to recover from addiction (Alcoholics Anonymous, 2001). It could be that the complexities of a present-fatalistic view may alter during this type of input however it was beyond the scope of the current study design to explore this in detail.

As previously mentioned, the mixed methodological approach to this investigation allowed for the identification of another type of present orientation otherwise not captured by the ZTPI. This related to evident change throughout the intervention in acknowledging the benefits and importance of connecting to the present-moment in a more mindful manner. Prior to the treatment intervention there was no mention of this type of present-orientation, however there were strong reports of present-hedonism and related care-free attitude. Upon successful completion of the treatment programme over a third of the participant comments reflected the benefits and usefulness of developing a more mindful kind of connection to the present, the largest change to be captured by the qualitative findings. This shift is likely to be a direct result of the mindfulness meditation taught as a key component of the therapeutic intervention and importantly has been shown to reduce depression (Teasdale, Segal, Williams, Ridgeway, Soulsby & Lau, 2000) anxiety (Kabat-Zinn, Massion, Kristeller, Peterson, Fletcher, Pbert, Lenderking & Santorelli, 1992) and increase tolerance to distress (Baer, 2003) – all helpful traits in the management of alcohol and drug use issues.

Furthermore, in specific relation to the notions of temporality promoted in 12-step philosophy, learning to be more present, staying in the now and specifically drawing on slogans from the 12-step approach such as 'keep it in the day', 'just for today', '24 hour living' and so on encourages a temporal refocus to the day and to the moment. It is regarded that recovery is possible by attempting to achieve abstinence 'one day at a time'. Engagement in the 12-step programme demonstrates success at continued management and abstinence from alcoholism and addiction and it may be that this notion of temporal focus and change is a specific helpful component in positive rehabilitation outcomes (Gossop, Stewart & Marsden, 2007; McKellar, Stewart & Humphreys, 2003). Future research into the multitude of components within the 12-step approach is necessary in order to establish helpful contributors to the overcoming of active addiction and should include further investigation into the temporal notions of the programme.

A future time perspective was found to significantly increase during treatment as measured using the ZTPI. The change in a future time horizon almost reaches that of the proposed optimal rate and this particular temporal construct is an important predictor of health choices and psychological wellbeing (eg. Boniwell, Osin, Linley & Ivanchenko, 2010). It is the time perspective that has received the most attention in psychological research to date and shortened future time perspectives have been indicated as highly correlated with drug and alcohol use (Apostolidos, Fieulaine & Soule, 2006; Petry, Bickel & Arnett, 1998). Therefore the significant increase in future time perspective reported in the current study during the residential intervention suggests this change as a helpful shift in order to support addiction recovery, abstinence or reduced alcohol or drug use along with more positive mental wellbeing.

Overall, the findings of the change in time perspective highlight that for this particular studied client group significant changes in just two of the ZTPI constructs

indicate a potentially useful area of transition in the early stages of addiction recovery. The increase in the future TP supports the importance this construct has in relation to health choices and in addition, the findings also highlight the importance of future and past-negativity in relation to mental health. The past constructs have previously largely been neglected in earlier psychological research on time perspectives and results from this study suggest changes in past-negativity and past-positivity may have important implications for mental health. Furthermore, dimensions of past, present and future appear to interact in a dynamic way and considering an overall temporal profile may offer more useful insight than standalone perspectives.

Change in temporal themes

The virtues of implementing a mixed methodology allowed for the identification of further temporal themes and importantly these were also noted to change during the treatment intervention. Aside from the shift to a different kind of present-orientation as already outlined another stark difference included participants reporting they never felt they had 'enough' time and with that came a related sense of pressure, hurriedness and of time running out at the start of treatment. The notion of there 'never being enough' may also directly relate to an attitude synonymous with addiction and a sense of never feeling content or having enough of whatever the drug of choice may be. No mention of this theme was made *after* the intervention and some participants reported they actually felt they had *more* time after treatment. This also tied in with a sense of slowing down and possible increased contentedness.

Theme 5 described the *pace* of time experienced and identified stark differences across the data collection points. More participants reported experiencing time as passing more quickly before treatment than afterwards. Concurrently no mention of time passing slowly was mentioned at the start of treatment, however a number

of statements reflected experiences of time slowing down or passing slowly by the end and completion of treatment.

In an article on time perception a number of key research findings are summarised that identify alcohol and drugs as having a direct impact on the internal clock and subsequent estimations and experiences of time passing more quickly or slowly than recorded time (Ogden & Montgomery, 2012). Certain drugs such as methamphetamine, cocaine and alcohol have been shown to make time appear as passing more quickly whilst marijuana is reported to have the opposite effect (Ogden & Montgomery, 2012; Ogden, Wearden, Gallagher & Montgomery, 2011; Meck, 1983). It is suggested that timing estimations and time perception alterations through alcohol and drug use may increase the risk of increased substance use or overdose as the time since the last use may appear longer to the drug/alcohol user than has actually elapsed (Wittman, Leland, Churan & Paulus, 2007). Long-term effects of alcohol and drug use on time perception are currently being investigated however, whilst the current study did not employ any formal measure of time estimation the results from the thematic analysis indicate participants report a significant change in pace and amount of time experience from prior to post addiction treatment intervention (eg. Ogden & Montgomery, 2012). The impact of this on mental health and addictive cycles would warrant more detailed exploration particularly as none of the participants reported time as experiencing slowly at the start of treatment, instead many complained of feeling like there was 'never enough'. This altered vastly during treatment to zero report of individuals feeling like there was never enough time post treatment and in fact, that time felt like it passed more slowly. It may be that slowing down and experiencing a different kind of connection to, amount and pace of time may be beneficial to recovery and should be investigated in future research perhaps with more robust scientific measures of timing estimation and perception.

Themes of 'control' were also observed in the data and changed during treatment. The theme of acknowledging 'powerlessness' over the disease of addiction is a key component in 12-step philosophy as applicable to the observed treatment approach. Themes of 'control' and 'powerlessness' are noted in over eighty pages of the basic text of Narcotics Anonymous – the Twelve Steps and Twelve Traditions (Narcotics Anonymous World Services Inc, 2008). Active addicts tend to believe they can control their substance use behaviours however often end up using more than intended as identified in the recent changes in diagnostic criteria of the DSM-V (APA, 2013). Accepting lack of control, powerlessness and unmanageability over the use of addictive substances is a central theme in the 12-step approach to managing addiction. It is suggested that in order to maintain abstinence a different form of power be sought and relied upon. It is suggested this is of a spiritual, not religious nature.

"Lack of power, that was our dilemma. We had to find a power by which we could live, and it had to be a Power greater than ourselves".

(Alcoholics Anonymous, 2001, p. 45).

Recovering addicts are encouraged to consider what they can and can't control as suggested in a recommended read for fellowship members, the Daily Reflections.

"I've learned that I do not have the power and control I once thought I had. I am powerless over what people think about me. I am powerless over having just missed the bus. I am powerless over how other people work (or don't work) the steps. But I've also learned I am not powerless over some things. I am not powerless over my attitudes. I am not powerless over negativity. I am not powerless over assuming responsibility for my own recovery".

Daily Reflections, January 3rd, page 11.

As Step 2 and 3 of the 12 step programme suggests, an encouraged view is to surrender a sense of control (over substance) and instead turn self-will over to a higher power of individual understanding. This attitudinal shift has the potential for

developing acceptance and a lack of control and powerlessness and a sense that life events are controlled by the force of a “power greater than ourselves”, pre-determined destiny or fate (Alcoholics Anonymous, 2001). This emphasis may also help to explain why no significant reduction was found in the present-fatalist time perspective in the current study as, for addicts, relinquishing a certain sense of control and developing a sense of faith and belief in fate is regarded as pivotal to recovery (Alcoholics Anonymous, 2001).

Prior to the commencement of treatment participants from the current study reported considerable worries and fears of the future as identified in theme 3b (future – worries and fears). This was found to alter considerably with just one report of this post treatment and whilst that statement related to worrying about the future, this included some reflection about trying to ‘let go’ of that.

“I still worry about the future but I try to let go of the feeling that bad things will happen to me, instead will try to be as optimistic as possible.” (Appendix D, l. iv.).

Worries and fears of the future appeared overall to be replaced by themes of ‘hopes and goals’ as identified in sub-theme 3c and ‘planning and organising’ in sub-theme 6b. Again, this shift may directly relate to components taught and reinforced during the intervention. The use of planning and scheduling is a key feature in any addiction treatment recovery programme as it is deemed that implementing a timetable is an effective tool for stabilising previously very chaotic and unmanageable lives (Kemp, 2009). Future plans, hopes and goals have also been associated with more positive outcomes in addiction treatment. Erdos, Gabor and Brettner (2009) long-term study into addiction rehabilitation revealed that at the end of treatment, participants who seldom spoke about future goals or aspirations were more likely to relapse and that those who had specifically referred to plans and anticipations about the future reported longer-term rehabilitation success and continued-abstinence. The planning and goal setting noted at the end of treatment

in the current study also reflected a more hopeful and positive outlook allied with a stark increase in a future time perspective. This is regarded as a helpful transition relative to longer-term rehabilitation. These findings also highlight the relevance of considering an overall temporal profile and the importance of how perspectives may interrelate.

Overall the findings from this study adds to limited existing literature and aids the understanding of a psychological profile of addiction specifically in relation to temporality. This insight can inform the practice of counselling psychology and further implications to the division are discussed later in this chapter.

Criticism of Zimbardo's Time Perspective Inventory:

Zimbardo's Time Perspective Inventory is the only psychometric measure to capture a full temporal landscape incorporating past, present and future time perspectives and thus is the most widely used time perspective scale in psychological research to date. It is a fairly new construct and much earlier research focused on specific singular time dimensions, although more recently more consideration is given to the overall temporal profile depicted by this measure (eg. Zimbardo, Sword & Sword, 2012).

A key criticism of the ZTPI is that although it identifies two distinct and oppositional components for both *past* and *present* constructs, there is only one single *future* dimension regarded as a positive perspective synonymous with conscientiousness and achievement (Zimbardo & Boyd, 1999). The findings from the qualitative component of the present study indicate two very different relationships to the future – one arguably undesirable (worries and fears), the other more positive and optimistic (hopes, plans and goals). Much of the early research on time perspectives actually focused on future orientation as it associates with many health-protective and achievement related characteristics, positive mental health and wellbeing

(Zimbardo & Boyd, 1999). However, the findings from this study suggest that a more detailed exploration of unique relationships to the future is warranted.

The additional phenomenological component of this study identified a different kind of present orientation not otherwise captured by the ZTPI. A seemingly more helpful, enjoyable, mindful-connection and present-time awareness emerged in the participant comments post-treatment that does not relate to the rather pessimistic, unhelpful views of present-hedonistic and present-fatalistic time perspectives. An additional mindfulness scale could have been used alongside the ZTPI scale to analyse this further.

The original scale determines temporal constructs based on Western societies and as explored in the introduction may not reflect cultural differences identified and observed across the globe (Levine, 1997). Although there are currently some twenty-four translated versions of the ZTPI in use across the world, foreign adapted versions of the scale that incorporate cultural understandings of time may be warranted. The ZTPI scale also only reflects a particular cognitive perspective of time and hence it was useful to use this alongside a qualitative exploration.

The ZTPI also favours and assumes a very cognitive and linear view of temporality and is one that may not be experienced by everybody. Phenomenological investigations would be best placed to encapsulate idiosyncratic perspectives and knowledge of time.

The further findings from the thematic analysis highlight the usefulness of a mixed methodological design, as a purely quantitative design would not have allowed for the identification of a more intricate experience of future and present perspectives than the ZTPI measure captures.

Implications for Counselling Psychology

This study adds to the literature in time perspectives and addiction and specifically enhancing psychological temporal understanding of the complex mindset of individuals engaged in addictive behaviour. The findings also further support previous studies that link time perspective to depression, anxiety and compulsion.

Given the powerful yet rather limited research to date on time perspectives in a mental health or therapeutic context, it is clear that distinct and oppositional temporal profiles associate with psychological wellbeing and mental health issues as well as addiction as found in the current study and others (Zimbardo, Sword and Sword, 2012; Zimbardo and Boyd, 2008; MacKillop, Anderson, Castelda, Mattson and Donovan, 2006). Therefore, it may be that considering temporal structures, specifically within psychotherapeutic and psychological treatment and consciously aiding and supporting change to a more helpful position may offer considerable effects on mental health and wellbeing.

Many of the participants experienced and described stark changes in time perspective between beginning and completion of treatment. Temporal change is therefore possible. Importantly, this shift also significantly associated with positive changes in mental health. Furthermore, a considerable amount of the participants that offered further explanation of their experience of time attributed the specific treatment intervention to significant and helpful alterations in their temporal experience. As discussed, there are a many number of time-related aspects reported throughout the treatment intervention that appear to aid early stages of addiction treatment and it would be helpful for the area of counselling psychology to explore this further, given its unique scientific-practitioner role it is ideally placed to build on research and applied practice that indicates positive progress in therapy.

Certainly routine and structure to a day is pivotal in any addiction treatment facility further to supporting the 12-step philosophical notion of learning to live “one day at a time”. Mindfulness and present-time awareness was an integral part of the

treatment programme that appears to have had a direct affect on increasing participants' conscious awareness to the present moment. Cognitive based therapy was also a key part of the treatment and provided clients with tools to manage their thoughts and feelings, including in relation to time-related experience and gain an increased awareness of when they might mentally drift into the past or future and importantly, how that may affect their feelings. Overall, participants were able to reflect on their temporal focus and post treatment noted any deviation from the present – there was a greater reported awareness of where their thoughts were temporally. This may offer an opportunity for a very practical and cognitive approach in Counselling Psychology for therapists to support and facilitate this temporal awareness and helpful change as this model is akin with this cognitive-pragmatic approach. However, a whole range of psychotherapies including existential, humanistic and analytical approaches may well be able to work more explicitly with themes of temporality to positive effect as outlined in the introduction.

The current study has focused on addiction due to previous research indicating predictive time-related elements to its presentation. More recent studies offer emerging temporal profiles for other psychopathology and mental health in general and presents an interesting area as well as one that warrants further exploration. This developing field of knowledge base in relation to mental health and temporality will likely have further helpful implications for counselling psychology.

As previously noted, the early work of Sword & Sword on time perspective in clients with PTSD suggest firstly that cognitive changes in relation to time are possible and secondly, that there are huge psychological benefits in implementing such change (Zimbardo, Sword & Sword, 2012). I propose that due to the unique temporal position that permeates through active addiction (as described in the introduction) that this issue is one that would respond well to the development of a time-focused therapy, similarly as described by Zimbardo, Sword and Sword in their work with

PTSD, in order to directly shift the clients temporal perspective into what they describe as a more “ideal” profile – one that is synonymous with improved psychological health and wellbeing (Zimbardo, Sword & Sword, 2012). It is noted though that due to the discrepancies of predisposing addict attitudes this would not quite be the same as the proposed optimal profile suggested by those theorists, instead there would be a desired reduction in present-hedonism and perhaps aspects of present-fatalism is more desirable than initially supposed. The results of the current study indicate significant shifts towards in the profile and it is proposed that counselling psychologists are well placed to develop and support this therapeutic change in line with the most suitable therapeutic modalities used in the profession as described. Further exploration of the long-term sustainability and effects of this are called for.

Due to the limitations of this study, other implications of this research on counselling psychology are largely conceptual. On a theoretical level, it is hoped that this study, in some part, highlights the potential benefits and application in considering and working with time both implicitly and explicitly within therapy.

On a more conceptual level it is suggested that the Counselling Psychologists are ideally placed, due to the scientific-practitioner based approach of the profession, to examine and reconsider some of the traditions of time and how it fundamentally forms therapy. In particular, this includes perhaps some rethinking of the context of how time is used in counselling psychology. For example, the time structure of the fifty minute weekly or several times a week session or reflecting on the pros and cons of time-limited therapy and so on.

The structure of the time perspective model used in the current study along with the labeling of past and future is a very linear and constructed view, largely imposed and possible culturally influenced. It does not allow for an idiosyncratic exploration of time structure in individuals, however individual therapy and counselling

psychology are very well placed to explore time therapeutically in many different ways.

In summary, the implications of this research on Counselling Psychology includes the usefulness of further exploration into how time and time perspective is experienced by clients seeking therapy, not just in an addicted population, but across a range of mental health presentations. How indeed time perspectives relate to mental health and behavioural issues and lifestyle choices and how the area of counselling psychology can be best placed to work explicitly with notions of temporality within certain therapeutic modalities to help support positive change and transformation has been discussed. It is suggested that a cognitive-based framework may serve as a useful tool in order to achieve this shift as it aligns with the TP model, as directly explored in Time Therapy for PTSD (Zimbardo, Sword & Sword, 2012). However, it is also argued that counselling psychology, with flexibility and use of a range of therapeutic modalities and scientist-practitioner base is well placed to explore temporality and its effects on, and relationship to mental health and other presenting issues that draw people to therapy.

Limitations and suggestions for future research:

This study addresses a gap in emerging literature in the novel area of time perspectives within addiction and psychopathology. Whilst this research provides an insightful first-step exploration using a mixed methodological approach, there are a number of limitations to the study. Furthermore, as this study was conducted alongside the latter stages of completing a doctorate in counselling psychology a number of practical issues relating to recruitment, design and timescales restricted the potential scope of the study.

There are a number of suggestions for future research based on the limitations and results of the current study. As already touched on this includes exploring the role

of regret in addiction. Specific research questions and hypotheses to be tested in further studies are outlined.

Participant sample and recruitment methods

A key criticism and limitation of the study relates to the participant sample, recruitment channels and the moderate size of the sample. Originally, the design aim intended to collect data from a handful of residential rehabilitation providers that deliver an overall similar treatment approach as is typical of abstinence-based addiction treatment facilities. This characteristically includes individual and group counselling, process work and workshops on themes within the 12-step programme, related step work, CBT and mindfulness, as well as implementation of strong structure and routine during the residential stay. Ideally recruitment for this study would have been gained from at least three different treatment centres and indeed an additional two clinics had agreed in principle to distribute and collect data for the research however for various reasons were unable to engage or continue with this process. The difficulties included clinic managers agreeing in principle and then later not being able to collect data or not being able to provide complete sets or sufficient numbers. Data collection from a variety of treatment providers would have lent itself to a larger and more in depth study as there would have been a bigger sample size to analyse data with and statistically significant findings from different addiction treatment centres would be more strongly applicable to the study population as a whole.

Despite initial efforts to recruit from a variety of sources it was felt that due to the time-pressures of completing this study as part of doctoral training, continuing with one clinic would still offer an insight into a relatively unexplored concept to date. Also, as the research design employed a mixed methodology, comprehensive findings of time perspective in relation to addiction and temporal changes throughout this intervention could still be observed and reported in one sample. This hindrance in the recruitment process however highlights difficulties in

managing such an ambitious research project as a component part of a full doctoral programme. It is suggested that future research aims to recruit from a larger and more diverse pool of specialist service providers and possibly include comparison between services and input as described in more detail later.

It was not envisaged that the recruited sample would be as diverse as it was found to be regarding demographics, particularly nationality. Cultural differences exist in relation to temporality and ideally time perspective should be considered and the sample used would be nation specific in order to avoid any unnecessary person confounding variables. However it is worth noting the majority of the sample reported nationalities from Western cultures (eg. British, American, Australian) and so may add to the understanding of temporality in the presentation of addiction specifically regardless of demographics included gender, religion or age. The ZTPI has also been used and validated across many different cultures and demonstrates universal application so this may not be such a pivotal issue in the current study, more so a consideration noted and to reflect on future research objectives (Sircova & sixty members of the International Time Perspective Research Project, 2014).

All the participants involved in the current study sought help for alcohol or drug use however the specific substance of issue was not noted for comparison analysis. Given recent research suggests differences between how certain drugs and alcohol affects time perception it may be useful for future research to distinguish the temporal experience of different narcotics in order to develop insight into how this affects addicted individuals along with any longer-lasting psychological impact (eg. Ogden & Montgomery, 2012; Ogden, Wearden, Gallagher & Montgomery, 2011).

Confounding variables

Significant changes in time perspective were reported prior and post treatment and therefore a natural assumption could point to the intervention as the independent variable most influential for this noted difference. However, it is important to

acknowledge that extraneous variables may account for some of the changes found, yet critically, this study did not control for confounding variables.

Potentially, issues of confounding variables could have been avoided by incorporating an experimental design, recruiting a control group to observe for any variations in measures. In hindsight, a stronger study may have arisen from utilising this type of design and measuring time perspectives and temporal change (or more likely stability) in a control group in order to reinforce the idea that time perspectives are typically a constant and stable individual difference variable. Consideration was given to conducting an experimental design for this research however, after extensive discussion with the research supervisor it was decided that it was not necessary as the overall aim at this stage was to focus on time perspective in relation to addiction and importantly to observe and analyse any change during an intervention from a mixed methodological perspective. The qualitative component was intended to further enhance the findings from the first part of the research and offer an overall comprehensive insight into time, addiction and early stages of recovery.

It was felt a control group would not easily be found to match the demographics of the experimental group and ethical issues would arise from recruiting, for example, individuals on waiting lists and/or likely to be in active addiction. Recruiting a less related group to match demographics such as age and gender rather than addiction or mental health issues was considered and again, discussed at length with the research supervisor however was rejected due to the potential validity of the sample not to mention the realistic expectations of an academic project in the context of fulfilling a doctoral programme.

It is deemed that external influences are minimal given the context of the participant recruitment and treatment situation being residential and largely away from many external influences. Time perspective is also considered a relatively stable

individual difference construct unlikely to change considerably over short periods of time (Zimbaro & Boyd, 1999). However, it is suggested future research utilises an experimental design to establish the extent of any significant differences observed across time.

Treatment approaches

The intervention programme the participants completed during their residential input offered a fairly typical yet complex psychotherapeutic treatment package incorporating cognitive behavioural therapy, mindfulness training and the 12-step approach. Interestingly, all of the therapeutic approaches focus on the here and now and both CBT and 12-step philosophy facilitate a systematic review of the past and simultaneously aim to increase awareness of how past experiences can influence the present and future expectations (Rachman, 1997; Hawton, Salkovskis, Kirk & Clark, 1989). Both mindfulness and 12-step philosophy highlight the importance and benefits of bringing conscious awareness and attention to the present moment and emphasis how important this is for mental health and wellbeing and in order to remain abstinent (Bowen, *et al.*, 2009). Therefore, overall the treatment approach as a whole offers a complimentary temporal position. As discussed, it can be supposed that the temporal change reported in the participant findings align with the expected transition such a therapeutic treatment package would support, however, due to the limitations of the design, it cannot be stated for sure that the adaptations in time perspective are purely a direct result of the intervention.

Research has suggested that time perspectives can be altered through specifically targeted interventions (Sansone, 2013; Hall & Fong, 2003). This notion is theoretically explored in the “temporality in counseling psychology modalities” section in the introduction and further investigation into this may be beneficial in further informing counselling psychology practice regarding which approaches are more effective in supporting helpful temporal change in therapy. Again, this

forward-thinking research idea was considered for the current project, however was deemed too ambitious, problematic and unrealistic for a doctoral-level study. It is suggested for future research though.

Experimental designs are suggested in order to reduce effects of confounding variables and to highlight differences in stability and changeability of the time perspective construct. Future research should also aim to hypothetically test for which psychotherapeutic intervention best facilitates helpful and longer-lasting temporal change in relation to varied psychological presentations. For example, further to the current study and in relation to the issue of addiction, it would be useful to compare and analyse a CBT intervention for addiction alongside mindfulness-based therapy, 12-step engagement, person-centred counselling, acceptance and commitment therapy and/or other types of intervention. Pre and post measures of TP could also be added to psychological measures to investigate the outcome variables of psychological and counselling interventions. This could develop a deeper understanding of psychological perspectives of time and address research questions and specific testing of hypotheses such as; a) *Can psychotherapy support changeability in time perspective? If so, to what extent?* b) *What allied or additional psychological benefit can be achieved by this?* c) *Which therapeutic approach facilitates most significant and helpful temporal change relative to positive mental health outcomes?*

Such future research designs may be able to indicate in more detail approaches that relate to more successful outcomes, and therefore more clearly inform and develop therapeutic practice and intervention.

Mental health exploration

The current study focused on mental health measures of depression, anxiety and compulsion as some of the existing yet limited research to date significantly link these issues to specific time perspectives (eg. Pluck, *et al.*, 2008; Keough, Zimbardo

& Boyd, 1999). Research into TP and mental health is incredibly limited, just one recent study could be found at the time of writing that investigates time perspective from a psychiatric point of view in relation to psychopathology as explained in the introduction section (Van Beek, Berguis, Kerkhof & Beekman, 2011). It would be useful for further studies to investigate temporality within a wider range of psychological presentations such as bipolar, personality disorders, self-harm or eating disorders. The role of time perspective, whilst researched more extensively in the areas of health psychology and social studies, has largely been neglected from a counselling or clinical psychology perspective. As in the aim of the current study, attempting to develop a more comprehensive cognitive understanding into the etiology and maintaining factors of certain issues, in this instance regarding temporality may be useful in developing or enhancing therapeutic ideas and treatment. Studies and investigation into the role of time perspective has already recently been documented in PTSD symptomology and importantly, developments currently in progress report successful outcomes of working psychotherapeutically with cognitive notions of temporality in the treatment of such psychological condition (Zimbardo, Sword and Sword, 2012).

There is currently a large gap in research literature regarding how specific mental health issues relate to time perspective and building a broader and deeper documentation of understanding in this area is called for. It would develop a more detailed understanding of the role of temporality in mental health and as TP associates with both issues of psychopathology as well as positive wellbeing and health-choices may be useful to further inform treatment.

Overall temporal profile

As previously discussed, earlier research has focused on singular temporal perspectives and neglected the overall landscape and how each time dimension may interrelate. As outlined in the introduction, recollection and memory impacts on foresight and future anticipations (McDermott, 2011; Tulving, 1972). It may be that

cognitively readdressing and reconsidering the past has a direct impact on future expectations specifically worry, fears, and/or hopes. Memory theory links how one views the past to future expectations and reviewing, coming to terms with and processing the past is arguably a lot of what therapy can offer. In the book the 'Time Cure' (Zimbardo, Sword and Sword, 2012) the importance of overall temporal balance is highlighted and it was noted in their study of therapeutic work on ex-war veterans experiencing symptoms of PTSD that past perspectives demonstrate a dynamic relationship to future expectations however this research is in very early stages and is currently limited. Future research should consider relationships between temporal constructs and consider and investigate overall profiles and interrelationships between past, present and future perspectives in order to develop a more useful understanding and insight into how this may impact on health or behaviours and importantly develop a deeper understanding into helpful changeability.

Phenomenological perspectives

Another limitation of the study relates to the exploration of time perspectives from a phenomenological perspective. The latter component of the research relied on a neutral, vague question regarding how time is experienced. Participants were asked to voluntarily add any reflections about time rather than being asked specifics or directly probing questions. A more detailed questioning structure would have elucidated more valuable analysis. Whilst this open question was an initial aim of the research design in order not to potentially bias or lead any responses, it was found to restrict the exploration of subjective meaning and usefulness of this construct within the intervention.

The research could have yielded more detailed findings if a more thorough investigation of the phenomenological experience was captured and thus conducting individual interviews or focus groups and analysing such data with interpretative phenomenological analysis (IPA) or grounded theory respectively.

However, given the scale of the current research and tentative stage of exploration in such a novel area thematic analysis served as a useful research tool in order to identify the themes outlined in the results. Future studies should explore these ideas in more detail as applicable.

Longer-term studies

The study observed significant changes in time perspective from a mixed methodology between starting and completing a residential addiction treatment intervention, however, the research may have yielded much more insightful and useful findings if it had included a 3 or 6 month follow-up study to re-assess participant measures of time perspective and allied mental health in order to establish the sustainability of any helpful change. This was considered in the design of the study, however, again given the restricted time and limitations of a pre-qualification academic research, it was felt too ambitious and unrealistic to achieve suitable participant numbers within the timeframe. A longitudinal study that further assessed stability of initial temporal changes and an exploration of how that may impact on recovery and allied mental health is suggested for future research. Follow-up studies in the form of a case study may also warrant further investigation.

Conclusions and reflections:

As some of the following includes personal reflexivity relevant aspects are written in the first person.

Reflections on design

This research piece presents an exciting, forward-thinking and novel idea regarding time perspectives and addiction in counselling psychology and psychotherapy practice. The concept of focusing on an individuals temporality in order to affect positive and helpful psychological change and wellbeing is one full of stimulating potential. More specifically, due to previous research linking time perspective as measured by the ZTPI with alcohol and drug use and allied mental health, it is felt

that this is particularly pertinent and useful as an application to the issue of addiction as traditionally themes of temporality are challenged and changed during residential treatment interventions.

This study is one of the first to consider temporal changeability, not least to mention time perspective from the view of counselling psychology and I believe that the scientific-practitioner approach of this profession is ideal for actively developing and applying these kinds of novel ideas in practice in order to more effectively help and support clients to achieve personal growth and wellbeing.

A key strength to the research project was the mixed methodological design. Just one research to date has observed changes in temporality during a year-long involvement in a therapeutic community and utilised a purely qualitative approach to analyse speeches made of the participants before and after the lengthy intervention (Erdos, Gabor & Brettner, 2009). Clearly a year is a long time to observe this kind of change and in contrast, the current study captures significant and similar changes within a relatively short period of time. Furthermore, this study offers statistical robustness by using the leading quantitative measure of psychological time perspective. Zimbardos time perspective inventory has, to date, largely been applied to the areas of health and social psychology and in particular has been noted as a predictor of health-risk and protective behaviours. The current investigation is one of just a handful that considers this theory from a counselling psychology of psychotherapeutic perspective and I believe there are considerable gains from this. The structure and use of the time perspective inventory does however, make a number of assumptions about participants/human viewpoints and understanding, in particular a linear and pragmatic, cognitive sense of time.

The mixed methodology applied in the current study offers a deeper and more comprehensive insight, despite the study limitations outlined earlier. Employing a singular methodological stance would have neglected to capture nuanced

experiences of the participants in their early stages of addiction treatment. The additional notions and changes in temporality would not have been identified without this dual approach however different qualitative approaches could have been employed in order to extend the phenomenological findings. Similarly, the use of the established and validated quantitative scale adds to the statistical robustness of found changes, however aspects of the scale have also been criticised.

Over recent years, research in counselling psychology has been dominated by purely qualitative design methodologies perhaps due to the alignment of this approach and the nature of the clinical practice (Silverstein, Auerbach & Levant, 1996). Arguably research from the division has largely neglected the usefulness of quantitative research and hypothetico-deduction methods. In fact, a recent survey conducted by the Division of Counselling Psychology (DCoP, 2012) stated that amongst over seventy trainee thesis projects, just two employed a quantitative component. This was also reflective of my cohort although the division has expressed calls for more quantitative research.

The pragmatic epistemological view underpinning this research is felt appropriate and ideally placed to support this mixed methodological design. In line with this philosophy, the focus remained on 'what works' and it was important for me that this was reflected in this study, as it is very much my current view as a practicing counselling psychologist. My primary focus in therapy is around what is helpful and what understanding, meaning and objective is valuable to the client however, given the very nature of this work and of human nature, there are limits to what we can ever know about this. That said employing a larger component of qualitative research would have been interesting and valuable to explore more unique and phenomenological understandings and experiences, perhaps from a more constructivist worldview.

By the nature of the assumptions made by using the ZTPI time perspective measure, the understanding stance already positions the researcher in a cognitive-pragmatist viewpoint and that felt relevant and acceptable for this piece of research. However, during this project and particularly after completion, alongside more applied psychotherapeutic work in this area, I feel that this view may have potentially limited the scope a more phenomenological investigation may have offered and I recognise the assumptions imposed on the findings by using the chosen design methodology.

Reflections on process

In some ways, the originality of this research created some process issues in the writing. At the initial stage of submitting the research proposal, Zimbardos, Sword and Sword (2012) work on temporality in PTSD sufferers and the book 'Time Cure' had not yet been published. As can be noted from the recent publication dates of many of the more applicable studies discussed in this thesis, much thinking and research ideas arose during the writing up of this project. Whilst that in itself is exciting to be investigating a new and emerging area of psychology, it proved challenging to keep up-to-date with the very latest developments and involved considerable updating and re-writing of completed written work.

In some ways, emerging ideas throughout the data collection phase of the present study began to add to my own novel ideas and confusion and at times I experienced some sense of loss of the original study aims by already considering alternative and additional research. Developing and reminding myself to follow a more rigid adherence to the research objectives aided the overcoming of this, however it was difficult at times.

Having conducted previous research on time perspectives and having some idea that its construct may be especially pertinent to the issue of addiction primarily fuelled my passion and interest in developing further investigation and consider its

theoretical application and use in counselling psychological treatment. As previously outlined, I had noted strong themes of temporality from within my therapeutic practice during training, most notably the struggles clients report alongside addictive behaviours. An aspect of wanting to carry out this research was to investigate my clinical observations more robustly and largely drove an imposed aim of this research. It is somewhat satisfying to capture the significant changes in this current investigation despite the frustrating limitations of the design although I wonder in hindsight, would I have considered more creative research projects were it not for the drive to investigate clinical observations.

During the last year my interest and investigation in time perspective and addiction has sparked some interest from specialist treatment providers and that hopefully highlights the understanding of potential application to this kind of adjunctive intervention in the management of addictive and allied mental health presentations. Very recently, I have begun working with a leading rehabilitation clinic where some of the explorative ideas outlined in the suggestions for future research can be carried out. This includes experimental designs and longer-term follow-ups of temporality and wellbeing as well as further exploration of working explicitly with temporality with clients.

Concluding reflections

A pertinent point I feel has come from this study, perhaps indicates much of what therapy can be for people – an aid to help make sense of, develop some meaning and come to some kind of reconciliation about the past, connect to the present and contemplate the future. Memory theory and notions from the findings of the presented study suggest time as largely being experienced in a linear sense, from past, to present, to future, and that overall time perspectives interrelate in a dynamic way. Particularly for those troubled with issues of addiction, it is proposed that not only is it possible to change and change relationships to the past, it may be absolutely necessary in order to break free from habits, guilt and regret that

maintain destructive cycles and depression. An old saying from spiritual philosophy suggests '*forgiveness is giving up the hope of a better past*'. As the findings from this study suggest, importantly narratives of the past can be changed, potentially making space for a more hopeful and optimistic future and deeper conscious connection to the present.

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Appendix A – 12 step programme

The 12 step programme as outlined in the main text of Alcoholics Anonymous

1. We admitted we were powerless over alcohol – that our lives had become unmanageable.
2. Came to believe a power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of *God* as we understood him.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory, and when we were wrong promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God as we understood him, praying only for knowledge of his will for us and the power to carry that out.
12. Having had a spiritual awakening as a result of these steps, we tried to carry this message to alcoholics and to practice these principles in all our affairs.

Appendix B – Cover note / Consent form:



My name is Sarah Davies and I am conducting this research as part of the DPsych Counselling Psychology programme at City University - the results of which may be published.

The aim of this study is to examine the role played by 'time' in recovery from addiction as well as how anxiety and depression influences this process. The aim is to gain an insight into how these factors may change during early recovery. Your participation in this study is greatly appreciated.

The questionnaire should take 5-10 minutes to complete. You will be asked to complete this at the beginning of treatment and then again at completion/graduation. Any information you provide will be completely anonymous and only aggregate data will be used.

You have the right to withdraw your participation and data from the study at any time. If you wish to withdraw, this is without any prejudice and any data collected will be destroyed immediately. If have any queries at all please do not hesitate to contact me. Your choice to refuse participation in no way influences any treatment provided by the centre.

By ticking this box you acknowledge and understand what is required to participate in this study, that it is voluntary, you have the right to withdraw at any stage and are able to contact the researcher if you have any further queries.

tick box to agree to
take part...

☐

For further information or questions about the study please email:

[REDACTED]

This research is being supervised by Dr. Pavlos Filippopolous at City Uni, London.
Contactable at: [REDACTED]

Many thanks in advance. The information you provide will be very valuable.

Appendix C – Questionnaire

This first section relates to general information about you:

Please give yourself a username or number – one that you will remember to use again when completing the second questionnaire at a later date: *(please remember to use the same username on both forms)*.....

Remember that there are no right or wrong answers – please answer all questions as accurately and honestly as you can regarding how you feel.

When are you completing this questionnaire: (please circle)

BEFORE / BEGINNING treatment

AFTER / END of treatment

If completing this form at the end, how long was your residential stay in treatment?

.....days/weeks/months

What is your age?

What is your gender? (please circle)

Male

Female

What is your nationality?

Which most closely reflects your personal belief?

Agnostic

Atheist

Jewish

Muslim

Protestant

Sikh

Spiritual

Buddhist

Catholic

Christian

Hindu

Do not want to say

Other (please specify)

Have you previously worked a '12-step' programme?

YES

NO

Is this your first time entering a treatment centre?

YES

NO

How often do you experience a compulsive / obsessive desire to engage in the addictive behaviour you are seeking help for?

Never	Once a Month	Once a Week	Almost Every Day	Every Day
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On a scale of 1-10 (1 being weakest, 10 being strongest) how intense or overwhelming is any compulsive/obsessive desire you experience to engage in this addictive behaviour?

1	2	3	4	5	6	7	8	9	10
(no, or little desire)					(very strong desire)				

The following section contains questions relating to your perception of time. Please read each item and, as honestly as you can, answer the question: ‘How characteristic or true is this of me?’ It is important that you answer all of the questions.

	Very Untrue	Untrue	Neutral	True	Very True
Familiar childhood sights, sounds, smells often bring back a flood of wonderful memories.					
I often think of what I should have done differently in my life.					
It gives me pleasure to think about my past.					
When I want to achieve something, I set goals and consider specific means for reaching those goals.					
Since whatever will be will be, it doesn't really matter what I do.					
Happy memories of good times spring readily to mind.					
It is important to put excitement in my life.					
I think about the good things that I have missed out on in my life.					
It doesn't make sense to worry about the future, since there is nothing I can do about it anyway.					
I complete projects on time by making steady progress.					
I take risks to put excitement in my life.					
I am able to resist temptations when I know that there is work to be done.					
I find myself getting swept up in the excitement of the moment.					
I think about the bad things that have happened to me in the past.					
It takes joy out of the process and flow of my activities, if I have to think about goals, outcomes and products.					

Read each item below and underline or circle the reply which comes closest to how you have been feeling in the past week. Don't take too long over your replies, your immediate reaction to each item will probably be more accurate than a long, thought-out response.

I feel tense or 'wound up'			
Most of the time	A lot of the time	From time to time, occasionally	Not at all
I still enjoy the things I used to enjoy			
Definitely as much	Not quite as much	Only a little	Hardly at all
I get a sort of frightened feeling as if something awful is about to happen			
Very definitely and quite badly	Yes, but not too badly	A little, but it doesn't worry me	Not at all
I can laugh and see the funny side of things			
As much as I always could	Not quite as much now	Definitely not so much now	Not at all
Worrying thoughts go through my mind			
A great deal of the time	A lot of the time	Not too often	Very little
I feel cheerful			
Never	Not often	Sometimes	Most of the time
I can sit at ease and feel relaxed			
Definitely	Usually	Not often	Not at all
I feel as if I am slowed down			
Nearly all the time	Very often	Sometimes	Not at all
I get a sort of frightened feeling like 'butterflies' in my stomach			
Not at all	Occasionally	Quite often	Very often

I have lost interest in my appearance			
Definitely	I don't take as much care as I should	I may not take quite as much care	I take just as much care as ever
I feel restless as if I have to be on the move			
Very much indeed	Quite a lot	Not very much	Not at all
I look forward with enjoyment to things			
As much as I ever did	Rather less than I used to	Definitely less than I used to	Hardly at all
I get sudden feelings of panic			
Very often indeed	Quite often	Not very often	Not at all
I can enjoy a good book or radio or television programme			
Often	Sometimes	Not often	Very seldom

Finally, is there anything you would like to add about your understanding or experience of time...?

Thankyou very much for your time and participation in this study.
If you require any further information please do not hesitate to get in touch.

Appendix D – Qualitative Data – examples from thematic analysis.

Extracts taken from statements *prior* to treatment.

1. I am always thinking about the past.
2. I find myself thinking about the past, often
3. When I look back at the past I regret all the years of my life that I have wasted in my addiction. Time that I will never get back and wish I had spent differently. I look forward to the future but become overwhelmed at times by how much I have to change to stay clean and sober and therefore have a happy future.
4. I am haunted by my past – things I have done to others and what had been done to me. When I wake up at night I cannot get back to sleep anytime soon. I lay there and worry about things to do but mostly about things from the past.
5. I feel like I am always pushed for time and just ain't enough of it. Always thinking about the past and the future.
6. I find myself thinking about the past often – bad memories – and worry in advance about the future. I think about how I have changed drastically over the last two years in negative ways. I am also the type to worry about the future. Time just flies by without progress or positive things happening in my life and I blame myself for letting things not change or happen.
7. Regrets about the past, past decisions. Worry a lot about the future.
8. I hate thinking about my past and I worry about the future a lot
9. I am always looking to the future
10. Always thinking about the past or future
11. I worry about the future
12. Trying to be strong, but the anxiety of what is coming can be a bit overwhelming
13. Sometimes I think time is running out and I put myself under a lot of pressure to set goals and complete tasks in very regimented time frames. I have big plans and goals that I want to accomplish and I feel much of my future has been thought about and planned.
14. I feel like there is a never enough time. I am very pressured and am in a rush a lot of the time. I hate thinking about my past and I worry about the future alot.
15. I feel I cannot keep pace with what is required of me. I do worry a bit of the past, but very, very little. The same doesn't go for the future though. I tend to think much, much more of the future and it is very stressful for me at times to know that so much needs to be done or prepared for to counter future's uncertainty.
16. Time goes very slowly for me when I am anticipating something.
17. Time slows when waiting for something.
18. I actually feel that my perception of time has altered in a negative way – it is slow distorted.

19. I am very busy, multi-tasking, doing 3 things at once, working to deadlines, always feeling I haven't complete everything I need to do. When I drink I slow down... then I slow down too much, I don't bother doing things, get hungover and feel bad it and about not having enough time to do everything.
20. Time just flies by without progress or positive things happening in my life and I then blame myself for letting things not change or happen.
21. Time to me takes longer if I am not present or able to sit within myself.
22. Time passes too quickly.
23. I feel I don't have enough time, that it goes too quickly.
24. I am not nearly as planned or organised as before. Before, NEVER late for appointments and meetings. Now, often late and hate that feeling.
25. I often feel bored, sometimes lonely. Unsure of where I want my life to go. No goals or ambition.

Extracts taken from statements *after* completion of treatment:

- i. I don't tend to think about the past anymore.
- ii. I don't tend to think about my past so much.
- iii. I don't want to waste anymore time like I have in the past. My addiction has took many years off me, I refuse to let it take anymore of me.
- iv. I still think of the past, but am trying to think of the bad side of the past as my nightmare. I still worry about the future but I try to let go of the feeling that bad things will happen to me, instead will try to be as optimistic as possible.
- v. Being in treatment has changed my understanding and experience of time, especially in mindfulness and the power of 'now'.
- vi. I am very much more conscious of trying to be in the present although I often find myself in the future but am much better at being in the 'now' and working on it.
- vii. Before treatment I ruminated about the past in a negative, regretful way. I also panicked and stressed about the future. I have learned, via treatment, to live in the present. It is a great relief.
- viii. Great progress – learning to be more present is wonderful.
- ix. I don't tend to worry about the future anymore.
- x. I have learnt to stress less about the future and enjoy moments I experience each day. I often think about the past but have a better understanding that I cannot dwell on it, nor change it. I understand now I can only make positive changes today and onward without the past dragging me down.
- xi. I believe strongly in achieving what I set as goals for the future.
- xii. I am now setting goals for the future.
- xiii. After this I intend to go full swing with life. I have a timetable and intentions of maintaining complete sobriety.
- xiv. Treatment has helped me change my attitude. I don't really worry about the future and I don't really care about my past because today I am happy with my life.
- xv. I feel I have more time.

- xvi. I don't feel pressed for time anymore like I used to.
- xvii. [I] have found myself much calmer and relaxed since treatment. It has helped put a lot into perspective.
- xviii. After treatment I don't feel so rushed for time – I don't tend to think about the past or worry about the future anymore – it has all changed for the better.
- xix. I am more OK to stay with the here and now, without having to do something.
- xx. I'm learning 'one day at a time' but still spend a lot of time planning for the future. Feel less anxious now I understand alcohol fuels anxiety and that anxiety can be relieved by a healthy form of sobriety.
- xxi. I find enjoyable times pass more quickly than tough times.
- xxii. Time just flies by without progress or positive things happening in my life and I then blame myself for letting things not change or happen.
- xxiii. I now, after treatment, feel more in control of my time. I can wake up and start the day earlier, I feel I have more time. I still need more planning in my day.
- xxiv. I am seeing that I can't control much, including the future.
- xxv. One cannot manage time, only manage oneself in relation to time.
- xxvi. I have a timetable drawn up – both physical and mental - with intentions to maintain sobriety.
- xxvii. I feel I have more time [but] need more planning in my day.
- xxviii. I'm learning 'one day at a time' but am also planning for the future.