

**IS PSYCHOLOGICAL FLEXIBILITY A TRANS-THEORETICAL PROCESS
OF THERAPEUTIC CHANGE?**

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Thesis Abstract

Introduction

Psychological flexibility has been considered to be an important ingredient of good psychological health for the last five decades or so. It has been suggested that psychological flexibility predominantly refers to a number of dynamic processes which determine a person's interactions with their environment.

For the purpose of this research, the model of psychological flexibility associated with Acceptance and Commitment Therapy (ACT) has been adopted. From an ACT perspective, psychological flexibility consists of six interlinked processes: present moment awareness, acceptance, cognitive defusion, self-as-context, committed action and values. ACT founders argue that psychological flexibility is a change process in ACT.

The evidence suggests that psychological flexibility is a trans-diagnostic process, meaning that an increase in psychological flexibility is associated with a decrease of distress across a range of diagnoses. It is less clear, however, whether psychological flexibility is also trans-theoretical, meaning that it is unclear whether other successful therapies also operate through the process of psychological flexibility.

Aims

The primary aims of this study were (1) to examine whether psychological flexibility processes can be detected in client talk during therapy that does not overtly target psychological flexibility as a change process and (2) to examine whether changes in detected levels of psychological flexibility are related to clinical outcomes.

Method

A secondary data analysis was conducted in this study. The second, fourth and last sessions of Cognitive Behavioural Therapy (CBT) recordings from three participants were analysed in order to examine whether psychological flexibility could be identified in their speech. Additionally, a panel of judges (blinded to the actual clinical outcomes of the participants) made predictions about the therapy outcomes based on the analysed data.

Results

The results showed that the psychological flexibility process can be reliably identified in the talk of participants who engage in CBT. It is unclear, however, whether accurate outcome predictions can be made based on the identified patterns of psychological flexibility.

Discussion

There is a large body of research supporting the notion that a number of well-established psychological treatments produce similar outcomes across different presentations and populations, which have led some authors to conclude that some therapeutic processes contributing to achieving therapeutic change are common across all psychological treatments. It has been argued that psychological flexibility is an important process of psychotherapeutic change, and the results of this study show that its components can be identified in CBT which does not explicitly target psychological flexibility. This finding provides a platform for future research into the role of psychological flexibility in facilitating psychotherapeutic change. However, whether accurate outcome predictions can be made based on the identified patterns of psychological flexibility remains unclear.

Given that there are many similarities between ACT and CBT, it would be valuable to examine whether psychological flexibility can be also detected in therapies which do not have cognitive and behavioural roots, such as psychodynamic therapy. Additionally, further research should analyse the talk of participants whose clinical outcomes are more varied in order to examine the relationship between patterns of psychological flexibility identified in text and participants' clinical outcomes.

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Statement of Contribution

Journal article and extended paper:

- Project Design: Monika Panczak, Dr David Dawson, Dr Mark Gresswell and Dr Nima G Moghaddam
- Application for Ethical Approval: Monika Panczak
- Data Collection: Dr Hannah Daniels, supervised by Dr Mark Gresswell
- Data Analysis: Monika Panczak
- Inter-rater reliability checks: Dr David Dawson and Dr Nima G. Moghaddam
- Outcome predictions: Monika Panczak, Dr David Dawson, Dr Mark Gresswell, and Dr Nima G. Moghaddam
- Write-up (including literature review): Monika Panczak, supervised by Dr David Dawson and Dr Mark Gresswell

Advice was given throughout by Dr David Dawson, Dr Mark Gresswell and Dr Nima G. Moghaddam, on many aspects, including conceptualisation and refinement of the project.

Table of Contents

Thesis Abstract	2
Acknowledgements	5
Statement of Contribution	6
Systematic Literature Review.....	13
Abstract.....	15
Introduction	16
Motivation for Firesetting.....	16
Method.....	18
Information Sources and Search Criteria	18
Selection Criteria	18
Study Selection	19
Data Abstraction	19
Assessment of Methodological Quality.....	19
Synthesis of Results.....	20
Results	22
Methodological Characteristics	22
Quantitative Studies.....	22
Qualitative Studies.....	46
Key findings	49
References	60
Journal Paper	66
Abstract.....	68
Introduction	69
Psychological Flexibility	71
Acceptance and Commitment Therapy	74
Rationale for the Current Study.....	74
Method.....	76
Data.....	76
Participants	76
Outcome Measures	77
Procedure	80
Ethics..	80

Development of the coding framework	80
<i>Application of the coding framework</i>	83
Results	85
Proportion of PF Processes in Client Talk	85
Patterns of PF and Clinical Outcomes	89
Individual Participants	91
Participant 1 (P1)	91
Participant 2 (P2)	92
Participant 3 (P3)	92
Clinical Outcomes	93
Outcome predictions	95
Discussion	96
Identifying PF in Participant Talk	96
Psychological Flexibility and Clinical Outcomes	98
Limitations and Further Research	100
Conclusions	102
References	103
Extended Paper	112
1. Extended Introduction	113
1.1 Mental Health	113
1.2 Aetiology	113
1.3 Treatment	115
1.4 Common Factors	115
1.5 Psychological Flexibility (PF)	119
1.6 Specific Factors	127
1.7 Therapy Approaches Relevant to This Study	128
1.7.1 Cognitive Behavioural Therapy (CBT)	128
1.7.2 Acceptance and Commitment Therapy (ACT)	131
1.7.3 ACT treatment	132
1.8 Psychological Flexibility as a Process of Change in ACT	134
1.9 Psychological Flexibility as a Process of Change in Other Treatments	135
1.10 Research Rationale	136
2. Extended Methodology	137
2.1 Epistemology	137
2.2 Methodology	138

2.3 Data.....	139
2.4 Participant Demographics.....	139
2.5 Data storage and security.....	140
2.6 Procedure.....	140
2.6.1 Coding procedure.	140
2.6.2 Procedure for calculating percentage of PF components	145
3. Extended Results.....	148
3.1 Identifying PF Processes in Participant Talk.....	148
3.2 Double and Triple Coding	148
4. Extended Discussion.....	149
4.1 PF Patterns in Participant Talk	149
4.2 Double Coding.....	150
4.3 Psychological Flexibility and Clinical Outcomes	150
4.4 Strengths, Limitations and Further Research	152
4.5 Clinical Implications	153
5. Reflections	154
5.1 Reflections on Motivation and Project Development.....	154
5.2 Reflections on the Research Process	155
5.3 Reflections on Epistemology.....	157
5.4 Reflections on Challenges	158
6. References	159
Appendices	177
Poster.....	202

List of Tables

Table 1.	General characteristics and key findings of studies reporting the motivation for firesetting.....	24
Table 2.	Methodological characteristics of quantitative studies	43
Table 3.	Methodological characteristics of qualitative studies	47
Table 4.	Motivations reported by un-apprehended firesetters	50
Table 5.	Motivations reported by apprehended firesetters	53
Table 6.	Participant Demographics.....	76
Table 7.	Outcome Measures: Characteristics and Psychometric Properties..	78
Table 8.	Example of Adaptation for current study.....	80
Table 9.	Coding framework.....	81
Table 10.	A percentage of coded text per participant, per PF domain per session (including text coded as ‘neutral’)......	86
Table 11.	Means and standard deviations of percentages of coded talk across sessions (including text coded as PF, neutral and PI).....	87
Table 12.	A sample of coded participants’ talk for each PF domain.....	88
Table 13.	Participants’ individual therapy outcomes and outcome predictions made by the judges.....	94
Table 14.	Additional participant demographics.....	139
Table 15.	Percentage of each PF component identified in participants’ talk in the whole session (% of participant talk and % of therapist talk per session equals 100% talk).....	146
Table 16.	Percentage of each PF component identified in participants’ talk per session.....	147
Table 17.	Means and Standard deviations of percentages of coded talk for individual participants (including text coded as PF, neutral, and PI).....	148

List of Figures

Figure 1.	PRISMA diagram outlining the selection process.....	21
Figure 2.	A model of PF adapted from Hayes, Luoma, Bond, Masuda, and Lillis (2006).....	72
Figure 3.	An ACT model of psychopathology adapted from Hayes, Luoma, Bond, Masuda, and Lillis (2006).....	73
Figure 4.	A sum of the percentages of participants' talk coded as 'flexible' and 'inflexible'.....	90
Figure 5.	Factors contributing to effectiveness of psychotherapy (Lambert, 1992).....	116

List of Appendices

Appendix A. Detailed outline of searched terms.....	178
Appendix B. Final version of ethics application.....	183
Appendix C. Email from the SOPREC representative confirming ethical approval for the current study.....	199
Appendix D. General Data Protection Regulation Confidentiality Agreement for Transcribers.....	201

Systematic Literature Review

Motivations for firesetting: why do they say they do it?

Systematic Literature Review

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Abstract

Every year, deliberately set fires result in many fatalities, serious injuries and have a large economical cost. Despite the serious consequences, there is a relatively limited amount of research that attempts to explore psychological processes associated with firesetting behaviour. This paper details a systematic review of peer –reviewed quantitative and qualitative articles that reported motivational factors for setting fires as their primary data. Motivation has been considered an important factor in understanding why people behave in a certain way. Consequently, many classifications of firesetters are based on the motivational factors. Although the quality of the articles included in this review vary significantly, some conclusions related to motivations for firesetting have been drawn. The findings suggest that firesetters form some distinct groups based in the demographic characteristics (e.g. age, legal status, cognitive ability), and that the motivations reported by those groups of firesetters seem to differ. These findings are discussed in relation to clinical implications and possible directions for further research.

Keywords: Firesetting, motivations, arson, firesetter

Introduction

Every year deliberate firesetting leads to numerous deaths, injuries and damage to property. The Department for Communities & Local Government (DCLG; 2015) reported 22,000 deliberate fires in Great Britain in 2013-14 accounting for 70 deaths and 1,330 non-fatal casualties. The latest published figures suggest that in 2008 the financial cost of arson was £1.7bn, which does not include the environmental and social costs resulting from arson (DCLG, 2011). Notwithstanding this significant human and economic cost, theoretical understanding of firesetting, including the motivation for setting fires, is still underdeveloped (Gannon & Pina, 2010).

A term ‘deliberate firesetting’ is frequently used interchangeably with ‘arson’ to describe the act of setting fire. It is important to note however that in the UK, ‘arson’ is defined by the Criminal Damage Act 1971 as ‘to destroy or damage property intending thereby to endanger the life of another, or being reckless as to whether the life of another would thereby be endangered’ (The Crown Prosecution Service, 2014). Consequently, ‘arsonists’ are a group of offenders who have been convicted for arson. Many research papers (e.g. Barrowcliffe & Gannon, 2015; Kolko & Kazdin, 1994) have acknowledged that a significant number of people who set deliberate fires have never been apprehended. Consequently, following Gannon and Pina (2010) recommendations, in this review the term ‘firesetting’ will be used to describe all deliberate acts of setting fire, and individuals who set deliberate fires will be referred to as ‘firesetters’.

Motivation for Firesetting

It has been suggested that motivation plays an important function in understanding the processes behind firesetting behaviour (Prins, 1994). For the purpose of this review, motivation will be defined broadly as ‘the cause, reason, or incentive that induces or prompts specific behaviour’ (Rider, 1980, p.11). It has been suggested that firesetters

have been the most frequently categorised in relation to their motivation underlying firesetting behaviour (Doley, 2003; Gannon & Pina, 2010).

The earliest attempts to categorise firesetters began in the 1950s, with Lewis and Yarnell (1951) proposing five categories of firesetters who set fires for 'mental reasons': accidental or unintentional, delusional, erotically-motivated, revenge motivated, and child fire play. Any instance of firesetting for financial gain were excluded. Since then, many other typologies based on motivation for firesetting have been developed.

After examining the records of all paroled firesetters released from the New York State prison between 1961 and 1966, Inciardi (1970) suggested six categories of firesetters: revenge, excitement, institutionalised, insurance claim, vandalism, and crime concealers. He reported that the largest group of firesetters were represented by those motivated by revenge, followed by excitement seeking. Even though Inciardi's (1970) work is considered to be one of the most extensive attempts to categorise firesetters (Gannon & Pina, 2010; Rix, 1994) it is flawed by its poor conceptual clarity. This is because the individuals could be categorised according to motive (i.e., insurance claim) or demographic characteristics (i.e., residing in a psychiatric hospital). Many other classifications have been developed since 1970 (e.g., Dennett, 1980; Icové & Estépp, 1987, Koson & Dvoskin, 1982) but none of these classifications seem to be flawless (Geller, 1992), and many authors emphasised the complexity of individuals' motivations for firesetting (Prins, Tennent, & Trick, 1985;). It has also been recognised that most of the firesetters report more than one motivation for setting fire, which made some of the authors question the utility of categorising firesetters solely on the basis of their motivations for setting fires (Doley, 2003; Prins, 1994, Rider, 1980).

The most recently developed theory of firesetting, The Multi-Trajectory Theory of Adult Firesetting (M-TTAF; Gannon, Ó Ciardha, Doley, & Alleyne, 2012), considers

motivational factors for behaviour as a part of prototypical trajectories associated with firesetting. This theory was developed by incorporating broad theoretical components from various areas of forensic psychology, firesetting taxonomies and clinical experience (Gannon et al., 2012).

The aim of this review is to ascertain what firesetters report as their motivation for setting fires. This knowledge may contribute to the further development of existing theories, and also help to inform clinical practice.

Method

Information Sources and Search Criteria

A summary of the literature selection process is outlined in Figure 1. The following online databases were searched (with period covered): Academic Search Complete (1984 – 2017), AMED (1985-2011), CINAHL (1982-2017), MEDLINE (1919-2011), PsycARTICLES (1908 – 2014), PsycINFO (1893- 2017).

Key terms used were: ‘fire raiser’, ‘fire starting’, ‘fire starters’, ‘fire starter’, ‘fire raisers’, ‘fire raising’, ‘fire setter’, ‘fire setters’, ‘fire setting’, arson*, fire set*, fire set, desire*, rational*, motiv*, urge*, justification*, reason*. Terms were searched individually in the first instance, and then in conjunction as appropriate (see Appendix A for more details). The search was completed on the 27th of, July 2017. The reference lists of included articles were also searched.

Selection Criteria

To ensure a minimum quality of the papers, only peer-reviewed journal articles were included in this review. The included papers were qualitative and quantitative studies available in English reporting motivational factors as their primary data to minimise biases associated with secondary reporting. Given the limited number of papers in the

area, inclusion criteria were purposefully broad. Papers were included only if data related to motivational factors were reported independently or if extractable.

Study Selection

Four hundred and sixty two papers were identified as potentially relevant for the review in the initial search. The Refworks reference software was used to remove duplicates.

Titles and abstracts were scanned by the primary author in line with inclusion/exclusion criteria, which resulted in 44 papers being identified as potentially relevant and accessed in full-text.

The reference lists of the selected papers were hand-searched by the primary author and 14 other suitable articles were identified, of which 2 met criteria for inclusion within the review.

After examining full-text articles in line with exclusion/inclusion criteria, 45 papers were removed; therefore, 13 articles are included in this review.

Data Abstraction

Studies were categorised according to two groups: (a) children participants, (b) adult participants. The general characteristic and key findings were extracted from all studies and tabulated in Table 1.

Assessment of Methodological Quality

Various standardised tools exist that can be used to evaluate the methodological quality of published research, although their value in systematic reviews is debated due to their limited reliability (e.g. Juni, Witschi, Bloch, & Egger, 1999). The Newcastle-Ottawa Scale (NOS; Wells et al., 2009) was adapted for this review to assess the methodological quality of quantitative papers (Table 2). To assess the quality of qualitative studies, criteria shaped by Tracy's (2010) recommendations were applied (see Table 3).

Synthesis of Results

A frequency analysis was utilised when appropriate data was available. The narrative framework was used when the 'frequency data' was not reported.

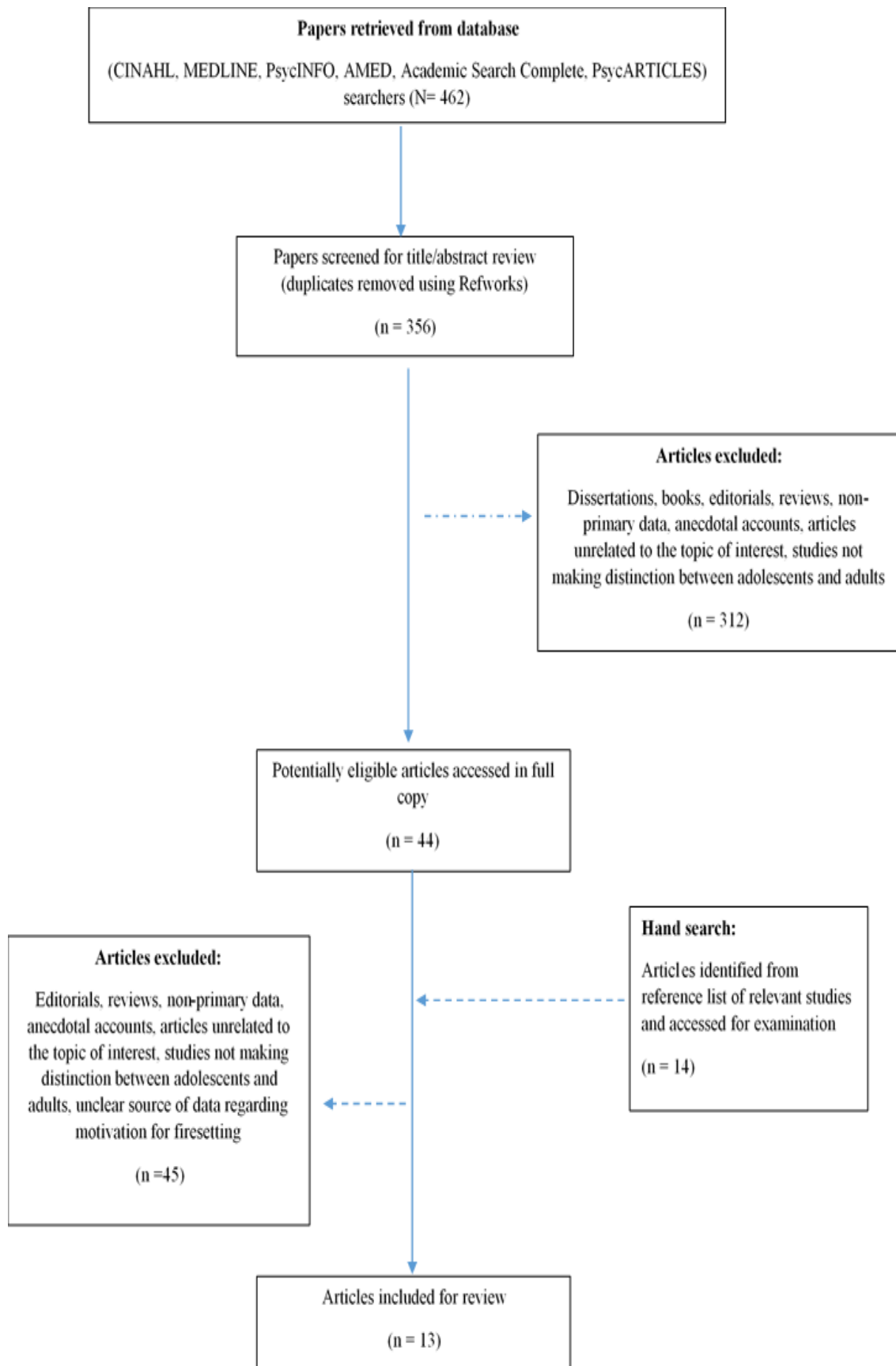


Figure 1. PRISMA diagram outlining the selection process

Results

Methodological Characteristics

Quantitative Studies

Six studies included in the review used a quantitative methodology, (Barrowcliffe & Gannon, 2015; Barrowcliffe & Gannon, 2016; Clare, Murphy, Cox, & Chaplin, 1992; Gannon & Barrowcliffe, 2012; Murphy & Clare, 1996; Taylor, Robertson, Thorne, Belshaw, & Watson, 2006).

The quality of papers was varied. For example, while the data regarding participant demographics was satisfactorily reported in all studies, sample representativeness ranged from good (i.e. the sample included confirmed firesetters; Clare et al., 1992; Murphy & Clare, 1996; Tylor et al., 2006) to moderate (i.e., the sample included self-reported firesetters; (Barrowcliffe & Gannon, 2015; Barrowcliffe & Gannon, 2016; Gannon & Barrowcliffe, 2012). Also, sample sizes ranged from 1 (i.e., lacking generalisability) to 40, with a total of 93 participants across all studies². Inclusion and exclusion criteria were made explicit in the majority of the studies, with only one deemed ‘moderate’ in this domain (Tylor et al., 2006).

Three studies (Clare et al., 1992; Murphy & Clare, 1996; Taylor et al., 2006) did not specify whether the participants were recalling information related to an event that had happened in childhood, or how recent it was. The remaining papers (Barrowcliffe & Gannon, 2015; Barrowcliffe & Gannon, 2016; Gannon & Barrowcliffe, 2012) did report whether the firesetting had taken place in childhood, adulthood, or both. This is important as ‘recall bias’ may have affected the results relating to childhood fires reported by adult

² Only the number of firesetters taking part in the studies are reported here.

participants. It should be noted that this issue is further complicated for those participants who may have set multiple fires, in both childhood and adulthood.

Other potential methodological biases were identified. For example, all of the studies gathered data retrospectively, which may have decreased reliability of the participant's recall (Dohrenwend, 2006; Jenkins, Hurst, and Rose, 1979). Three studies used statements describing potential reasons for firesetting as an inclusion criteria (i.e., a person would only be considered to be a firesetter if they answered yes to any of the statements (Barrowcliffe & Gannon, 2015; Barrowcliffe & Gannon, 2016; Gannon & Barrowcliffe, 2012). Gannon and Barrowcliffe (2012) and Barrowcliffe & Gannon (2016) recruited their participants via a combination of university and community forums, social media, the University Research Participation Scheme, and snowballing techniques which potentially led to self-selected sample biases.

All studies used measures that were appropriate for deriving the data regarding the motivation for firesetting, but did not provide information regarding psychometric properties of the measures they used. Finally, the single-case study reported by Clare and Chaplin (1992) provides useful information for clinical practice, but cannot be generalised to all firesetters.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
1. Clare, Murphy, Cox & Chaplin (1992) The UK	<p>Quantitative</p> <p>Questionnaire: The Fire Assessment Interview (FAI)</p> <p>Analysis</p> <p>Descriptive statistics employed to analyse set of data of interest to this review</p>	<p>Number of participants:</p> <p>N = 1</p> <p>Gender</p> <p>Male</p> <p>Age</p> <p>23</p> <p>Cognitive functioning</p> <p>Mild Intellectual Disability</p> <p>Setting</p> <p>Inpatient</p>	<ul style="list-style-type: none"> - The cognitions/feelings prior and after the event are retrospectively self-reported by the participant as ‘motives’. <p><i>Firesetting Motivation</i></p> <ul style="list-style-type: none"> - The main feeling/cognition experienced by the participant prior to firesetting was the anxiety. - Setting fire did not reduce anxiety. - The other important contributing factor was his perception that people weren’t listening to his wishes or paying attention to him. - Anger, sadness, and boredom were other contributing factors. - The main effects of setting a fire were gaining attention and feeling less sad.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
2. Murphy & Clare (1996) The UK	<p>Quantitative</p> <p>Questionnaires:</p> <p>The Firesetting Assessment Schedule (FAS),</p> <p>Analysis</p> <p>Descriptive statistics employed to analyse set of data of interest to this review</p>	<p>Number of participants:</p> <p>N = 20 (firesetters $n = 10$ and control group $n = 10$)</p> <p>Gender (index group)</p> <p>Males ($n = 7$)</p> <p>Females ($n = 3$)</p> <p>Age</p> <p>Average age: 26.4 (range 18 to 38)</p> <p>Cognitive functioning</p> <p>IQ ranging from 61 to 78, mean: 68.4</p>	<p>- Participants completed the Fire Assessment Schedule which explores the events, feelings, and thoughts before and after setting the fire.</p> <p><i>Firesetting Motivation</i></p> <p>- The most common emotion reported as present before setting the fire was: anger ($n = 6$), followed by not being listened to ($n = 5$), feeling sad/depressed ($n = 4$), boredom/needing stimulation ($n = 3$), feeling anxious and tense ($n = 2$), and having auditory hallucinations ($n = 1$). The participants reported that the following outcomes of/from setting the fire: feeling less angry ($n = 5$), feeling listened to ($n = 3$), feeling less anxious ($n = 2$), feeling excited/less bored ($n = 2$).</p> <p>- None of the participants listed ‘feeling less sad/depressed’, ‘reducing auditory hallucinations’, ‘increased peer approval’, or ‘avoidance of task/situation’ as an outcome of the firesetting behaviour.</p>

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
		<p>Setting</p> <p>Inpatient</p>	
<p>3. Tylor, Robertson, Thome, Beslaw & Watson (2006) The UK</p>	<p>Quantitative</p> <p>Fire-Setters Assessment Schedule (FSAS, Murphy & Clare, 1996).</p> <p>Analysis</p> <p>Descriptive statistics employed to analyse set of data of interest to this review</p>	<p>Number of participants:</p> <p>N = 6</p> <p>Gender</p> <p>Females (<i>n</i> = 6)</p> <p>Age</p> <p>Average age: 34.4 years (range 20 to 48)</p> <p>Cognitive functioning</p> <p>WAIS-R full scale IQ ranging from 64 to 82, mean: 74</p>	<p>- The FSAS (which explores the events, feelings and thoughts before and after setting the fire) was administered at the beginning of the treatment program.</p> <p><i>Firesetting Motivation</i></p> <p>- The most common emotion/event prior to the firesetting reported by the participants was feeling of anger (mean FSAS rating 2.5), followed by ‘low social attention’ (2.3), ‘feeling sad/depressed’ (1.8), ‘feeling anxious/tense’ (1.2), ‘feeling bored/need for stimulation’ (1), ‘auditory hallucinations’ (1), ‘wanting to avoid a task or situation’ (0.3).</p> <p>- The participants reported that the following outcomes of setting the fire: ‘feeling less angry’ (mean FSAS rating 1.3), ‘feeling listened to’ (1.3), ‘feeling less sad/depressed’(1.2), ‘feeling less anxious/tense’ (1.2), ‘feeling less bored/more stimulated (0.8), ‘increased peer approval’ (0.7), ‘reduced</p>

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
		<p>Setting</p> <p>Inpatient</p>	<p>auditory hallucinations’ (0.3), and ‘avoided task or situation’ (0.3).</p>
<p>4. Coid, Wilkins & Coid (1999) The UK</p>	<p>Qualitative</p> <p>Clinical interviews</p> <p>Analysis</p> <p>Not stated</p>	<p>Number of participants:</p> <p>N= 136</p> <p>Gender</p> <p>Female (with history of self-harm and firesetting, $n = 25$)³</p> <p><i>Female (with history of self-harm but no firesetting, $n = 49$)</i></p> <p><i>Female (without history of self-harm, $n = 62$)</i></p>	<p>- Participants were asked about various motivating factors that were related to the incidents of setting fire. They were also asked about the presence of symptoms and phenomenological variables that preceded and accompanied incidents of firesetting, and about any associated activities and experiences after the event. The item sheet allowed for multiple coding of motives.</p> <p><i>Firesetting Motivation</i></p> <p>- Displaced aggression was the most common motivation reported by participants ($n = 20$, 80%) followed by revenge ($n = 8$, 32%), excitement ($n = 4$, 16%), suicidal intention ($n = 3$, 12%), and seeking attention ($n = 3$, 12%). Three women (12%) claimed the fire to be an accident.</p> <p>- Eight women (32%) reported that the firesetting was pre-planned.</p>

³ Only information provided by this group will be analysed as it provides data of interest for this review.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
		<p>Age</p> <p>Average age: 23.3 years (for women with history of self-harm and firesetting; range not stated)</p> <p>Cognitive functioning</p> <p>Not reported</p> <p>Setting</p> <p>Prison</p>	<ul style="list-style-type: none"> - Participants reported that prior to setting the fires, they were experiencing distressing symptoms/feelings of anxiety ($n = 17, 68\%$), dysmorphia ($n = 17, 68\%$), anger ($n = 15, 60\%$), depersonalisation ($n = 3, 12\%$), and emptiness ($n = 2, 8\%$). - 19 (76%) women reported the experience of “symptom build up” and 13 (52%) women stated that the urge to set a fire became irresistible once they had decided to do it. - A reduction of symptom intensity, or a “sense of relief”, following the firesetting behaviour was reported by 15 (60%) women
5. Rix (1994) The UK	<p>Qualitative</p> <p>Interviews</p>	<p>Number of participants:</p> <p>N= 153 (firesetters)</p>	<ul style="list-style-type: none"> - Some participants identified more than one motive for setting a fire, especially when they had gone on to set more than one fire in the future.
	<p>Analysis</p> <p>Not stated</p>	<p>Gender</p> <p>Female ($n = 24$)</p> <p>Male ($n = 129$)</p>	<p><i>Firesetting Motivation</i></p> <ul style="list-style-type: none"> - The most common motive reported by participants was revenge on specific people or society as a whole (men, $n = 42 [33\%]$; women, $n = 5 [21 \%]$; all, $n = 47 [31\%]$).

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
		<p>Age</p> <p>Average age: 25 years (male, range 16 to 52) and 31 years (female; range 18 to 62)</p>	<ul style="list-style-type: none"> - The second most common reported motive was excitement (all, $n = 17$ [11%]). Men provided this a motive more often ($n = 16$ [12%]) than women ($n = 1$ [4%]). - The next most common motive was vandalism, which was only reported by men ($n = 13$ [10%]). - The fourth most common motive was ‘cry for help’ or ‘attention seeking’, with seven (5%) men and four (17%) women reporting this as a motive ($n = 11$ [7%] in total)
		<p>Cognitive functioning</p> <p>15 men and two women were reported as having intellectual disability (17 in total).</p>	<ul style="list-style-type: none"> - Attempted suicide was reported by nine (7%) men and one (4%) woman as a motive to set fire ($n = 10$ [7%] in total). This category could be potentially combined within an ‘attention seeking’ category due to difficulties determining the motive in some cases.
		<p>Setting</p> <p>Prison</p>	<ul style="list-style-type: none"> - The sixth most common motive was rehousing (men $n = 5$ [4%]; women $n = 5$ [21%]; both $n = 10$ [7%]). This category has not been reported in any other study. - Psychosis was reported as a reason for setting fires by eight (5%) participants (men $n = 5$ [3%]; women $n = 3$ [13%]). - Carelessness was reported only by men ($n = 8$ [6%]).

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
			<ul style="list-style-type: none"> - Seven (5%) participants reported that they set fires for financial reasons (i.e., insurance, fraud). Men $n = 6$ [5%]; women $n = 1$ [4%]. - A further seven (5%) participants starting a fire to cover up the evidence of a burglary (men $n = 6$ [5%]; women $n = 1$ [4%]). - Six (4%) participants stated that they set fires to be seen as a hero (men $n = 5$ [4%]; women $n = 1$ [4%]). - ‘Other manipulative’ motivation (e.g. trying to get back to prison) was reported by six (4%) individuals (men $n = 5$ [4%]; women $n = 1$ [4%]). - Three men (2%) reported that setting fire was like ‘antidepressant’. - Another three (2%) participants reported setting fires on behalf of another (‘proxy’). There were two (1%) men and one (4%) woman in this category. - Political motives were reported by two men (1%), and none of the women.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
6. Barnoux, Gannon & O Ciardha (2015) The UK	<p>Qualitative</p> <p>Semi-structured interviews</p> <p>Analysis</p> <p>Grounded theory (GT; Strauss & Corbin, 1998)</p>	<p>Number of participants:</p> <p>N = 38 (firesetters)</p> <p>Gender</p> <p>Male (<i>n</i> = 38)</p> <p>Age</p> <p>Average age: 34.24 years (range 18 to 63).</p> <p>Cognitive functioning</p> <p>Two participants were diagnosed with intellectual disability</p> <p>Setting</p> <p>Prison</p>	<p>- The motives for firesetting are understood as ‘the offence-related goals’ which developed from proximal triggers leading up the offence and the affective responses they generated.</p> <p><i>Firesetting Motivation</i></p> <p>- The 35 participants reported at least one trigger that was contributing to their offending. Three categories of proximal triggers emerged from the data: moral transgression (<i>n</i> = 12), conflict/provocation (<i>n</i> = 21), and unmet needs/problem perceived as unsolvable (<i>n</i> = 9).</p> <p>- Those without identifiable triggers (<i>n</i> = 3) set fires in the context of their wider offending behaviour, symptomatic of a generally anti-social lifestyle.</p> <p>- Proximal triggers created three main affective responses: anger (<i>n</i> = 27), fear related to being in an unwanted/life-threatening position (<i>n</i> = 6), and frustration because of feeling from attaining goals or unmet expectations (<i>n</i> = 12). Some participants reported experiencing more than one of these emotions.</p>

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
7. Gannon & Barrowcliffe (2012) The UK	Quantitative Questionnaire (mixture of open-ended and closed questions)	Number of participants: N = 158 (150 completed the study) Self-reported firesetters:	<ul style="list-style-type: none"> - Two pathways for goal development were identified from the data: <ul style="list-style-type: none"> ○ Non-fire-related goals ($n = 12$). Motives included protection ($n = 2$), escape ($n = 2$), economic gain ($n = 2$), revenge ($n = 4$), thrill-seeking ($n = 2$), and communication ($n = 2$). These participants used fire to execute other offence-related goals (e.g., concealing evidence [$n = 5$] or killing a target [$n = 2$]). For these men, their fires were either unplanned or immediately planned during the commission of the offence. ○ Fire-related goals ($n = 26$). Reported motives included protection ($n = 1$), escape ($n = 3$), revenge ($n = 10$), power ($n = 6$), and protest ($n = 6$). The majority of participants on this pathway planned their firesetting before they committed the offence ($n = 18$). <hr/> <ul style="list-style-type: none"> - If participants indicated that they have set fire in the past, they were asked to answer questions in ‘the fire disclosure section’, where one of the open-ended questions was: “why did you start the fire(s)?” - Two participants reported starting a fire during adulthood, and 16 during adolescence.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
	<p>Analysis</p> <p>Descriptive statistics employed to analyse set of data of interest of this review</p>	<p>N= 18 (16 completed the study)</p> <p>Gender</p> <p>Female (<i>n</i> = 109)</p> <p>Male (<i>n</i> = 49)</p> <p>Self-reported firesetters:</p> <p>Female (<i>n</i> = 10, 55.6%)</p> <p>Male (<i>n</i> = 8, 44.4%)</p> <p>Age</p> <p>Average age: 32.1 years (range 18 to 70).</p> <p>Cognitive functioning</p> <p>Not reported</p>	<ul style="list-style-type: none"> - Most of the participants stated that they did not plan to set the fire (<i>n</i> = 13, 72%). - Seven of the participants reported that they set fires impulsively (<i>n</i> = 7, 39%) <p style="text-align: center;"><i>Firesetting Motivation</i></p> <ul style="list-style-type: none"> - The most common reason reported by participants for setting fires was boredom (<i>n</i> = 8). - The other reasons provided by participants included peer pressure (<i>n</i> = 2), wanting to rebel (<i>n</i> = 1), to express feelings (<i>n</i> = 2), to destroy evidence (<i>n</i> = 1), out of curiosity (<i>n</i> = 1), for excitement (<i>n</i> = 2), for a joke (<i>n</i> = 1). - Two participants reported that they set fires for no apparent reason.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
		<p>Setting</p> <p>Community (un-apprehended firesetters)</p>	
<p>8. Barrowcliffe & Gannon (2015) The UK</p>	<p>Quantitative</p> <p>Online questionnaire</p>	<p>Number of participants:</p> <p>N = 158 (133 completed the questionnaire in full)⁴</p>	<ul style="list-style-type: none"> - Self-reported firesetters were asked to answer questions in ‘the fire disclosure section’ of questionnaire. One was the open-ended questions: “why did you start the fire(s)?”
	<p>Analysis</p> <p>Descriptive statistics employed to analyse set of data of interest of this review</p>	<p>Self-reported firesetters:</p> <p><i>n</i> = 18</p>	<ul style="list-style-type: none"> - Two participants reported igniting their first fire in adulthood. - Seven participants reported igniting their most recent fire in adulthood.
		<p>Gender</p> <p>Female (<i>n</i> = 79)</p> <p>Male (<i>n</i> = 78)</p>	<p><i>Firesetting Motivation</i></p> <ul style="list-style-type: none"> - The most common reported motivation was experimentation and curiosity (<i>n</i> =9, 81.8 %), followed by alleviating boredom/creating excitement (<i>n</i> = 6, 54.5%)
		<p>Self-reported firesetters:</p>	<ul style="list-style-type: none"> - Three (27.3%) participants reported that they loved fire, two (18.2%) stated that they set a fire(s) as a ‘dare or prank’, and

⁴ 256 individuals accessed the online survey, 158 answered a question related to deliberate firesetting, one participant was excluded due to having conviction for fire setting and 24 participants did not complete the questionnaire.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
		Female (<i>n</i> = 7, 38.9%) Male (<i>n</i> = 11, 61.1 %)	two reported having problems at home or school as reason for setting fire(s)
		Age not reported	- Other motivations stated by participants were: vandalism (<i>n</i> = 1, 9.1%), covering a crime/destroying evidence (<i>n</i> = 1, 9.1%), and financial gain (<i>n</i> = 1, 9.1%),
		Self-reported firesetters: Average age: not reported	
		Cognitive functioning Not reported but all participants reported holding formal qualifications.	
		Setting Community (un-apprehended firesetters)	

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
9. Barrowcliffe & Gannon (2016) The UK	<p>Quantitative</p> <p>Online questionnaire</p> <p>Analysis</p> <p>Descriptive statistics employed to analyse set of data of interest of this review</p>	<p>Number of participants:</p> <p>N = 232 (204 completed the questionnaire in full)</p> <p>Self-reported firesetters:</p> <p><i>n</i> = 40</p> <p>Gender</p> <p>Female (<i>n</i>= 188)</p> <p>Male (<i>n</i>= 37)</p> <p>Self-reported firesetters:</p> <p>Female (<i>n</i> = 25, 62.5%)</p> <p>Male (<i>n</i> = 15, 37.5%)</p> <p>Age</p>	<ul style="list-style-type: none"> - Self-reported firesetters were asked to answer questions about their firesetting behaviour, including questions regarding motivation. - The majority of participants reported that the most recent firesetting behaviour took place between the ages of 10 and 18 years. - Six participants reported setting fires in adulthood (range 20 – 37). - One participant reported setting their first fire in adulthood. - The majority of firesetters reported multiple motivations (<i>n</i> = 27, 72.5%) - Boredom was reported to be the motivation associated only with fires set in adolescence. <p><i>Firesetting Motivation</i></p> <ul style="list-style-type: none"> - The most common reported motivations were alleviating boredom/creating excitement (<i>n</i> = 27, 67.5%), followed closely by experimentation and curiosity (<i>n</i> = 26, 65%).

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
		<p>Average age: 25.12 years (range 18 to 69).</p> <p>Self-reported firesetters: Average age: 24 years</p> <p>Cognitive functioning Not reported</p> <p>Setting Community (un-apprehended firesetters)</p>	<ul style="list-style-type: none"> - Nine (22.5%) participants reported that they loved fire, eight (20%) stated that they set a fire(s) as a ‘dare or prank’, four (10%) reported vandalism as a motive. - The next common motive was going along with friends ($n = 2, 5\%$) and being stressed or frustrated ($n = 2, 5\%$), followed by having problems at home or school ($n = 1, 2.5\%$) and protecting themselves ($n = 1, 2.5\%$) - None of the participants stated revenge, insurance pay-out/financial gain, or covering up another crime as a motive.
10. Perrin-Wallqvist & Norlander (2003) Sweden	Qualitative Semi-structured Interviews	<p>Number of participants: N = 95</p> <p>Self-reported firesetters</p>	<ul style="list-style-type: none"> - Data was collected during semi-structured interviews with a psychologist - None of the male participants were playing with fire at age of 18, as it was regarded as abnormal and not suitable activity for people that age.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
	Analysis	<i>n</i> = 55	
	Not reported		<i>Firesetting Motivation</i>
		Gender	
		Male (<i>n</i> = 50)	- Male participants reported curiosity/excitement and distraction/boredom as main motives for fire play.
		Female (<i>n</i> = 45)	- Female participants reported seeking excitement (something forbidden, curiosity and wonder, 12 participants), amusement (having something to do, often with others, <i>n</i> = 4), and ‘bizarre’ firesetting (means of expression, source of power and escape of reality, <i>n</i> = 4) as motives.
		Self-reported firesetters:	
		Female (<i>n</i> = 20, 44%)	
		Male (<i>n</i> = 35, 70%)	- Females reported playing with fire while in their teenage years, mostly for amusement (17/20), two females reported excitement as a motive.
		Age	
		Males: all 18 years old	
		Females: 18 and 19 years old	
		Cognitive functioning	

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
		<p>Not reported, (average cognitive functioning is suggested due to recruiting from mainstream educational setting)</p> <p>Setting</p> <p>Community sample</p>	
11. Walsh & Lambie (2013) New Zealand	<p>Qualitative</p> <p>Semi-structured interview</p> <p>The Behaviour Motivation Interview (the BMI)</p>	<p>Number of participants:</p> <p>N = 31</p> <p>Adolescents⁵ (<i>n</i> = 18)</p> <p>Caregivers (<i>n</i> = 13)</p> <p>Gender</p> <p>Males (<i>n</i> = 18)</p>	<p>- The participants completed the BMI questionnaire and then were prompted to provide more information regarding all questions.</p> <p><i>Firesetting Motivation</i></p> <p>- The most common motivation reported by the participants was boredom (<i>n</i> = 8 unprompted, <i>n</i> = 12 prompted); followed by anger (<i>n</i> = 2, <i>n</i> = 11), experimenting (<i>n</i> = 4, <i>n</i> = 9), peer influence (<i>n</i> = 2, <i>n</i> = 9).</p>

⁵ Only information provided by this group will be analysed as it provides data of interest for this review.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
	<p>Analysis</p> <p>Grounded Theory (Glasser, 1967)</p>	<p>Age</p> <p>Age range 10.5 to 16.6 years</p> <p>Cognitive functioning</p> <p>Not reported</p> <p>Setting</p> <p>Community sample – young males involved in unsanctioned firesetting within last 2 years.</p>	<ul style="list-style-type: none"> - Fascination was reported unprompted by 4 participants, but after further exploration none of their responses were recorded in this category. - Initially none of the participants reported that their motivation was to gain attention, after further exploration, however, two responses were coded in this category.
<p>12. Kolko & Kazdin (1994) The USA</p>	<p>Qualitative</p> <p>Semi-structured interview</p>	<p>Number of participants:</p> <p>N = 95</p>	<ul style="list-style-type: none"> - In order to identify the motivation for setting fire, children were asked ‘why did you do it?’ and two followed up questions were asked to survey the presence and nature of their secondary motives.

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
	<p>Analysis</p> <p>Fire Incident Analysis for Children (FIAC)</p>	<p>Gender</p> <p>Male (<i>n</i> = 75), Female (<i>n</i> = 20)</p> <p>Age</p> <p>Average age 9.5 (range 6 to 13)</p> <p>Cognitive functioning</p> <p>Within normal range.</p> <p>Setting</p> <p>Inpatient (<i>n</i> = 23) Outpatient (<i>n</i> = 30) Community non-patient (<i>n</i> = 42)</p>	<ul style="list-style-type: none"> - The most common primary motive for the incident was “fun/playing around/just wanted to” (<i>n</i> = 33, 35.2 %), followed by curiosity/experimentation (<i>n</i> = 16, 17%). - Non-interpersonal effects (<i>n</i> = 13, 13.8%) and anger/manipulation (<i>n</i> = 11, 11.7%) were also listed by children as motives. - 21 (22.3%) children stated that they had “no reason” or that they did not know why they set the fire. - A secondary motive was reported by 11 children: curiosity (<i>n</i> = 6, 54.5%) and anger (<i>n</i> = 5, 45.5%) - Emotional consequences after setting a fire were as follows: remorse/guilt (<i>n</i> = 50, 53.2%), neutral (<i>n</i> = 30, 31.9%), and positive (<i>n</i> = 14, 14.9%).

Table 1. General characteristics and key findings of studies reporting the motivation for firesetting.

Author(s) and location	Methodology	Sample characteristics***	Summary points and key findings****
13. Swaffer & Hollin (1995) The UK	Qualitative Interviews	Number of participants N = 17	- Participants were asked about antecedents to the firesetting, the incident itself, and the consequences of setting the fire.
	Analysis Grounded Theory (Strauss & Corbin, 1990)	Gender Male (<i>n</i> = 14), Female (<i>n</i> = 3)	<i>Firesetting Motivation</i> - Six distinct reasons for setting fires were extracted from the gathered data: revenge, crime concealment, self-injury, peer group pressure, denial/accidental, and fascination with fire.
		Age Average age 15.41 (males) and 16.77 (females).	
		Cognitive functioning Not reported	
		Setting Inpatient	

***Only data provided by the firesetters will be analysed in this review. Additional restrictions (if present) are explained in the corresponding footnotes.

**** Most of the participants in the studies provided more than one motivation, and consequently in some studies the number of reported motivations exceeds number of participants.

Table 2. Methodological characteristics of quantitative studies ($n = 6$)

Study	Participant Demographics	Sample Representativeness (N)	Inclusion and Exclusion criteria	Measurements constraints	Definition of motivation	Recall bias	Other sources of potential bias
1. Clare, Murphy, Cox & Chaplin (1992) The UK	Yes	Good $N = 1$	Yes	No	No	yes	<ul style="list-style-type: none"> - Case study – only one participant included. - Utilised measure for which psychometric properties were not provided/discussed. - Retrospective self-report – potential reporting bias
2. Murphy & Clare (1996) The UK	Yes	Good $N = 10$	Yes	No	Moderate	yes	<ul style="list-style-type: none"> - Utilised measure for which psychometric properties were not provided/discussed - Retrospective self-report – potential reporting biases.
3. Tylor, Robertson, Thome, Beslaw & Watson (2006) The UK	Yes	Good $N = 6$	Moderate	No	Moderate	yes	<ul style="list-style-type: none"> - Utilised measure for which psychometric properties were not provided/discussed - Retrospective self-report – potential reporting biases - The inclusion criteria are determined by scores on measures of anger, self-esteem and depression, but cut off points are not provided. This may lead to sample biases.
4. Gannon & Barrowcliffe	Yes	Moderate $N = 18$	Yes	Moderate	No	Moderate	<ul style="list-style-type: none"> - Utilised measure for which psychometric properties were not provided/discussed

(2012) The UK							<ul style="list-style-type: none"> - Participants were recruited via a combination of university and community forums, the University Research Participation Scheme, and snowballing techniques. - Retrospective self-report – potential reporting biases - Inclusion criteria were in form of statements describing some reasons behind setting fires.
5. Barrowcliffe & Gannon (2015) The UK	Yes	Moderate <i>N</i> = 18	Yes	No	No	Moderate	<ul style="list-style-type: none"> - Utilised measure for which psychometric properties were not provided/discussed - Participants were recruited from a very specific geographical location. - Retrospective self-report – potential reporting biases - Inclusion criteria were in form of statements describing some reasons behind setting fires.
6. Barrowcliffe & Gannon (2016) The UK	Yes	Moderate <i>N</i> = 40	Yes	No	No	Moderate	<ul style="list-style-type: none"> - Utilised measure for which psychometric properties were not provided/discussed. - Participants were recruited via a combination of social media and snowballing techniques. - Retrospective self-report – potential reporting biases

-
- Inclusion criteria were in form of statements describing some reasons behind setting fires.
-

Note. (1) Participant demographics: yes, participant demographics are reported clearly; moderate, participant demographics are reported partially; no, participant demographics are not reported adequately. (2) Sample representativeness: good, sample consists of confirmed firesetters; moderate, sample consists of self-reported firesetters; poor, little or no information is provided to be able to assess these criteria adequately (3) Inclusion and exclusion criteria: yes, inclusion and exclusion criteria are reported clearly; moderate, inclusion and exclusion criteria are reported partially or indirectly; no, inclusion and exclusion criteria are not reported. (4) Measurement constraints: no, measures were allowing participants to freely report their motivation; moderate, participants had to fit their answers into pre-determined category but also had the opportunity to provide the motivation for firesetting through the use of open questions; yes, participants had to fit their answer into pre-determined categories and it is unclear whether participants had an opportunity to provide alternative motivations for setting fire. (5) Definition of motivation: yes, motivation was clearly defined; moderate, motivation was not clearly defined but it was anchored within an appropriate theoretical framework; no, there is no consideration for defining 'motivation' present. (6) Recall bias: yes, research has not reported when the firesetting took place (childhood or adulthood) and how recent the event was; moderate, the study provided some data in this regard; no, no data of this nature was reported.

Qualitative Studies

Seven studies used qualitative methodologies. Sample sizes ranged from 17 to 153, with a total of 441 participants across all studies. A set of criteria from Tracy (2010) were adapted to assess the quality of qualitative studies (see Table 3). Five of the studies met criteria for being satisfactorily rigorous in terms of method, data collection, and analysis ('rich rigour'; Barnoux et al., 2015; Kolko & Kazdin, 1994; Perrin-Wallqvist & Norlander, 2003; Swaffer & Hollin, 1995; Walsh & Lambie, 2013). However, three studies shared limitations in regards to a limited/lack of methodological description, research procedures, and analytic procedure (e.g. transcribing, data extraction; (Coid et al., 1999; O'Sullivan & Kelleher, 1987; Rix, 1994).

Table 3. Methodological characteristics of qualitative studies ($n = 7$)

Study	Rich rigour	Sincerity	Credibility	Significant contribution and resonance	Ethical clarity	Meaningful coherence
1. Coid, Wilkins & Coid (1999) The UK	moderate	no	moderate	moderate	no	no
2. Rix (1994) The UK	moderate	no	moderate	yes	no	moderate
3. Barnoux, Gannon Coid, & O Ciardha (2015) The UK	yes	moderate	yes	yes	no	yes
4. Perrin-Wallqvist & Norlander (2003) Sweden	yes	no	moderate	yes	moderate	moderate
5. Walsh & Lambie (2013) New Zealand	yes	moderate	yes	yes	moderate	yes
6. Kolko & Kazdin (1994) The USA	yes	moderate	moderate	yes	no	moderate
7. Swaffer & Hollin (1995) The UK	yes	no	Moderate	yes	no	moderate

Note. Criteria adapted from Tracy (2010).

(1) Rich rigour: yes, the study clearly provides a rich description and rationale for the methods and forms of analysis undertaken; moderate, the study provides a less detailed or limited description or rationale for these criteria; no, little or no information is provided to be able to assess these criteria adequately. (2) Sincerity: yes, a good degree of researchers' reflexivity regarding their own biases, values and inclinations that can influence the research and a degree of transparency about the method and challenges is provided; moderate, the study provides less detailed description of these criteria but does address some issues relating to researcher assumptions and identified challenges; no, little or no information is provided to be able to assess these criteria adequately. (3) Credibility: yes, the research findings appear credible, given the methodologies utilised and the depth of analysis described; moderate, findings may be credible but weakened by superficial or less clear analysis and description; no, little or no information is provided to be able to assess these criteria adequately. (4) Significant contribution and resonance: yes, the research provides important and significant insights regarding motivations for setting deliberate fires and has practical or theoretical utility; moderate, the research provides some insights but is less detailed or has less applicability; no, little or no information is provided to be able to assess these criteria adequately. (5) Ethical clarity: yes, ethical procedures are described clearly and the authors acknowledge the impact of broader ethical issues in relation the research; moderate, ethical procedures are detailed less clearly or consideration of broader ethical issues is limited; no, little or no information is provided to be able to assess these criteria adequately. (6) Meaningful coherence: yes, the research utilises appropriate theory and methods to achieve stated aims; moderate, the research utilises methods that are generally appropriate but which may inhibit or fail to address some aims; no, little or no information is provided to be able to assess these criteria adequately.

The majority of studies demonstrated a poor level of ‘sincerity’ (which describes a degree of researchers’ reflexivity regarding their own biases, values and inclinations that can influence the research, as well as a degree of transparency about the method and associated challenges). Three studies demonstrated a moderate level of ‘sincerity’ as they were transparent about the challenges encountered while conducting the research and recognising its limitations (Barnoux et al., 2015; Kolko & Kazdin, 1994; Walsh & Lambie, 2013).

Five studies (Coid et al., 1999; Kolko & Kazdin, 1994; Perrin-Wallqvist & Norlander, 2003; Rix, 1994; Swaffer & Hollin, 1995) demonstrated some level of ‘credibility’, which refers to the trustworthiness and plausibility of the research findings, in relation to the method and detail of analysis used in the study. The main limitation across these studies was a lack of description as to how the data was analysed. Two papers were considered to demonstrate a good level of ‘credibility’ (Barnoux et al., 2015; Walsh & Lambie, 2013).

All studies were thought to have made a ‘significant contribution’ to the research topic by providing data that extended knowledge about the motivations for firesetting (which can be utilised in treatment planning and risk assessment). Only two papers achieved a ‘moderate’ level of ‘ethical clarity’ (Perrin-Wallqvist & Norlander, 2003; Walsh & Lambie, 2013), by including ethical considerations during the recruitment process. The remaining papers did not describe any ethical consideration in regards to how the research was conducted.

The majority of studies achieved an adequate level of ‘meaningful coherence’ by employing suitable theory, methods, and procedures to address their research aim(s).

Coid, Wilkins, and Coid's (1999) paper was, however, particularly limited in this regard, as their research was not underpinned by any relevant theoretical perspective.

Key findings

The studies included in this review appeared to be focused on very distinctive groups of firesetters, which can be described as: adult firesetters (un-apprehended and apprehended) and juvenile firesetters. Within 'the adult apprehended' category, a distinct subgroup of studies that focused solely on firesetters with intellectual disabilities was also identified. The findings for the identified groups will be reported separately and then compared/contrasted in a further section of the review.

Adult Firesetters

Ten studies reported data gathered from adult firesetters in total. The aim of two of these studies was to explore the motivational aspects of firesetting (Murphy & Clare, 1996; Perrin-Wallqvist & Norlander, 2003), the remaining eight reported motivational aspects of firesetting as a part of their research. Two distinct groups of adult firesetters became apparent during this review: un-apprehended firesetters (Barrowcliffe & Gannon, 2015; Barrowcliffe & Gannon, 2016; Gannon & Barrowcliffe, 2012; Perrin-Wallqvist & Norlander, 2003) and apprehended firesetters (Barnoux et al., 2015; Clare et al., 1992; Coid et al., 1999; Murphy & Clare, 1996; Rix, 1994; Taylor et al., 2006).

Un-apprehended firesetters. After analysing data provided by Barrowcliffe and Gannon (2012, 2015, 2016) it became apparent that the motivations most frequently reported by firesetters were 'excitement/being bored' and 'curiosity/experimentation'. The summary of how frequently the reported motivations were mentioned across the four studies ('the frequency analysis') is presented in table 4. Perrin-Wallqvist and Norlander's (2003) paper only reported frequencies provided by female participants and, therefore, only

female samples have been included in ‘the frequency analysis’. However, the motivations reported by male participants in that study were consistent with those reported in table 4.

Table 4. Motivations reported by un-apprehended firesetters (N = 96)

Motivation	Frequency of reporting (n, %)	
Excitement/feeling bored	66	(68.75 %)
Curiosity/experimentation	36	(37.5 %)
Love for fire	12	(12.5 %)
Prank/dare/joke	11	(11.46 %)
Vandalism	5	(5.21 %)
Peer pressure/going along with others	4	(4.17 %)
Amusement	4	(4.17 %)
‘bizarre’ (means of expression, source of power and escape of reality)	4	(4.17 %)
Problems at home/school	3	(3.13%)
Being stressed/frustrated	2	(2.08 %)
To express feelings	2	(2.08 %)
To destroy evidence/cover up crime	2	(2.08 %)
To rebel	1	(1.04 %)
For protection	1	(1.04 %)
Financial gain	1	(1.04 %)

Note: some participants provided more than one motivation, hence ‘n’s will not add up to ‘N’.

It is worth noting that in Perrin-Wallqvist and Norlander’s (2003) paper, adult participants were specifically asked about the motivations for firesetting in their childhood. It appears that most of the participants in all four studies were referring to childhood firesetting behaviour, which may explain the similarities.

Apprehended firesetters. While analysing the group of studies concentrating on apprehended firesetters, it became apparent that some of the studies concentrated purely on firesetters with intellectual disability (Clare et al., 1992; Murphy & Clare, 1996; Taylor et al., 2006). However, others did not report the level of participants’ cognitive functioning, or they merged the data elicited from firesetters diagnosed with ID with data provided by firesetters without diagnosis of ID (Barnoux et al., 2015; Coid et al., 1999;

Rix, 1994). There were also significant differences in methodology used to gather the data between those studies, thus, the key findings from those studies will be discussed separately.

Firesetters with Intellectual Disabilities. All three studies that focused on firesetters with ID (Clare et al., 1992; Murphy & Clare, 1996; Taylor et al., 2006) used questionnaires to elicit cognitions/feelings prior to and after the event of firesetting. The elicited feelings/cognitions were interpreted by authors as ‘motives’ for firesetting. The questionnaires used in the studies were purposely developed with the intention of analysing the function of the firesetting in the lives of people with ID (Murphy & Clare, 1996). The questionnaire responses indicate that ‘feeling of anger’, ‘low social attention/not being listened to’, and ‘feeling sad/depressed’ are the most frequent events/feelings/cognitions prior to firesetting behaviour⁶. In terms of events/feelings/cognitions following the firesetting, the participants most frequently reported that they were ‘feeling less angry’ and ‘feeling attended to/listened to’.

Murphy and Clare (1996) reported that participants were less able to recall the events/feelings/cognitions following the firesetting. It has been suggested that this may be caused by potential difficulties in processing the cognitions and emotions they experience after firesetting incident(s).

Apprehended firesetters (data elicited from firesetters with and without ID merged). The findings of three papers indicated that the revenge was the most frequently cited motivation by this group of firesetters (Barnoux et al., 2015; Coid et al., 1999; Rix, 1994). The frequency of reported motivations for firesetting provided by this group is presented in table 5.

⁶ The ‘frequency analysis’ cannot be performed here as the reporting of the findings across the studies is inconsistent (mean ratings vs frequencies).

In all three studies (Barnoux et al., 2015; Coid et al., 1999; Rix, 1994) participants were interviewed and raw data was organised into categories of motivations (e.g. revenge). Rix (1994) provided a very good description of categories, with examples included, and the majority of the categories provided by Barnoux et al. (2015) were also adequately described. The information provided in Coid et al.'s (1999) paper was much more limited in this respect, even though motivations listed as 'pre-planned' or 'displaced aggression' would benefit from explanation.

Table 5. Motivations reported by apprehended firesetters⁷ (N = 216)

Motivation	Frequency of reporting (n, %)
Revenge	69 (31.94 %)
Excitement	26 (12.04 %)
Displaced aggression	20 (9.26 %)
Reduction of distressing symptoms (depression, anxiety etc.)	18 (8.33 %)
Cry for help/attention	14 (6.48 %)
Attempted suicide	13 (6.01 %)
Vandalism	13 (6.01 %)
Cover up	12 (5.55 %)
Carelessness/accidental	11 (5.09 %)
Re-housing	10 (4.62 %)
Economic gain	9 (4.16 %)
Psychotic	8 (3.70 %)
Pre-planned	8 (3.70 %)
Power	6 (2.77 %)
Protest	6 (2.77 %)
Other manipulative	6 (2.77 %)
Heroism (wanting to be seen as a hero)	6 (2.77 %)
Escape	5 (2.31 %)
Protection	3 (1.38 %)
Proxy (on behalf of others)	3 (1.38 %)
Communication	2 (0.92 %)
Murder	2 (0.92 %)
Political	2 (0.92 %)

Note: some participant provided more than one motivation, hence 'ns' will not add up to 'N';

Findings provided by Barnoux et al. (2015) and Coid et al. (1999) indicate that anger, fear/anxiety, frustration and dysphoria were the most frequently experienced emotions by firesetters prior to setting fires.

Female participants interviewed by Coid et al. (1999) reported that the distressing symptoms (e.g. anxiety, anger) were often progressively intensifying and culminating in firesetting behaviour.

⁷ Data elicited from firesetters with and without ID are merged

Juvenile firesetters

Three papers included in this review focused on juveniles who set deliberate fires (Kolko & Kazdin, 1994; Swaffer & Hollin, 1995; Walsh & Lambie, 2013). All three studies used interviews to elicit data from participants.

Swaffer and Hollin (1995) and Walsh and Lambie (2013) used Grounded Theory (Glasser, 1967) to analyse the data but reported their findings in very different ways. Swaffer and Hollin (1995) derived six motivational themes from data provided by participants: revenge, crime concealment, self-injury, peer group pressure, denial/accidental, and fascination. In contrast, Walsh and Lambie (2013) identified themes that included anger (the most prominent motivation), attention, boredom, experimenting, peer influence, and fascination.

Juveniles interviewed in Kolko and Kazdin's (1994) study reported fun/playing around/just wanted to, no reason, curiosity/experimentation, non-interpersonal effects and anger/ manipulation as primary motivations. It is worth noting that juveniles interviewed in this study represent the youngest group of participants across all three papers, which may have contributed to their difficulties in providing motivations for firesetting behaviour.

Discussion

This review explored the motivations for firesetting provided by juvenile and adult firesetters. The analysed data is comprised of a wide range of firesetters' characteristics, e.g. age, cognitive ability, gender, and legal status (apprehended vs. un-apprehended). The findings suggest that firesetters are a very heterogeneous group, with differences in the motivations for firesetting between and within subgroups (e.g. adults, children).

A lack of a clear definition of motivation was a limitation for most of the reviewed papers. Only two studies anchored their understanding of motivation within a theoretical framework (Murphy & Clare, 1996; Taylor et al., 2006; Barnoux et al., 2015), developing a new conceptualisation of motivation in relation to firesetting behaviour. The lack of a clear definition of the researched concepts decreases the validity of the studies, making it more difficult to replicate the results and thus to generalise the findings. There are many different ways that motivations for firesetting were discussed in the studies included in this review. Some studies focused more on emotional and cognitive aspects (Perrin-Wallqvist & Norlander, 2003; Taylor et al., 2006) and others provided more descriptive categories (e.g. crime concealment, e.g. Rix, 1994). Although from a legal point of view it is important to establish, for instance, whether the fire was set to conceal the crime or to commit insurance fraud, it may be more clinically relevant to establish what emotions, feelings, and cognitions are experienced by firesetters pre- and post-firesetting, as this information can contribute to the further development of the treatment programs and risk assessments.

The motivations for firesetting provided by juveniles varied significantly, which may be explained by many different factors including: age, setting, and method of data analysis. Juveniles participating in Kolko and Kazdin's (1994) study were the youngest sample (average age 9.5 years) and the motives provided by them were the least specific (e.g. 'just wanted to'). This sample was also recruited from many different settings (e.g. outpatient, inpatient, community), which could potentially produce a different result from a sample recruited from a single setting. In contrast, the average age of the sample interviewed by Swaffer and Hollin (1995) was 16.09 years and all participants were residing in the Youth Treatment Service (YTS, secure accommodation for young people in UK, Swaffer and Hollin, 1995), and the motivations provided by this group differed

significantly from the motivations reported by participants in Kolko and Kazdin's (1994) study. This may be related not only to the age of the participants but also the fact that the juveniles participating in Swaffer and Hollin (1995) study were considered to be 'the most disturbed and difficult adolescents in the United Kingdom' (Swaffer & Hollin, 1995, p.620) which suggest that the groups may have been differing in relation to other characteristics. It is worth noting that even though Swaffer and Hollin (1995) and Walsh and Lambie (2013) utilised the same methodology for analysing data, the themes they identified within data were very different, which can be attributed to sample characteristics and/or researcher biases, which neither of the studies discussed.

The similar discrepancies in reported motivations were found in the adult sample. It has been identified that there are vast differences in reporting motivations provided by adult firesetters, where the main discrepancies seem to be related to factors like cognitive functioning and the legal status of participants. The motivations reported by un-apprehended firesetters seem to differ from those reported by apprehended firesetters; one of the most striking differences being an absence of 'revenge' as a motive reported by un-apprehended firesetters (revenge is the most frequent motivation cited by apprehended firesetters). It is suggested that 'revenge firesetting' is more likely to cause significant damage to the targeted person or object, thus attracting the attention of the police (Barrowcliffe & Gannon, 2016).

Most of the un-apprehended adult firesetters reported engaging in firesetting behaviour in childhood/adolescence (Barrowcliffe & Gannon, 2015; Barrowcliffe & Gannon, 2016; Gannon & Barrowcliffe, 2012). Barrowcliffe & Gannon (2016) found that the 'boredom' was mostly associate with juvenile firesetting, which has an important clinical implications (e.g. more opportunity for children to engage in interesting meaningful activities may decrease the likelihood that they will set fire). In their paper Perrin-

Wallgvist and Norlander (2003) specifically asked young adults about their motivations to set fire in childhood, and the most prominent motivations provided by participants match the ones that were found in studies conducted by Barrowcliffe and Gannon (2012, 2015, 2016), which may suggest that most of the motivations provided by participants in those studies were related to juvenile firesetting.

It is important to note, most of the studies included in this review do not specify the firesetting incidents reported by adult participants were set in adulthood or childhood/adolescence, and how long ago they took place, which can increase a recall bias.

In this review there were three studies (Clare et al., 1992; Murphy & Clare, 1996; Taylor et al., 2006) that were focusing solely on adult apprehended firesetters with intellectual disability, and suggested that firesetters with ID are distinct group of offenders. Motivational factors explored in those studies were rooted in behavioural tradition and based on functional analysis. Participants in those studies completed a purposely developed questionnaire⁸ which pre-determined the motivational categories on basis of previous research (Murphy and Clare, 1996). Utilising a consistent data gathering method produced consistent findings across the studies, and made the potential replication of the studies easier. However, it may restrict researchers' abilities to explore other new areas that might require more unique methodologies.

In light of the evidence that firesetters with ID may form a distinct group of offenders (Murphy and Clare, 1996), it is important to consider that the findings of the studies that analyse data elicited from firesetters with and without ID together may be subject to sampling biases and should be generalised with caution.

⁸ Items covered and structure of the FAI, the FAS and the FSAS are the same.

Due to the reported heterogeneity within both the juvenile and the adult groups of firesetters, it is difficult to conclude whether their motivations differ significantly. The motivations reported by un-apprehended adult firesetters seem to be similar to those reported by juveniles, with the exception of the findings reported by Swaffer and Hollin (1995). The findings reported by Swaffer and Hollin (1995) are fitting better with motivations reported by adult apprehended firesetters (Coid et al. 1999, Rix, 1994), which suggests that the 'legal status' of participants may be an important factor when the motivation for firesetting is considered.

Limitations

This review provides a systematic overview of current research regarding motivations for firesetting reported by child and adult firesetters. The current review and the research papers included do have a number of limitations, which will be briefly discussed in this section.

First limitation of this review would be the fact that in order to ensure a basic quality standards of review papers only academic peer-reviewed articles were included, the unpublished and non-peers reviewed research papers were excluded. However, considering the limited research in this area and the biases associated with publication process, it may be useful to include unpublished papers ('grey literature') to make the finding of future reviews more comprehensive.

Secondly, the papers included in this review were selected only by the primary author, which can result in various biases, including subjective biases at stage of studies selection and biases related to assessing quality of the included papers.

Thirdly, the definition of 'juvenile firesetter' adapted for propose of this review was very broad, thus potential differences in motivations for firesetting reported by young children and adolescents may have been neglected.

And finally, it has been recognised that the quality of the studies included in this review vary significantly, especially when level of sincerity of qualitative studies is considered. A lack of reflexivity, transparency, and methodological clarity decrease the credibility of the findings, which makes drawing conclusion based on those findings more difficult. The considerable differences in methodology employed by quantitative studies made it more challenging to synthesise and compare the data. A lack of clear definition of motivations was also identified as limitation across the studies, as lack of construct validity make it difficult to assess whether different studies are measuring/exploring the same concept.

Further reviews on this topic would also benefit from directly comparing and contrasting the motivations reported by various groups of firesetters identified in this review.

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Journal Paper⁹

⁹ This journal paper has been prepared for submission to the Journal of Contextual Behavioural Science (guide for authors: <https://www.elsevier.com/journals/journal-of-contextual-behavioral-science/2212-1447/guide-for-authors>).

Footnotes are used throughout to signpost the reader to relevant information in the extended paper.

**IS PSYCHOLOGICAL FLEXIBILITY A TRANS-THEORETICAL PROCESS
OF THERAPEUTIC CHANGE?**

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Abstract

Psychological flexibility (PF) has been identified as an important process in promoting therapeutic change and it is currently mostly associated with Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999). The primary aims of this study were (1) to examine whether PF processes can be detected in client talk during therapy that does not overtly target PF as a change process; and (2) to examine whether changes in detected levels of PF are related to clinical outcomes. A coding framework was developed to capture the PF processes in participants' talk, and a panel of judges made predictions about the therapy outcomes based on the analysed data. Results showed that the PF process can be reliably identified in the talk of participants who engaged in Cognitive Behavioural Therapy (CBT). It is unclear, however, whether accurate outcome predictions can be made based on the identified patterns of PF. The complexity and challenges associated with researching change processes in therapy are highlighted in this study. Findings provide a platform for future research into the role of PF in facilitating psychotherapeutic change.

Keywords: psychological flexibility, psychotherapeutic change processes, CBT, ACT

Declarations of interest: none

Introduction

According to the Global Burden of Disease (Institute for Health Metrics and Evaluation [IHME], 2013) report, mental health difficulties account for 21.2% of years lived with disability worldwide and have a significant impact on length and quality of life. Currently, there are a plethora of psychological treatments available to support people who experience poor mental health, and there is a large body of research supporting the notion that a number of well-established treatments produce similar outcomes, across different presentations and populations¹⁰ (Leichsenring & Rabung, 2008; Tschacher, Junghan, & Pfammatter, 2014; Wampold et al., 1997). New psychological treatments which proclaim to offer novel approaches to therapy continue to be created but their founders frequently fail to clearly explain the mechanism of change that makes the therapy successful (Grawe, 1997; Villatte et al., 2016). It has been argued that gaining better understanding of the change processes that underlie successful treatments could be the first step to bring order and parsimony to the current status of treatment proliferation (Kazdin, 2006). Furthermore, it has been argued that integrating the processes that are considered to facilitate change across different therapies into a modular treatment approach could be advantageous for optimising successful treatments (Kazdin, 2007; Hayes, Villatte, Levin, & Hildebrandt, 2011) and could potentially reduce the likelihood of introducing new therapy approaches which actually are just ‘re-packaging’ of well-known principles (Johansson & Høglend, 2007; Rosen & Davison, 2003).

It has been noted, however, that establishing which processes lead to therapeutic change is difficult due to factors such as poor operationalisation of proposed change

¹⁰ Please see sections from 1.1 to 1.3 of extended paper for extended background on mental health prevalence, aetiology and treatment.

processes and a lack of clarity about adequate methods of analysis (Flückiger, Del Re, Wampold, & Horvath, 2018; Lampropoulos, 2000). Additionally, most research that has investigated therapy outcomes has failed to demonstrate the temporal relationship between change processes and outcomes, meaning that it is difficult to conclude with any certainty about causality (Kazdin, 2007).

A number of prominent authors have suggested that ‘common factors’¹¹, such as ‘working alliance’ (Bordin, 1979), can be identified across most empirically-supported interventions and account for improved therapy outcomes (Hubble, Duncan, & Miller, 1999; Villatte et al., 2016; Wampold, 2001). In many therapies, however, common factors have been acknowledged as ‘important but not sufficient’ change factors (Westbrook, Kirk, & Kennerley, 2011), and it is understood that other ‘active ingredients’ of therapy are crucial in achieving therapeutic change (Chambless & Ollendick, 2001).

Different psychotherapeutic approaches offer different models of understanding symptoms of mental ill-health and, therefore, different means of addressing these. For example, one of the most commonly recommended therapies (Moloney, & Kelley, 2004), Cognitive Behavioural Therapy (CBT)¹², proposes that not the events themselves, but a person’s appraisal of these events leads to distress. Consequently, CBT aims to alter the client’s cognitive processes and/or behavioural responses in order to reduce distress (Beck, 2011). The last few decades has seen an increase in the use of ‘acceptance and mindfulness-based therapies’, which focus on helping people to ‘live well’ despite experiencing psychological difficulties (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). These new treatment approaches emphasise the role of experiential avoidance in human psychological suffering (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; Linehan,

¹¹ Please see section 1.4 of extended paper for a discussion on common factors.

¹² Please see section 1.7 of extended paper for a discussion on therapy approaches relevant to this study

1993). Experiential avoidance can be defined as ‘the attempt to alter the form, frequency, or intensity of private experiences, such as thoughts, feelings, bodily sensations or memories, even when doing so is costly, ineffective or unnecessary’ (Hayes, Levin, Plumb-Villardaga, Villatte, & Pistorello, 2013, p.184). It has been hypothesised that engaging in avoidant behaviour leads to reduction in personally meaningful pursuits and, consequently, decreases a person’s quality of life. In order to address this problem, acceptance and mindfulness interventions aim to increase psychological flexibility and facilitate a broader behavioural repertoire, in order to ultimately improve clients’ quality of life (Hayes et al., 2006).

Psychological Flexibility¹³

Psychological flexibility (PF) has been considered to be an important ingredient of good psychological health for around five decades (Gloster, Meyer, & Lieb, 2017), and many components of PF are shared by traditional and modern contextual therapies (Arch & Craske, 2008; Hayes et al., 2011), as well as with existential, humanistic and analytic approaches (Levin, Hildebrandt, Lillis, & Hayes, 2012). After reviewing relevant literature in this area, Kashdan and Rottenberg (2010) concluded that PF predominantly refers to a number of dynamic processes which determine a person’s interactions with their environment.

For the purpose of this research, the model of PF associated with Acceptance and Commitment Therapy¹⁴ (ACT; Hayes, et al., 1999) has been adopted. From the ACT perspective, PF is defined as ‘the ability to contact the present moment more fully as a conscious human being, and to change or persist in behaviour when doing so serves valued ends’ (Hayes, et al., 2006, p. 7). Within ACT, PF consists of six interlinked

¹³ Please see section 1.5 of extended paper for further details on psychological flexibility.

¹⁴ See section 1.7.2 of extended paper for discussion about ACT

processes (see Figure 2 and Table 9'), which can be further pragmatically considered as three dyadic processes: (1) 'openness to experience and detachment from literality' (acceptance; defusion); (2) 'self-awareness and perspective taking' (present moment awareness; self-as-context); and (3) 'motivation and activation' (values; committed action) (Hayes et al., 2011).

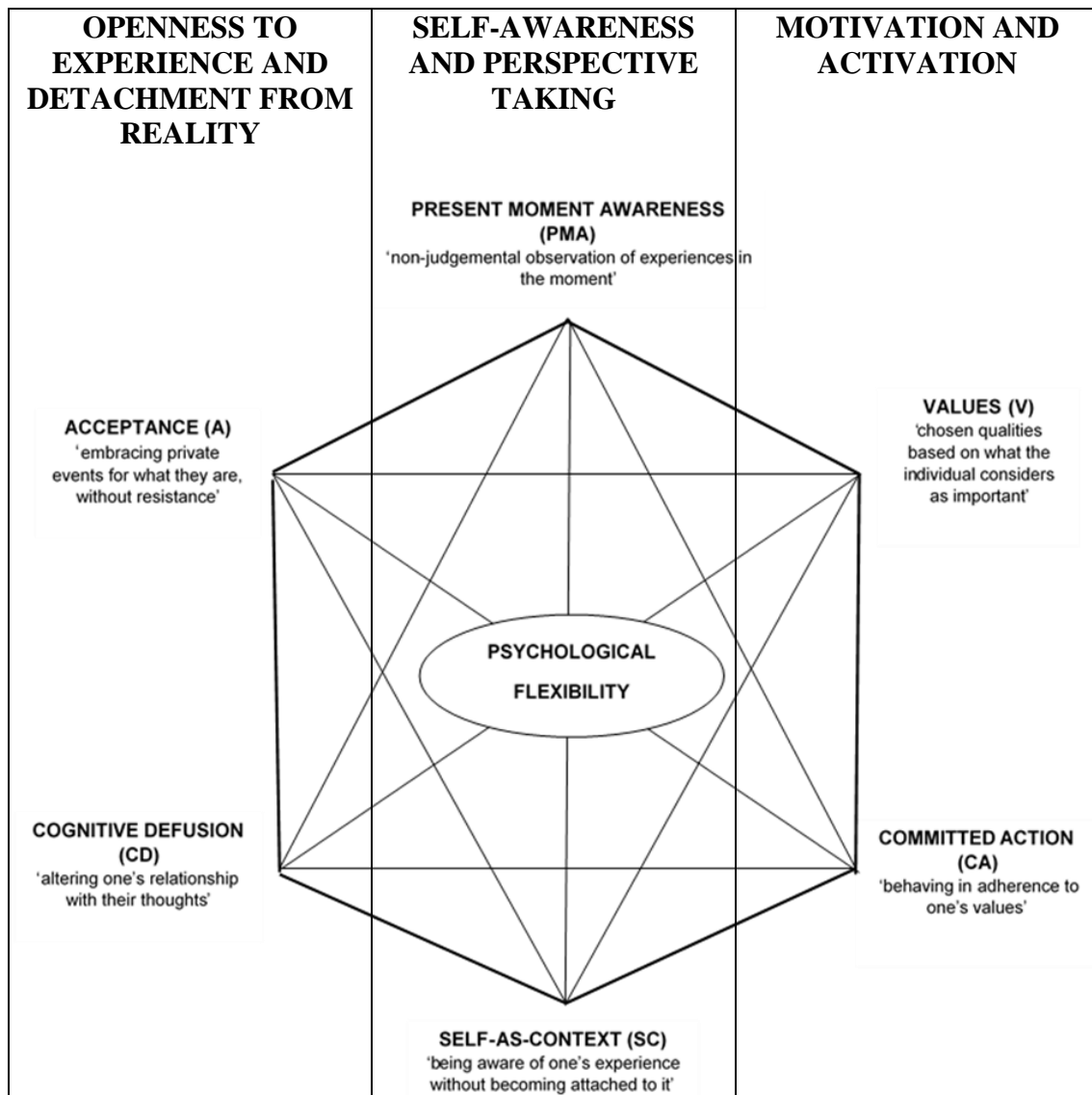


Figure 2. A model of PF adapted from Hayes, Luoma, Bond, Masuda & Lillis (2006)

It has been suggested that PF allows people to accept unwanted private experiences by adopting a non-judgmental stance and treating these experiences for what they are – just experiences, not 'truths' (Ciarrochi, Robb, & Godsell, 2005; Hayes et al., 1999). Each PF process can be conceptualised as 'a positive psychological skill', which, when

mastered, helps individuals to move from being psychologically inflexible towards being psychologically flexible. Consequently, it is proposed that psychologically flexible individual are less likely to engage in avoidant behaviours when faced with distressing private events and are more likely to act in adherence to their values (Hayes et al., 1999; Twohig, Vilardaga, Levin, & Hayes, 2015).

All six core PF processes are strongly interlinked and aim to target six problems associated with psychological inflexibility (PI; Figure 3.). PI has been defined as ‘an inability to persist or change behaviour in the service of long-term valued ends’ (Hayes et al., 2006, p.6) and is a result of engaging in experiential avoidance and cognitive fusion.

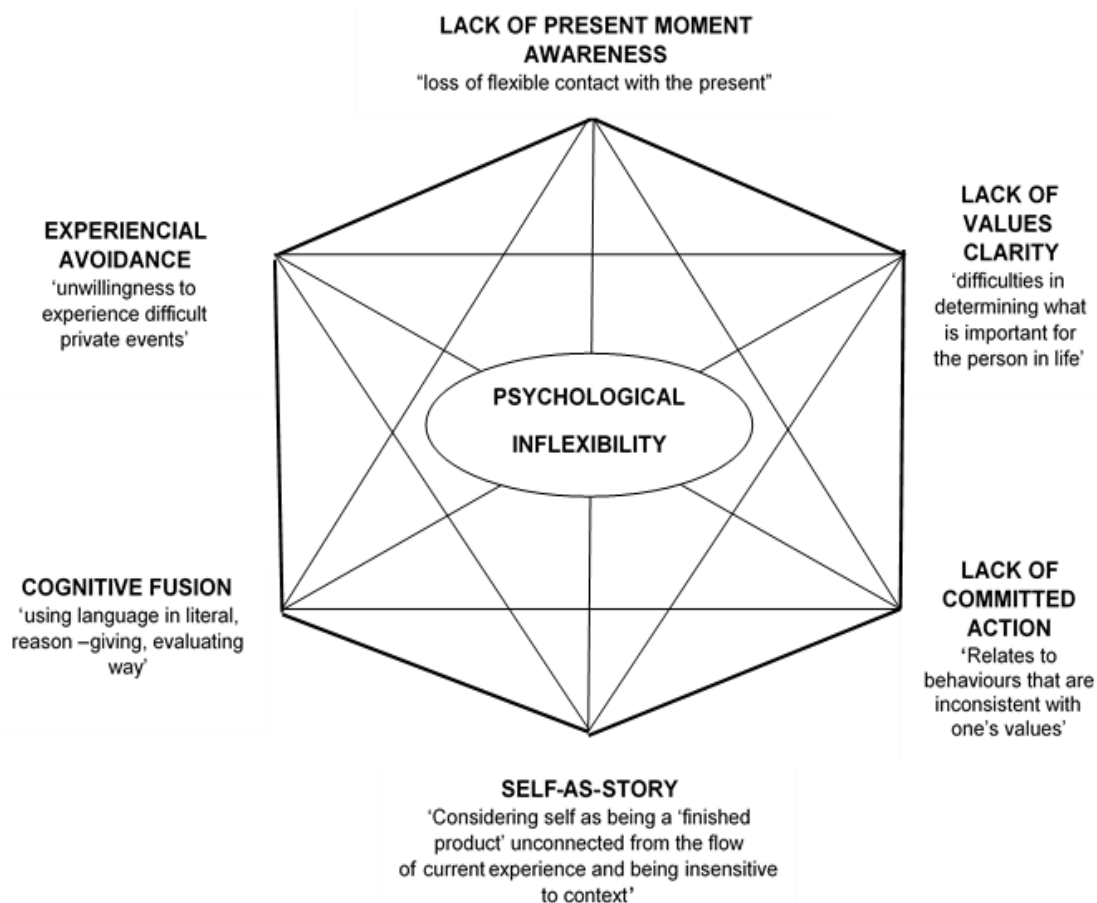


Figure 3. An ACT model of psychopathology adapted from Hayes, Luoma, Bond, Masuda & Lillis (2006)

Acceptance and Commitment Therapy

Acceptance and Commitment Therapy (ACT) has been defined as ‘a therapy approach that uses acceptance and mindfulness processes, and commitment and behavioural change processes, to produce greater psychological flexibility’ (Hayes, Strosahl, Bunting, Twohig, & Wilson, 2004, p.13). ACT therapists focus on helping people to ‘live well’ by altering how they relate to their experiences, focusing on altering the context, not the content, of private experiences (Hayes et al., 1999). Consequently, the aim of ACT is not to reduce symptoms of distress but to increase clients’ PF and help them to live well despite experiencing distressing private events. In ACT, all psychological events are considered ‘ongoing actions of the whole organism interacting in and with historically and situationally defined contexts’ (Hayes et al., 2006, p. 4), and the unit of analysis is ‘behaviour in context’ (Biglan & Hayes, 1996).¹⁵

There is a growing body of evidence that suggests that ACT is effective in treating multiple disorders¹⁶, such as anxiety, depression, addictions (A-Tjak et al., 2016), eating disorders (Juarascio et al., 2013), aggression (Zarling, Lawrence, & Marchman, 2014), and Chronic Fatigue Syndrome (Roche, Dawson, Moghaddam, Abey, & Gresswell, 2017). The aforementioned research findings suggest that processes underpinning PF are important factors in generating therapeutic change in clients who undertake ACT, despite the variety of presenting difficulties.

Rationale for the Current Study

It has been noted that, in most ACT studies, purposively developed self-report questionnaires, such as the Comprehensive Assessment of Acceptance and Commitment

¹⁵ This approach is consistent with the epistemological position of ACT founders and adopted in this study, which is discussed in 2.1 section of the extended paper.

¹⁶ Please see section 1.8 of extended paper for discussion on effectiveness of ACT.

Therapy processes (CompACT; Francis, Dawson, & Golijani-Moghaddam, 2016) or the Acceptance and Action Questionnaire (AAQ-II; Bond et al., 2011), were used to measure changes in PF. Consequently, it could be argued that, in these studies, clients' socialisation to the model, rather than real change in PF, were assessed.

Given the abovementioned limitations associated with using PF self-report measures in psychotherapy process research (Doss, 2004), it has been suggested that observational methods may allow for a more reliable assessment of processes which are assumed to account for successful treatment outcomes (Hesser, Westin, Hayes, & Andersson, 2009). Previous studies have demonstrated that client talk during sessions is related to treatment outcomes (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003; Tang, DeRubeis, Beberman, & Pham, 2005) and, therefore, may be a valuable source of information regarding the therapeutic process.

The evidence suggests that PF is a transdiagnostic process, meaning that an increase in PF is associated with a reduction of distress across a range of diagnoses. It is less clear, however, whether the PF process is also trans-theoretical, meaning that it is unclear whether other successful therapies, such as CBT, also operate through the process of PF.

Therefore, the primary aims of this study were (1) to examine whether PF processes can be detected in client talk during therapy that does not overtly target PF as a change process (CBT) and (2) to examine whether changes in detected levels of PF are related to clients' clinical outcomes.

In order to not bias the coding process, all coders were blind to the clinical outcomes of participants until all coding was completed (see Procedure Section for further details).

Method¹⁷

Data

Data used in this study were therapy recordings and outcome measures collected as part of a separate research project in which eight sessions of CBT were delivered to participants with complex presentations. The therapist delivering the intervention was a final-year trainee clinical psychologist. In order to assess treatment fidelity, the Cognitive Therapy Rating Scale (CTRS; Young & Beck, 1980) was completed by the therapist whilst listening back to audio recordings for each session. A co-researcher rated 12% of all delivered sessions (one full session per client), and overall inter-rater reliability for the CTRS and frequency of process formulations was $\alpha = .88$.

Consent for data to be used for secondary analysis was given by three participants. Recordings of the second, fourth and last therapy sessions for each participant were transcribed (490 minutes in total) and subsequently coded by the principal researcher (see 'Procedure' for more details). NVIVO software was used to aid analysis of the transcribed data.

Participants¹⁸

Participants were recruited from two adult community mental health teams in the UK. Participant's demographics are outlined in Table 6.

Table 6. Participant demographics

Participant	Gender	Age	Diagnosis	Therapy Focus
1	Female	35	EUPD	Low Mood
2	Female	61	Bipolar Disorder	Low Mood
3	Female	39	EUPD	Low Mood

Note. EUPD = Emotionally Unstable Personality Disorder

¹⁷ Please see section 2 of extended paper for further details on methodology

¹⁸ Please see section 2.4 of extended paper for further details on participants demographics

Outcome Measures

Outcome measures completed by participants in the original¹⁹ study are outlined in Table 7.

¹⁹ Phrases ‘original study’ or ‘original data’ refer to the research project where the data were sourced from.

Table 7. Outcome measures: Characteristics and Psychometric Properties

Measure	Aim	No. of items and scaling	Example item	Directionality and Scoring	Reliability (IC and TR)	Validity
Patient Reported Outcomes Measurement Information System - Short Form (8b) Measure (PROMIS Depression; Cella et al., 2010)	Assesses affective and cognitive aspects of depression.	8 items 5-point Likert scale (1-5)	In the past 7 days...I felt like a failure.	Scores transformed into T-scores. Higher scores indicate higher levels of depression.	IC $\alpha = .90$ (Vilagut et al., 2015).	Good convergent validity with related emotions. Able to discriminate between depression and other co-morbidities. (Vilagut et al., 2015).
Clinical Outcomes in Research Evaluation – Outcome Measurement (CORE-OM; Evans et al., 2000)	Assesses therapeutic outcomes across four dimensions (functioning, problems/symptoms, wellbeing and risk)	34 items (4 subscales) 6-point Likert scale (0-5)	“I have felt able to cope when things go wrong”.	Scores calculated as averages multiplied by 10. Higher scores indicate higher levels of mental health difficulties. Range: 0-10	IC $\alpha = .91$ (Connell et al., 2007) TR $r = .91$ (Connell et al., 2007)	Good convergent validity, subscales highly correlated with related measures.

Measure	Aim	No. of items and scaling	Example item	Directionality and Scoring	Reliability (IC and TR)	Validity
Mental Health Continuum – Short Form (MHC-SF; Keyes, 2002)	Assesses wellbeing. Consists of three dimensions: emotional, psychological and social wellbeing.	14 items (3 subscales) 6-point Likert scale (0-5)	“During the past week, how often did you feel... that you had something important to contribute to society”.	Scores calculated as averages. Higher scores indicate an improved wellbeing.	IC $\alpha = .92$ (Keyes et al., 2012) TR $r = .68$ (Lamers et al., 2011)	Good convergent validity, subscales correlate with related measures. Good discriminant validity with two-continuum model of mental health.

Note. IC = Internal Consistency; TR = Test-Retest

Procedure

Ethics. This study was approved by the University of Lincoln, School of Psychology Research Ethics Committee (SOPREC)²⁰.

Development of the coding framework. An extensive review of ACT literature was conducted to gain a comprehensive theoretical understanding of all six PF core processes. The initial reading list consisted of literature recommended by facilitators of an ACT workshop, followed by discussions with co-researchers and internet database searches (e.g. Google Scholar and EBSCO). Reviewed literature included publications explaining theoretical and philosophical underpinnings of PF (e.g. Biglan & Hayes, 1996; Hayes et al., 2006) and journal articles reporting PF-related research findings (e.g. Ciarrochi, Bilich, & Godsell, 2010; Hesser, et al., 2009; Twohig et al., 2015). The coding framework utilised in this study (Table 9) was adapted from a categorisation framework developed by Levin et al. (2012). The current study adapted the framework by focusing solely on participants' talk (see Table 8). Further changes were made to ensure the framework would allow coders to consider both PF and PI processes in participant talk (Table 9).

Table 8. Example of Adaptation for Current Study.

Levin et al. (2012)	Current Study
ACCEPTANCE	
(a) instructing participants to sit with, lean into or otherwise relate to difficult thoughts and feelings in an accepting way;	a) participants mentioning that they were relating to difficult experiences (including thoughts and feelings) in an accepting/non-accepting way;
(b) discussing how to practice acceptance;	(b) discussing ability (or lack of ability) to practice acceptance;
(c) discussing and/or helping participants notice the negative effects of suppression, avoidance or otherwise controlling one's thoughts and feelings;	(c) discussing the consequences of suppressing, avoiding or otherwise attempting to control thoughts and feelings;
(d) explicitly targeting letting go of unhelpful experiential avoidance strategies.	(d) discussing different ways of reducing the frequency of engaging in unhelpful experiential avoidance strategies.

²⁰ See Appendices B, C and D for documentation related to ethical approval

Table 9. Coding Framework

PSYCHOLOGICAL FLEXIBILITY	PSYCHOLOGICAL INFLEXIBILITY
ACCEPTANCE DOMAIN	
Acceptance	Experiential Avoidance
'...involves a willingness to experience those distressing emotions and experiences that are encountered in the process of behaving consistently in one's values' (Flaxman, Blackledge, & Bond, 2011, p.21).	'All attempts to reduce or avoid aversive private experiences in the form of thoughts, images, physiological sensations and emotions' (Hayes et al., 1999).
Coding criteria	
(a) participants mentioning that they were relating to difficult experiences (including thoughts and feelings) in an accepting/non-accepting way;	
(b) discussing ability (or lack of) to practice acceptance;	
(c) discussing the consequences of suppressing, avoiding or otherwise attempting to control thoughts and feelings;	
(d) discussing the ways of reducing the frequency of engaging in unhelpful experiential avoidance strategies.	
COGNITIVE DEFUSION DOMAIN	
Cognitive Defusion	Cognitive Fusion
Altering the function of thoughts and feelings by adapting their verbal functions (Hayes et al., 2006).	'Verbal dominance over behavioural regulation... pervasiveness of literal, reason-giving, problem-solving and evaluative contexts sustained by natural language communities' (Hayes et al., 2013, p.183).
Coding criteria	
(a) participants relating to their thoughts in a nonliteral way (e.g. seeing thought as just a thought, saying the thought in a funny voice);	
(b) participants noticing when they were judgmental and actively 'letting it go';	
(c) participants displaying cognitive fusion by relating to their thoughts and feelings in literal/reason-giving way.	
PRESENT-MOMENT AWARENESS DOMAIN	
Present-Moment Awareness	Lack of present-moment awareness
Non-judgemental, voluntary and flexible focus on experiences in the moment (Hayes et al., 2006).	'Loss of flexible contact with the present' (Hayes et al., 2013, p.184)
Coding criteria	
(a) Participants making statements which suggest that they are/were paying attention/not paying attention to their bodily sensations, thoughts, feelings and/or other internal experiences in the present moment;	
(b) Participants reporting being on 'autopilot', not paying attention while doing things that were important to them.	

SELF-AS-CONTEXT DOMAIN**Self-as-Context****Attachment to the Conceptualised Self (Self-as-Story)**

Considering the self as more than thoughts, feelings and physical sensations, and being receptive to experiencing changing emotions (Hayes et al., 2006)

Considering self as being a 'finished product', unconnected from the flow of current experience and being insensitive to context (Atkins & Styles, 2016).

Coding criteria

- (a) participants talking about themselves as though they were observing themselves from a different perspective;
- (b) participants describing aspect or qualities of self that were rigid and evaluative and were relatively insensitive to change in context.

VALUES DOMAIN**Values****Lack of Values Clarity**

'... verbal statements about what state of affairs an individual desires to repeatedly experience throughout his life' (Flaxman et al., 2011, p.37).

'The failure to contact and specify appetitive consequences of importance' (Hayes et al. 2013, p.186).

Coding criteria

- (a) participants talking about/clarifying their values;
- (b) participants reporting a lack of values clarity.

COMMITTED ACTION DOMAIN**Committed Action****Lack of Committed Action**

Relates to changes in behaviour that are guided by one's values (Hayes et al., 1999).

Relates to behaviours that are inconsistent with one's values (Ciarrochi, Bilich & Godsell, 2010).

Coding criteria

- (a) participants making commitments to act in ways that would bring them towards their values;
- (b) participants reporting that they acted / were unable to act in a way that was consistent with their values.

Note. The 'neutral' category has been considered when coded text appears to belong to a particular PF domain but it was difficult to decide whether it could be classified as a PF or PI statement.

*Application of the coding framework*²¹. In adherence with ACT principles, the core unit of analysis in the current study was ‘behaviour in context’ (Biglan & Hayes, 1996), where all behaviour (including verbal behaviour – ‘talk’) was considered to only have meaning when linked to the historical and current context (Hayes et al., 2013). This means that ‘the unit of analysis’ could consist of one or a few sentences, and that multiple codes could be assigned to one ‘unit of analysis’, e.g. a portion of client talk could be coded within Values and Committed Action domains. This is consistent with ACT theory, suggesting that PF processes are highly interlinked (Hayes, et al., 1999).

To explore the application of the coding framework, transcripts from a sample of sessions (not included in the primary analysis) were analysed by the research team. Consensus was reached by agreeing which specific PF code should be applied to an analysed fragment of text (e.g. researchers agreed that certain parts of the text should be coded as experiential avoidance). Through application of the framework, it transpired that, in some cases, certain statements referred to the processes of interest; however, it was difficult to ascertain whether they should be coded within the ‘flexible’ or ‘inflexible’ category. For example, the statement ‘I could talk myself into coping with the feelings... like if you’ve got pain, you talk yourself into coping with pain to a degree’ could be categorised as experiential avoidance or acceptance, as it is unclear what the participant means by saying ‘talk yourself into coping’. The participant might have coped by accepting the feeling, which would indicate direction towards PF, or she might have coped by distraction, which would indicate experiential avoidance (PI direction). On that basis, researchers also included a ‘neutral’ category to capture this type of ‘directionally ambivalent’ talk. The researchers also agreed that we were unable to identify PF processes in some portions of text, which therefore remained un-coded. It has been noted, however,

²¹ Please see section 2.6.1 of extended paper for detailed examples of applying coding framework

that the absence of evidence is not evidence of absence and that just because PF cannot be identified, it does not mean that PF processes are not active on a more covert level.

After the principal researcher completed preliminary coding, the co-researchers rated one session (12% of the material) to check for conceptual agreement/discrepancies in coding. Inter-rater reliability²² at this point was calculated as $r = 0.90$.

Discrepancies were mostly related to the Values domain, which may be linked to adopting 'behaviour in context' as the analytic unit. It is likely that the principal researcher coded parts of the participants' talk within the Values domain as it was relating to values mentioned by the participant at some point during the therapy. Second coders were not as familiar with the content of participants' talk, which possibly made it more difficult to identify some aspect of the Values domain in the text. It was also decided that participants' recollection of historical values could not automatically be coded in the Values domain – it was only coded as such if it was made clear that the participant still subscribes to the value. Similarities and differences in conceptualisation of Self-as-Story and Cognitive Fusion processes were also discussed. It was decided that Self-as-Story should be applied when 'a person describes, evaluates, explains and understands the self, using conceptualisation abstracted from the ongoing flow of experience' (Atkins & Styles, 2016, p. 72); for instance, a participant describing herself as 'a complete idiot'.

Following discussions with co-researchers, the principal researcher re-examined coded data, and a further 10% of the rated material (1 session) was checked for inter-rater reliability. Overall, the inter-rater reliability was $r = 0.88$.

Outcome predictions. After coding was completed, all researchers involved in the project made independent judgments about the therapy outcomes based on analysed data. The coded data presented to co-researchers was anonymised to minimise potential bias.

²² Pearson correlation coefficient

Results²³

Proportion of PF Processes in Client Talk

In order to examine the proportion of client talk which related to key processes of interest, we considered client talk within the session as 100%, and then examined what percentage of that talk related to specific PF domains. For instance, P1's talk accounted for 68.51% of total talk during session one. For the purpose of analysis, this was treated as 100%, of which 6.19% was coded within the Acceptance domain (Table 10)²⁴. This method of presenting data allowed for clear representation of what proportion of the PF processes were identified within the participants' talk. Participant talk could be coded as belonging to more than one domain, meaning that total coded text per session, per participant could potentially exceed 100% (Table 10). On average, 43% (range 15% to 67%) of participant talk was coded per session (this figure includes double and triple coding).

²³ See section 3 of extended paper for supplementary results.

²⁴ Please see section 2.6.2 of extended paper for breakdown of calculations

Table 10. A Percentage of Coded Text per Participant, per PF Domain per Session (Including Text Coded as ‘Neutral’)

	% of participant talk during the session	Acceptance	Cognitive Defusion	Present Moment Awareness	Committed Action	Self as Context	Values	% of coded text per participant, including double and triple coding
		%	%	%	%	%	%	
Participant 1								
Session 2	68.51	6.19	10.45	1.55	23.98	2.60	22.49	67.26
Session 4	57.08	6.60	7.10	0.60	27.17	3.26	18.94	63.67
Session 9	51.84	27.97	15.14	9.51	1.60	3.32	4.26	61.81
Participant 2								
Session 2	63.84	9.81	2.29	5.83	14.57	0.69	10.12	43.30
Session 4	60.19	2.01	2.48	3.31	10.85	0.91	4.07	23.63
Session 8	61.74	4.89	2.62	0.62	4.94	0.63	1.51	15.21
Participant 3								
Session 2	58.31	5.01	4.39	6.47	14.30	0.33	19.86	50.35
Session 4	67.66	1.64	1.51	0.38	13.94	0.56	10.67	28.70
Session 8	39.06	6.27	1.54	0.33	9.17	0.33	15.08	32.72

A mean percentage of each domain identified per session across all participants is presented in Table 11.

Table 11. Means and Standard Deviations of Percentages of Coded Talk across Sessions (Including Text Coded as PF, Neutral and PI).

Process	Session 2		Session 4		Session 8/9		Total	
	M	SD	M	SD	M	SD	M	SD
Committed Action	17.62	5.51	17.32	8.67	5.24	3.79	13.39	8.21
Values	17.49	6.52	11.23	7.45	6.95	7.17	11.89	7.64
Acceptance	6.99	2.51	3.42	2.76	3.04	12.95	7.82	7.94
Cognitive Defusion	5.69	4.25	3.69	2.98	6.43	7.56	5.28	4.74
Present Movement Awareness	4.61	2.67	1.43	1.63	3.49	5.21	3.18	3.35
Self-as-Context	1.20	1.22	1.58	1.47	1.43	1.64	1.4	1.27

Note: The processes are ordered from the most- to the least-frequently identified processes.
M: mean, SD: standard deviation

A sample of coded participants' talk is presented in Table 12.

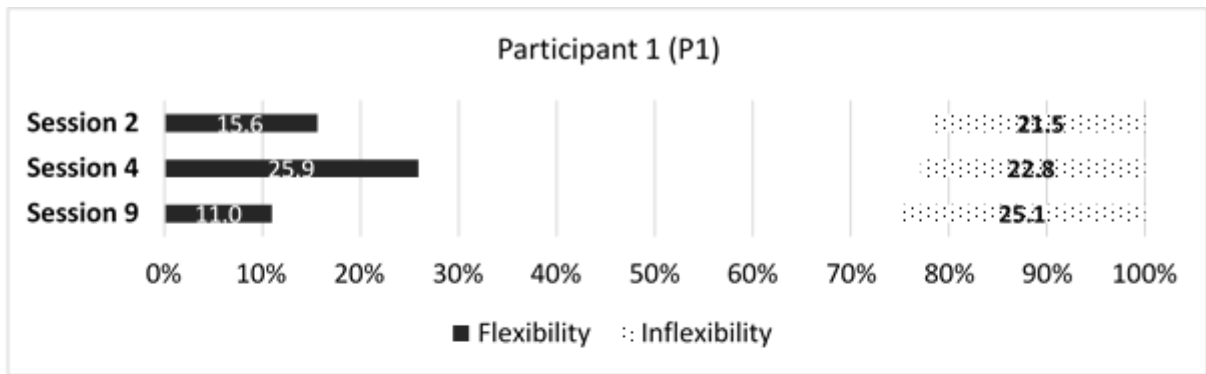
Table 12. A Sample of Coded Participant Talk For Each PF Domain

PF DOMAIN	PF	Neutral	PI
Acceptance	'But I just try and remember that it's just a feeling and just to ride it out.'	'It's just hard.'	'I mean, I can have the radio on in the morning, like, and I'll be singing literally to the songs so that my mind doesn't think about anything else... and, no, they're still there.'
Cognitive Defusion	'It's a feeling, it can't hurt me, that's what I tell myself all the time.'	'I do, yeah. I do feel like it's too much, but I think that's because of my mental state. But then is my mental state this way because I've took on too much? That's what I think.'	'If my head would switch off for five minutes I'd be fine, but it's like I went to bed last night at a quarter past ten, at quarter past one I was still awake.'
Present-Moment Awareness	'I would say I was between angry and upset.'	'It was like when you said, "I've been down there and up there but I've never been in the middle". Well I must've been.'	'I don't feel anything, honest, I wish I did. Any emotion will do. I mean who can watch <i>Long Lost Family</i> and not cry?'
Self-as-Context	-	'I mean, some days, I don't think I'm the best mum, but I don't think I'm the worst mum. But then, other days, I remember situations and I think, "Oh, that was terrible" and I feel like I'm still waiting to be a good mum.'	'Nobody else is a doolally tap like me then.'
Values	'I love my family, I feel guilty for anything bad I've said about any of my family. I've become more loving because I think, "God I love you so much".'	'And then, in an afternoon I'd probably sit and do some knitting or go and see my friend.'	'I want a life but I don't know what I want.'
Committed Action	'Well, I let... I don't like ironing about... I thought "I'm going to iron them few bits". That was the other day, and then yesterday I did all my granddaughter's washing.'	'...just didn't feel right. Tried meditating, everything was going wrong.'	'I have to go on a diet. I had a warm fudge brownie...'

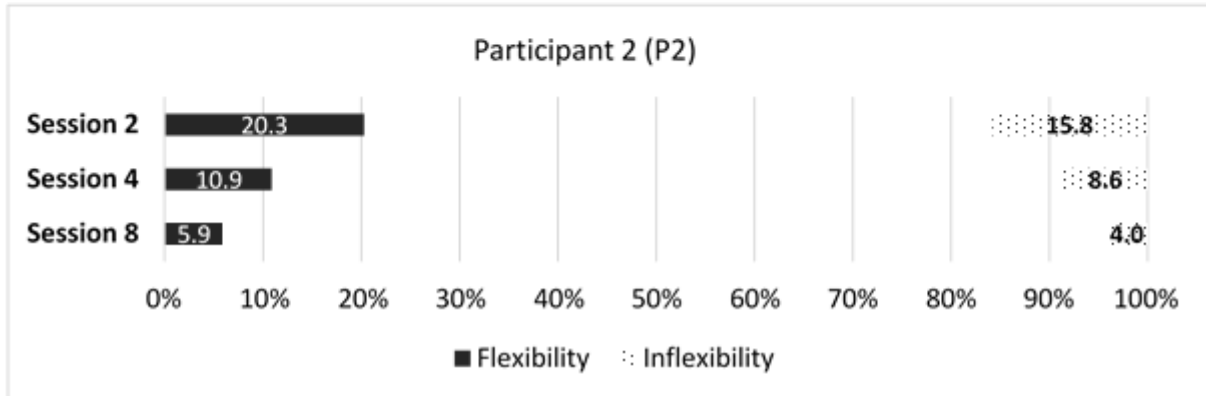
Patterns of PF and Clinical Outcomes

In order to establish a broad PF score for each participant, we summed all of the percentages of text coded as flexible (per session, Figure 4); the same process was completed for text coded as inflexible (Figure 4). This was considered the best way of presenting data, as it has been hypothesised in ACT that a higher general level of PF indicates a better quality of life and may lead to symptom reduction (even though this is not a primary goal of ACT). In turn, a high level of PI is associated in ACT with low quality of life and higher level of symptoms (Hayes et al., 1999). The analysed data, presented in the aforementioned way, was further examined by researchers who made predictions about the relationship between changes in PF and PI percentages and clinical outcomes.

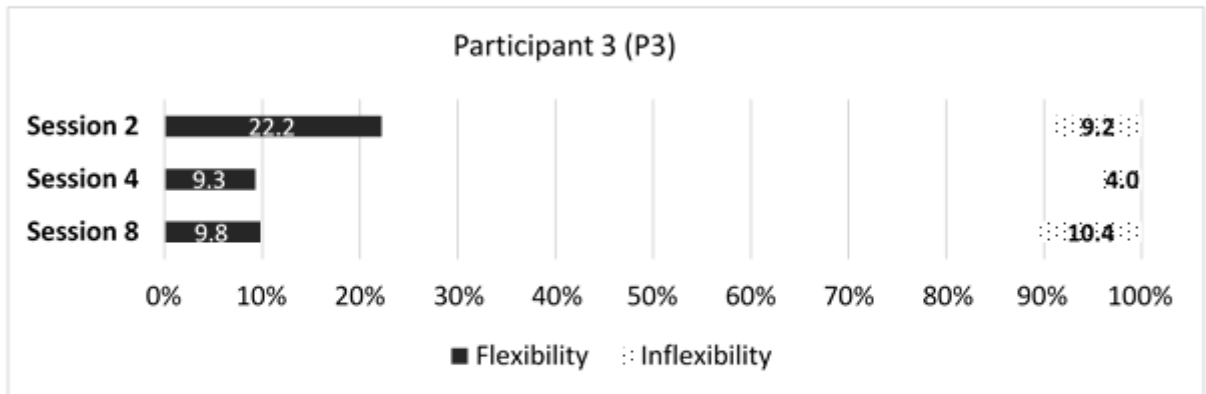
Analysed data did not show clear patterns of PF or PI increase or decrease over time, across participants (Figure 4).



P1	Flexibility %						Inflexibility %					
	A	CD	SC	PMA	V	CA	EA	CF	SS	LPMA	LVC	LCA
Session 2	0.0	0.0	0.0	0.3	8.4	6.9	2.7	8.3	1.7	0.0	0.6	8.2
Session 4	0.6	0.0	0.0	0.3	14.5	10.5	3.0	5.0	0.1	0.0	3.4	11.4
Session 9	2.1	1.7	0.0	1.7	3.8	1.6	15.2	6.0	0.0	3.9	0.0	0.0



P2	Flexibility %						Inflexibility %					
	A	CD	SC	PMA	V	CA	EA	CF	SS	LPMA	LVC	LCA
Session 2	0.0	0.0	0.0	0.5	8.1	11.8	9.1	1.8	0.2	3.6	0.0	1.1
Session 4	0.0	0.0	0.0	0.0	2.6	8.3	1.5	2.5	0.2	1.5	0.8	2.2
Session 9	0.4	0.0	0.0	0.1	1.0	4.4	2.0	1.3	0.3	0.4	0.0	0.0



P3	Flexibility %						Inflexibility %					
	A	CD	SC	PMA	V	CA	EA	CF	SS	LPMA	LVC	LCA
Session 2	0.0	0.0	0.0	0.2	11.5	10.5	1.0	1.0	0.1	5.0	1.2	1.0
Session 4	0.0	0.1	0.0	0.0	6.1	3.0	0.4	0.0	0.2	0.3	0.0	3.1
Session 8	0.0	0.0	0.0	0.1	4.8	4.8	0.7	1.5	0.0	0.0	6.6	1.6

Figure 4.. A sum of the percentages of participants' talk coded as 'flexible' and 'inflexible'.

Note: Presented tables outline percentages of all coded variables. A- Acceptance, CD- Cognitive Defusion, SC- Self –as-Context, PMA –Present Moment Awareness, V-Values, CA- Committed Action, EA- Experiential Avoidance, CF-Cognitive Fusion, SS- Self-as-Story, LPMA- Lack of Present Moment Awareness, LVC- Lack of Values Clarity, LCA- Lack of Committed Action.

Individual Participants

Participant 1 (P1). This participant's levels of PF and PI appear to remain relatively stable, with a slight increase in PF observed during session four. There was a substantial increase in Experiential Avoidance (together with a slight increase in Lack of Present-Moment Awareness), which formed a substantial part of the overall percentage of PI talk identified in the final session. A decrease in Values and Committed Action contributed to an overall decrease in PF during the final session.

During the final session, P1 described various ways of coping with her distress, mostly by utilising 'distractions'; for instance, 'I try and just do fun things, try and distract myself'. This way of managing distress is consistent with principles of CBT but would be coded as Experiential Avoidance in this study, which may explain the aforementioned increase. The content of sessions was also important when Experiential Avoidance was considered – P1 was talking about her ability to control her thoughts, which is generally associated with negative outcomes in ACT, but she did not explain what that 'control' looked like, meaning that it was difficult to code these statements directionally.

A decrease in Committed Action was somewhat unexpected, considering that engaging in new activities (such as distractions) could be seen as behavioural activation, a technique which is associated with Committed Action (Hayes et al., 2011). Statements mentioning 'distractions' would not be coded as Committed Action in this study, however, because P1 had not spoken of any values that could be pursued by engaging in the aforementioned behaviours. Moreover, P1 spoke about not being able to 'control' physiological sensations which she associated with prolonged distress, e.g. 'adrenaline would be pumping for four or five days forever without stopping'. This has been coded as Lack of Present-Movement Awareness; but it is important to note that P1 was suffering from physical ill health, hence some of the reported symptoms may be associated with

real physiological processes (which are signs of poor physical health), rather than lack of Present-Moment Awareness.

Participant 2 (P2). A gradual decrease in both PF and PI was observed. The reduction in PI was mainly a result of a decrease in text coded as Experiential Avoidance. This pattern is somewhat difficult to interpret in terms of possible therapy outcomes. Within ACT therapy, a decrease in PI would be associated with positive outcomes; a reduction in PF, however, would indicate a negative trend (Hayes et al., 1999).

Concurrent with the reduction of Experiential Avoidance during the final session, two instances of P2's talk were coded as Acceptance (e.g. 'Yeah, and just, yeah, I think, well, this is me and that's it isn't it?'). Although these two statements account for only a minor fraction of P2's talk during that session, they could potentially suggest an important change in the way she relates to her experiences. This shows that, at least on some level, P2's attitude has changed, as previously she was only expressing wishes such as 'I just want to be ordinary'.

The issue of self-report is also important when therapy outcomes are considered; for instance, P2 openly reported that she values the support and interaction she receives from health professionals. This could possibly influence how she scored on the self-reported outcome measures and, equally, it could influence how she was talking about her experiences. Reduction in PI talk could potentially indicate a positive outcome where a decrease in PF could signal that P2's behaviour (such as expressing distress) is consistent with her values (e.g. having support).

Participant 3 (P3). A reduction of PF was noted in the case of P3, with relatively stable PI. A reduction in PF was mostly associated with a reduction in the Values and Committed Action domains, paired with a slight increase in Lack of Values Clarity.

During the final session, P3 reported that ill physical health was preventing her from doing things that were important to her, which was coded as Lack of Committed Action in light of the inability to act in the way that was consistent with P3's values. This reduction significantly contributes to the decrease of overall PF when taken out of context, but it does not necessarily signify that P3 became less psychologically flexible.

Clinical Outcomes

In order to assess whether blind predictions could be made regarding clinical outcomes (based only on the results of the coding exercise), all four researchers involved in the project were asked to answer the following questions for each participant:

1. During the course of their sessions has the participant's level of distress increased, decreased or remained stable?
2. During the course of their sessions has the participant's perception of quality of life increased/decreased/remained stable?
3. If any changes in outcomes are predicted, would you be confident that they are clinically significant?

Only directionally coded text (indicating PF or PI) was analysed in terms of making predictions about the outcome, as talk coded as 'neutral' was not anticipated to be able to establish whether participants' talk indicated that they were moving towards inflexibility or flexibility.

The predictions, along with clinical outcomes derived from the original study, are outlined in Table 13.

Table 13. Participants' Individual Therapy Outcomes and Outcome Predictions Made by the Judges

	PARTICIPANT 1		PARTICIPANT 2		PARTICIPANT 3	
ACTUAL OUTCOMES						
PROMIS	Improvement*		No Change		No Change	
CORE	Improvement*		Improvement*		Improvement*	
MHC-SF	Improvement**		No Change		No Change	
	DISTRESS	QUALITY OF LIFE	DISTRESS	QUALITY OF LIFE	DISTRESS	QUALITY OF LIFE
JUDGE 1	NC	NC	NC	NC	NC (D)	NC (D)
JUDGE 2	NC (D)	NC (D)	NC	I**	NC	NC
JUDGE 3	NC (D)	NC	NC	NC	NC	NC
JUDGE 4	NC (D)	NC (D)	I**	NC (I)	NC	NC (D)I

Note. RCI and CSC calculated using clinical and non-clinical norms in published literature unless standardised norms are available.

* indicates reliable change; ** indicates clinically significant change; NC - no change; NC (D) – no change but (not clinically significant) trend towards deterioration; NC (I) – no change but (not clinically significant) trend towards improvement; I** - improvement (clinically significant).

P1 demonstrated a reliable improvement in terms of scores on the Patient-Reported Outcomes Measurement Information System (PROMIS) and Clinical Outcomes in Research Evaluation (CORE); however, this was not clinically significant, and the participant remained within the range of clinical distress. These outcomes are consistent with the judges' predictions that there was 'not clinically significant change' but are inconsistent with directional predictions of a (not clinically significant) trend towards deterioration. P1's scores on the Mental Health Continuum – Short Form (MHC-SF) indicated that there was a clinically significant change in her perceived quality of life, which is inconsistent with the judges' predictions of 'no clinically significant change' or a slight (not clinically significant) deterioration.

P2 demonstrated a reliable improvement in terms of scores on the CORE; however, this was not clinically significant, and the participant remained within the range of clinical distress. Her scores on PROMIS indicated no significant change. These outcomes are consistent with the predictions made by the majority of judges (3/4), who proposed that

there was ‘no significant change’ in P2’s distress. One of the judges predicted a clinically significant improvement in this domain, which was inconsistent with the reported findings. P2’s scores on MHC-SF indicated that there was no significant change in her perceived quality of life, which is consistent with predictions made by the majority of judges (3/4). One judge predicted a clinically significant improvement in P2’s scores, and another judge suggested a possible non-significant trend towards improvement – both predictions were unsupported by the original clinical outcomes.

P3 demonstrated a reliable improvement in terms of scores on the CORE; however, this was not clinically significant, and the participant remained within the range of clinical distress. Her scores on the PROMIS indicated no significant change. These outcomes are consistent with the predictions made by the judges, who proposed that there was ‘no clinically significant change’ in P3’s distress. One of the judges suggested a slight (not significant) trend towards deterioration in this domain, which was inconsistent with the findings. P3’s scores on the MHC-SF indicated that there was no significant change in her perceived quality of life, which was consistent with the predictions made by the judges. One judge suggested a possible, but not significant, trend towards improvement and another judge indicated a possible, but not significant, trend towards deterioration — both suggestions were unsupported by the actual outcomes.

Outcome predictions

There was 92% (22/24) agreement amongst judges in terms of predicting ‘no clinically significant change’. In 41% of these instances, judges indicated a ‘not significant trend’ towards deterioration (78%) or towards improvement (22%).

Overall, judges’ predictions in relation to whether there was any ‘clinically significant change’ were correct in 75% of cases. A general trend across all participants

was towards improvement, but in 7 out of 11 instances, when directional predictions were made by judges, they were inconsistent with this trend.

Discussion

The primary aim of this study was to explore whether PF processes can be identified in participant talk during therapy that does not overtly target PF. Additionally, we examined whether changes in detected PF and PI levels are related to clinical outcomes.

Identifying PF in Participant Talk²⁵

The results suggest that PF processes can be identified in the talk of participants who engage in therapy that does not explicitly target PF.

The results show discrepancies in the frequency of PF components identified within the text. The most frequently identified process was Committed Action, closely followed by Values. Hayes et al. (1999) suggested that the Committed Action process encompasses all behavioural methods used to form and maintain patterns of values activities, such as goal setting, contingency management, behavioural activation and exposure. These techniques are frequently used in CBT, hence it makes sense that this domain was the easiest to identify. Additionally, Committed Action in ACT is always considered in the context of a person's values (Hayes et al., 2013); therefore, similarities in the frequency of identifying these two domains are not necessarily surprising²⁶.

Acceptance was the third most-frequently coded domain, followed by Cognitive Defusion. This finding can be related to techniques commonly used in CBT, such as 'decentring' (Arch & Craske, 2008). In ACT, as well as in CBT, clients are encouraged to 'defuse/decentre from their thoughts'. In CBT, unlike in ACT, however, the aim of this

²⁵ Please see section 4.1 of extended paper for a discussion on patterns of PF in participants' talk.

²⁶ Please see section 1.5 of the extended paper for a discussion on the relationship between PF processes.

process is to identify ‘faulty thoughts’, to assess their validity and, if required, to alter the thoughts identified as ‘faulty’ (cognitive restructuring). Any attempts to alter one’s thoughts would be considered as experiential avoidance within the ACT model, and it was coded as such in this study.

The second least-frequently coded domain was Present-Moment Awareness, which may be related to the fact that, traditionally, mindfulness techniques are not incorporated into CBT therapy, hence Present-Moment Awareness compatible statements were infrequently featured in client talk.

The least-frequently identified domain was Self-as-Context, and no utterances were coded as illustrating ‘Self-as-Context’ processes. This finding is consistent with the existing literature which suggests that this concept is the most abstract and difficult to capture and that, to some extent, Self-as-Context processes may be better understood as a part of Cognitive Defusion or Present-Moment Awareness domains (Foody, Barnes-Holmes, & Barnes-Holmes, 2012). It has also been noted that the Self-as-Context domain seems to be the least-frequently researched PF ‘stand-alone’ component and is usually included in the domain of Present-Moment Awareness (Villatte et al., 2016). Moreover, Francis et al. (2016) reported that, following a Delphi consensus process, no Self-as-Context items were included in the CompACT, and it has been suggested that this was due to difficulties in operationalising it accurately.

The findings of this study may support the notion that it may be more useful to consider the Self-as-Context process in the context of the Present-Moment Awareness domain rather than as a separate component of PF. Alternatively, more efforts towards accurately operationalising this process should be made if it continues to be outlined as a crucial component of PF.

A possible explanation for the observed distribution of PF processes might be related to the content of participant talk: the Committed Action and Values domains are more likely to resemble normal, everyday conversation where people discuss their goals, what is important to them and talk about activities of daily living, etc. It seems that the more abstract constructs become, the less ‘natural’ it is for people to spontaneously talk about them.

The aforementioned distribution of the PF process in the coded data is theoretically consistent with PF conceptualisation outlined by Hayes et al. (2011), where PF processes are divided into three dyadic domains (see Figure 1): Committed Action - Values, Acceptance – Cognitive and Present-Moment Awareness – Self-as-Context. Moreover, the results show that the main variables responsible for a high level of PF during session two, across all participants, were Values and Committed Action. This is likely to be associated with the content of the early sessions, where goals and aspirations are explored explicitly.

Psychological Flexibility and Clinical Outcomes²⁷

Within the current study, the results of exploration of the relationship between patterns of PF detected in participant talk and clinical outcomes were inconclusive. On the whole, after examining patterns of PF, researchers predicted that there would be no significant change in clinical outcomes, which was largely accurate. It was less clear, however, whether ‘directional predictions’ could be made reliably – this was especially evident in the case of P1, whose scores on outcome measures indicated improvement, but the judges predicted there would be no change or deterioration.

²⁷ Please see section 4.3 of extended paper for a further discussion on PF and clinical outcomes

It is likely that some of the discrepancies between 'trends in outcome predictions' and actual outcomes might be related to theoretical differences in CBT and ACT. For instance, activities such as thought challenging or distractions could be seen as examples of Experiential Avoidance, which is associated with negative outcomes from an ACT perspective but would be associated with a positive outcome from a CBT perspective. Additionally, ACT founders argue that 'the control is the problem' (Hayes et al., 1999), thus all participants' attempts to control internal experiences would be considered a form of Experiential Avoidance. It has been suggested, however, that the process of Acceptance may be an alternative form of exerting control (Arch & Craske, 2008) and, therefore, it could be argued that 'accepting' may actually be a form of cognitive restructuring.

It is also worth emphasising that some participants appeared to be engaging in behaviours which are associated in ACT with Committed Action (e.g. watching something funny despite feeling low) but would not be categorised as such due to the 'lack of value' component assigned to it by a participant. This observation raises a question as to whether Committed Action has to be viewed in the context of clearly stated Values. These types of nuance would be very difficult to detect while applying the coding framework to participant talk, without having any chance of clarifying what they mean by expressing certain thoughts.

Additionally, it is currently unclear whether psychological flexibility and inflexibility represent two ends of a 'flexibility continuum' or whether they are in fact separate constructs. It has been hypothesised that problems associated with PI should be targeted by PF processes; thus, the increase in PF and decrease in PI would be expected to occur simultaneously (Hayes et al., 2006). This type of relationship would suggest that these constructs are at opposite ends of the continuum, and traditionally psychometric PF

measures have captured the relationship between PF and PI in that way (Stabbe, Rolffs, & Rogge, 2019). In this study, however, no clear change pattern for PF and PI was observed to support this hypothesis, which may suggest that PF and PI may be better understood as two separate psychological constructs (Stabbe et al., 2019).

The specific nature of the final therapy session should also be taken into account when considering therapy outcomes. It has been suggested that the last session is frequently difficult for clients, and that they are likely to report a worsening of symptoms and/or no changes when completing outcome measures (Owen, Drinane, Adelson, & Kopta, 2017). The content of client talk may also be influenced by feelings related to the termination of therapy, as well as by the situational context. For instance, P3's final session was indicative of crisis, which changed the focus of the session and led to a discussion of practical safeguarding solutions, decreasing the amount of therapeutic talk.

Limitations and Further Research²⁸

The main limitation of this study is related to the lack of variability in participant outcomes. In order to further test whether detected PF patterns can indicate whether clinically significant change occurred, a sample where participants reported a clear improvement (or deterioration) would be advantageous. It is possible that clinically significant improvement (or deterioration) would be reflected in participant talk, allowing for patterns of change to be observed more easily.

Moreover, in this study, we focused solely on participant talk; thus, therapist talk was omitted from the analysis. It is important to note, however, that the therapist who delivered therapy was a final-year trainee clinical psychologist who has undertaken extensive training and had an extensive knowledge of many different therapy models.

²⁸ Please see section 4.4 of extended paper for a further discussion on strengths, limitations and further research

The therapy was checked for fidelity and was assessed as adherent to the CBT model, but it was not checked to examine whether any other aspects more readily associated with other therapies were also incorporated.

Consequently, it is possible that some aspects of PF were unintentionally targeted by the therapist, which could have influenced participant speech. A possible presence of this type of ‘mode drift’ has been acknowledged by Forman and Herbert (2019), who concluded that elements of acceptance and mindfulness-based therapies are likely to be incorporated in more traditional cognitive-behavioural treatments. This limitation can be addressed in future research by ensuring not only that CBT is adherent, but also that no concepts that are antithetical to CBT are introduced.

Furthermore, it is important to emphasise that ACT is considered a ‘third wave of CBT’, and some authors suggest that there are more similarities than differences between these two approaches (Arch & Craske, 2008; Hofmann, 2008). In order to further explore whether PF is a trans-theoretical construct, further research should investigate whether PF processes could be detected in the talk of clients engaging in therapies which do not have clear cognitive and behavioural roots.

Additionally, it has been noted that PF has been captured and defined in many different ways. This ‘operational versatility’ may be considered advantageous for understanding and ameliorating poor mental health. A lack of coherent and clear conceptualisation of the main psychotherapeutic change process may, however, undermine the cohesiveness of theory behind it and hinder gathering empirically valid evidence. Further research should address the theoretical inconsistencies currently existing in relation to the conceptualisation of PF.

Conclusions

In this study we found that it is possible to reliably identify components of PF in the talk of participants who engaged in CBT. It is unclear, however, whether the predictions about clinical outcomes can be made based on the identified patterns of PF in participant talk. These findings contribute to the current debate about change processes underlying successful treatments and provide a platform for future research into the role of PF in facilitating psychotherapeutic change.

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Extended Paper

1. Extended Introduction

In order to set a context for the current study, which explores whether psychological flexibility (PF) can be considered a trans-theoretical process of psychotherapeutic change, a brief overview of the current issues related to mental health and factors related to psychotherapeutic change and psychotherapy will be provided in the following section.

1.1 Mental Health

The increasing prevalence of common mental health difficulties is a growing concern for public health organisations worldwide (Mehta, 2013; Mental Health Foundation [MHF], 2016). The Global Burden of Disease (Institute for Health Metrics and Evaluation [IHME], 2013) study found that the most predominant mental health problems worldwide are depression, anxiety, schizophrenia and bipolar disorder. Poor mental health accounts for 21.2% of years lived with disability worldwide (IHME, 2013) and has a significant impact on the length and quality of life (MHF, 2016). It has been reported that, in the UK, one in six people over 16 years of age is likely to experience a ‘common’ mental health difficulty (MHF, 2016). The National Institute for Health and Care Excellence’s (NICE, 2011a) list of common mental health problems includes depression, generalised anxiety disorder (GAD), social anxiety disorder, panic disorder, obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD). The risk of attempting and completing suicide is elevated in individuals who are experiencing mental health difficulties (MHF, 2016). The reported figures suggest that over 90% of people who took their own life, or attempted to do so, were experiencing mental health problems (MHF, 2016). Friedli and Parsonage (2007) state that mental illness takes various forms and that no other health condition matches the prevalence, persistence and extensive impact of mental illness. The Centre for Mental Health (2010) outlined that mental illness not only has a human and social cost but also an economic one, with wider costs in England amounting to £105 billion a year (MHF, 2016).

1.2 Aetiology

In the Western world, causes of mental illness have been predominantly explained by the medical model, which conceptualises the nature and origins of psychopathology in terms of biochemical imbalances, genetic factors and pathophysiology of the brain (Lam, Salkovskis, & Warwick, 2005; Johnstone, 2000). Consequently, the medical model is used in the diagnosis and treatment of psychopathology. In line with this medical

approach, diagnostic frameworks have been developed (the Diagnostic and Statistical Manual of Mental Disorders, 5th ed.; DSM-5; American Psychiatric Association [APA], 2013; International Statistical Classification of Diseases and Related Health Problems, ICD-10; World Health Organisation, 2004) to help practitioners identify problems and give diagnoses which inform treatment in an efficient manner. Additionally, diagnostic systems are considered to improve reliability and validity of diagnosis (Aboraya, Rankin, France, El-Missiry, & John, 2006; Hilsenroth et al., 2000). Mental health services are mostly set up to reflect the medicalised approach to mental illness, where treatment pathways mirror clusters of symptoms typically associated with particular diagnoses (NICE, 2011a). Although socio-economic factors are acknowledged in the medical model, the emphasis on the biological origin of psychiatric disorders gives the impression that people with mental health problems are fundamentally flawed and defective (Lam et al., 2005). As the causes of mental illness are often elusive, the focus of treatment has fallen on symptom relief, either in the form of medication or psychotherapy (Lam, et al., 2005).

Additionally, a medicalised hypothesis about the origin of mental illness leads to the responsibility for symptom reduction and recovery being placed on the individual person (Johnstone et al., 2018; Smail, 2001). The emphasis on personal responsibility in relation to symptom reduction and recovery has been reflected in many governmental programmes which aim to target mental health difficulties by introducing programmes such as the Improved Access to Psychological Therapy (IAPT; Layard, 2006; LSE Centre for Economic Performance, Mental Health Policy Group, 2006), which aims to improve access to individual, diagnostically led treatment.

Over the years, psychological approaches have endeavoured to offer alternative models of understanding mental illness. It has been argued, for instance, that presenting emotional, cognitive and behavioural difficulties as symptoms of mental disorder and locating problems chiefly in people's brains and bodies not only conceals the well-evidenced, causal role of social and interpersonal factors in distress but also fails to outline what being 'mentally healthy' looks like (Friedli & Parsonage, 2007; Hayes, Strosahl, & Wilson, 1999). Various schools of psychology emphasise different factors of human functioning to explain the origins of psychopathology and propose different treatment models. Despite the heterogeneity in psychotherapeutic approaches to mental illness, it is commonly acknowledged that life experiences play an important role in the

development of mental health difficulties. Poor mental health has been found to correlate with exposure and vulnerability to adverse social, economic and environmental situations, such as low income, unemployment, poor physical health, poor social support and experiences of trauma (Friedli & Parsonage, 2007; MHF, 2016). In recent years, various alternatives to the medical understanding of mental health difficulties have been proposed, within which it is hypothesised that, in the majority of cases, human distress is an understandable reaction to a person's difficult circumstances, history, belief system and biological capacities (Johnstone et al., 2018). Given the importance of mental health, treatment approaches developed in the last few decades, such as ACT (Hayes, et al., 1999) or Dialectical Behaviour Therapy (DBT; Linehan, 1993) have moved away from attempting to alleviate specific symptoms and focus on core processes which facilitate good mental health.

1.3 Treatment

Currently, there is a large number of psychological treatments available to support people who experience poor mental health and there is a great body of research supporting the notion that a number of well-established treatments produce similar outcomes across different presentations and populations (Munder et al., 2018; Smith & Glass, 1977; Tschacher, Junghan, & Pfammatter, 2014; Wampold et al., 1997). New psychological treatments which proclaim to offer novel approaches to therapy continue to be created, but their founders frequently fail to clearly explain the process of change that makes the therapy successful (Grawe, 1997; Villatte et al., 2016). These findings are at the heart of the ongoing debate about what processes mediate therapeutic outcome, with some researchers and clinicians supporting the 'common factor' model to explain psychotherapeutic change (Villatte et al., 2016; Wampold, 2001) and others favouring the 'specific factor model' (Chambless & Ollendick, 2001).

1.4 Common Factors

Due to the fact that this study focuses on exploring the trans-theoretical nature of PF, in this section a 'common factor approach' to therapeutic change processes will be discussed in more detail.

The main goal of the common factor approach is to identify, define and assess common ingredients across all treatments, regardless of their theoretical underpinnings (Lampropoulos, 2000). The idea of the presence of common factors was introduced by

Saul Rosenzweig (1936), who concluded that all psychotherapies are equally efficacious, (referred to as the ‘Dodo effect’). This expression refers to a well-known quote from *Alice’s Adventures in Wonderland*, when the Dodo declares, ‘Everybody has won and all must have prizes’, implying that if psychotherapies produce similar outcomes they ‘all must have prizes’. The presence of common factors has been widely discussed in the literature and many attempts have been made to understand how they may influence the outcome of therapy (Crits-Christoph, 1997; Kazdin, 2007; Lambert, 1992; Wampold et al., 1997; Weinberger, 1995).

After reviewing a large body of psychotherapy outcome research, Lambert (1992) proposed that 30% of the sources of variation in therapeutic outcomes can be attributed to common factors. The other factors identified by Lambert (1992) included: specific techniques, expectancy (placebo) and extra-therapeutic change (Figure 5).

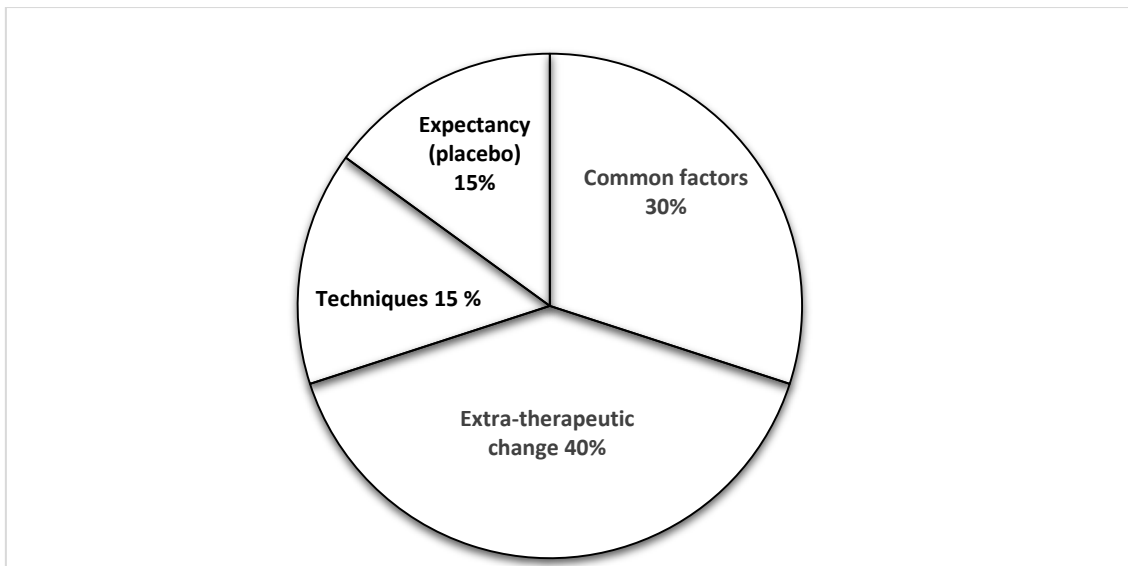


Figure 5. Factors contributing to the effectiveness of psychotherapy (Lambert, 1992)

Lambert (1992) acknowledged that common factors can be conceptualised in many different ways and can be divided into three categories: Support Factors (e.g. therapeutic alliance, therapist expertness, warmth, respect, empathy); Learning Factors (e.g. advice, cognitive learning, rationale); Action Factors (e.g. cognitive mastery, facing fears, taking risks). This developmental sequence assumes that the supportive factors, such as therapeutic alliance, precede any changes in the therapy (Lambert, 1992).

Currently, there is little agreement on how many potential common factors exist, with some authors proposing the existence of as few as five (Laska, Gurman, & Wampold,

2013) and others as many as 22 (Tschacher, et al., 2014). Despite these differences, therapeutic alliance and experiential exposure have been consistently identified as common factor across most schools of psychotherapy and, as such, have received a great deal of attention (Castonguay, Constantino, & Grosse Holtforth, 2006; Chambless & Ollendick, 2001; Lambert, 1992).

The notion that therapeutic alliance is an important ingredient of therapy can be tracked back to Freud (1910), and most of the early research on this subject was conducted within the psychodynamic approach (e.g. Gitelson, 1962; Greenson, 1967). The importance assigned to a working alliance within the psychoanalytic tradition ranges from seeing it as significant (Brenner, 1982) to considering it to be a ‘vehicle for cure’ (Yalom, 1980). Bordin (1979) suggested that ‘the working alliance between the person who seeks change and the one who offers to be a change agent is one of the keys, if not the key, to the change process’ (p. 252). Indeed, the importance of a good working alliance has been emphasised in various therapy approaches, such as CBT. It is, however, mostly considered to be a necessary, but not sufficient, ingredient for producing positive outcomes (Kazdin, 2007; Westbrook, Kirk, & Kennerley, 2011).

Evidence suggests that the early development of a therapeutic alliance is important, because poorer reported alliances are a predictor of patient drop-out (Constantino & Wilson, 2002). Moreover, it has been found that clients of therapists who were able to develop stronger therapeutic relationship (on average) with their clients achieved more positive outcomes (symptom reduction) than clients of therapists who were less skilled in forming therapeutic relationships (Baldwin, Wampold & Imel, 2007). A study which examined therapist characteristics which were conducive with a positive working alliance concluded that warmth facilitated by the therapist’s understanding, flexibility (which occurs through exploration) and confidence (demonstrated by accurate interpretations) correlated with an improved working alliance (Ackerman & Hilsenroth, 2003). Furthermore, research exploring which factors account for the most variance in therapeutic outcome found that, in addition to the quality of therapeutic alliance (Flückiger, Del Re, Wampold, & Horvath, 2018; Horvath, Del Re, Flückiger, & Symonds, 2011), client’s expectations of therapy and their psychological-mindedness were also associated with improved outcomes (Constantino & Wilson, 2002; Greenberg, Constantino, & Bruce, 2006). It should be noted, however, that meta-analyses have suggested that only around 5% of the variance in outcome can be explained by alliance

(Flückiger et al., 2018; Horvath & Bedi, 2002) and that, to date, all research that considers the relationship between working alliance and outcomes are correlational in nature (Flückiger et al., 2018, Horvath et al., 2011).

Another factor frequently considered a key ingredient of generating therapeutic change is experiential exposure, which is related to ‘confronting or facing a problem’ in service of reducing avoidance (Kleinke, 1994; Weinberger, 1995; Westbrook et al., 2011). Lambert (1992) suggested that encouraging clients to face their fears is an important active factor across different therapies and that exposure is crucial in facilitating therapeutic outcome. The ability to acknowledge and tolerate one’s distressing private phenomena is also considered to be a crucial component of PF (Hayes et al., 1999; Kashdan & Rottenberg, 2010).

Systematic explicit exposure has been mostly associated with behavioural therapy approaches, where methods of habituation and extinction are commonly used to help clients achieve their goals (see Section 1.7.1). Habituation can be achieved by applying techniques such as ‘graded exposure’ - a technique which aims to gradually reduce the physical sensations of anxiety. This is achieved through identification of a feared stimulant and gradual exposure to it (e.g. starting by looking at pictures of spiders in cases of arachnophobia). Depending on the needs of the client, exposure can be completed *in vivo* or may involve imaginary exposure (Davey, 2014; Lambert, 1992). Exposure has been adopted as an important factor of change in CBT as well as ACT, where exposure to difficult thoughts and feared situations/object is facilitated (Arch & Craske, 2008), and some researchers argue that this behavioural component of CBT is what makes it successful (Jacobson et al., 1996).

Exposure has been also suggested to be an important ingredient of psychodynamic treatment, where it is theorised that in order to avoid psychological pain, internal conflict or to suppress unacceptable impulses/feelings, people develop various defence mechanisms (Leiper, 2006; Lemma, 2015). Typically, defence mechanisms serve an adaptive function and protect people from experiencing inner conflict about unwanted feelings. At times when routine defences fail to manage the conflict, further, less adaptive measures may be employed. Seemingly effective in the short term, these may become unhelpful coping strategies that may lead to intrapsychic and interpersonal difficulties (Leiper, 2006; Malan, 1995). To address the issue of using ineffective coping strategies, clients are encouraged to acknowledge their ‘conflict-laden’ and frequently repressed

wishes, beliefs, thoughts and feelings (Lemma, 2015; Malan, 1995). The aim of the 'acknowledgement process' is to lower clients' resistance to attend to and express these private phenomena in order to make sense of the relevant anxiety-inducing content and to reduce clients' reliance on defence mechanisms (Malan, 1995). It has been also suggested that other treatment approaches, such as Gestalt Therapy (Perls, Hefferline, & Goodman, 1951) and Eye Movement Desensitization and Reprocessing (EMDR; Shapiro, 1989) work through exposure processes (Dierick & Lietaer, 1990; Rosen & Davison, 2003).

Another change process which has been considered important across many psychological approaches is psychological flexibility, a concept which this study focuses on and is discussed in more detail in the section below.

1.5 Psychological Flexibility (PF)

In their meta-analysis, Kashdan & Rottenberg (2010) conclude that psychological flexibility (PF) refers to a number of dynamic processes which determine a person's interactions with their environment. It has been suggested that PF can be defined the ability to (a) adapt to fluctuating environmental demands, (b) 'rearrange' mental resources, (c) take a different perspective, and (d) balance desires, needs and life domains (Kashdan & Rottenberg, 2010; p.866). After reviewing previous research in this area, Kashdan and Rottenberg (2010) suggested that PF has been extensively researched for around five decades under various labels such as 'self-regulation', 'mindfulness and acceptance', 'executive control', and 'personality and developmental psychology'. Kashdan and Rottenberg (2010) also outline the nature, correlates and consequences of psychological flexibility. For instance, the importance of PF in personality development and in the ability to manage everyday challenges is emphasised by the construct of 'ego-resiliency' (Block & Block, 2006). Ego-resiliency is defined by Block and Block (2006) as 'the individual's adaptive reserve, a dynamic ability to temporarily change from modal reaction or perceptual tendencies to reactions and precepts responsive to the immediately pressing situation and, more generally, to the inevitably fluctuating situational demands of life' (p.318).

Evidence suggests that ego-resiliency is strongly and positively related to identity development. Westenberg and Block (1993) found that young adults who reached further milestones of ego development (as conceptualised by Loevinger, 1987) demonstrated

higher ego-resiliency levels by showing more flexibility while responding to everyday challenges in multiple contexts than peers who were considered less mature. Individuals characterised as ego-resilient were observed to be flexible when responding to environmental contingencies – they demonstrated openness and curiosity, modified their behavioural responses to match the situational context and were able to behave in line with their long-term goals, rather than respond to everyday challenges impulsively by repetitively applying rigid, frequently ineffective, strategies (Block & Block, 2006; Kashdan & Rottenberg, 2010; Westenberg & Block, 1993).

Psychological constructs of self-regulation, emotional regulation or coping flexibility (Carver & Scheier, 1998; Cheng & Cheung, 2005; Muraven & Baumeister, 2000) also consider the significance of PF by emphasising the importance of adapting one's responses to best match the situation. In their study, Tamir, Mitchell and Gross (2008) found that psychologically flexible individuals are more likely to regulate their emotions, thoughts and behaviour effectively to achieve the best possible results, depending on their situation. Additionally, these individuals demonstrated greater willingness and ability to tolerate 'negative emotions' (such as anger) in order to achieve valued goals (Tamir et al., 2008). Kashdan and Rottenberg (2010) indicated that a person's sensitivity and responsiveness to their environment may be more important for their psychological well-being than pursuing the goal of 'only experiencing positive emotions'. Furthermore, the evidence suggests that a person's ability to navigate between enhancing or suppressing emotional expression, depending on situation, is a predictor of greater long-term adjustment (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004).

There is also evidence that being psychologically flexible helps people to live more balanced lives and increases their quality of life. This has been attributed to an individuals' ability to switch their attention from one life domain to another, as well as their ability to allocate their time flexibly (Block & Block, 2006; Kashdan & Rottenberg, 2010). The ability to divide time flexibly and in accordance with personal values allows individuals to dedicate enough time to plan and work towards their goals but also allows them to enjoy leisure activities without feeling guilty.

Furthermore, it has been suggested that a person's ability to flexibly switch between 'time perspectives' is an integral part of psychological well-being (Boniwell, Osin, Linley, & Ivanchenko, 2010; Flaxman, Blackledge, & Bond, 2011; Williams & Penman, 2011). Zimbardo (2002) suggests that 'in an optimally balanced time

perspective, the past, present and future components blend and flexibly engage, depending on a situation's demands and our needs and values' (p. 62). Functioning on 'autopilot', planning the future or reminiscing about past events are all functional actions which allow people to manage and enjoy their lives, and it is only a person's inability to shift their attention from one time perspective to another in response to the particular context which may potentially lead to distress (Boniwell et al., 2010; Williams & Penman, 2011).

The importance of PF has been also linked to executive functioning, which is an umbrella term comprising a variety of complex cognitive functions. Executive functions are associated with, among other things, the ability to sustain and shift attention, to self-monitor, to plan and problem solve and to govern goal-directed action and adaptive responses (Chan, Shum, Touloupoulou, & Chen, 2008; Hart, Brockway, Fann, Maiuro, & Vaccaro, 2015; Wright, Day, & Howells, 2009). It has been found that impairment to any of the cognitive functions can have a negative impact on a persons' ability to respond appropriately to suit the circumstances. A person's inability to identify and monitor internal and external cues, to select and apply the most appropriate response to the situation, to monitor the outcome and to make adjustments means that they are frequently unable to achieve desirable outcomes. Cognitive inflexibility related to executive functioning may effect an individual in many ways, including their ability to develop and maintain relationships, to work, to live independently, etc. (Hart et al., 2015; Hughes, 2013).

It is unsurprising, therefore, that a low level of psychological flexibility is considered to contribute to the development of psychopathology (Coifman & Bonanno, 2010; Hayes et al., 1999), and extensive research has shown that there is a link between context-insensitive emotional, cognitive and behavioural responses and disorders such as depression or anxiety (Coifman & Bonanno, 2010; Kashdan & Rottenberg, 2010; Rottenberg, Kasch, Gross, & Gotlib, 2002). For instance, it has been noted that emotional responses displayed by individuals with depression are frequently less context appropriate, stereotypical and 'inflexible' (Bylsma, Morris, & Rottenberg, 2008).

The ability to flexibly respond to environmental contingencies is considered a crucial ingredient of psychological health and allows individuals to cope well with uncertainty and unpredictability in the world, where constant change is a rule rather than an exception (Block & Block, 2006; Bonanno, 2013; Kashdan & Rottenberg, 2010;

McCracken & Morley, 2014). Consequently, it has been proposed that treatments focusing on increasing flexibility have the potential to not only help people overcome their mental health difficulties but also achieve greater efficacy and fulfilment in their daily lives (Hayes et al., 1999; Kashdan & Rottenberg, 2010; McCracken & Morley, 2014; Wersebe, Lieb, Meyer, Hofer, & Gloster, 2018).

In the last few decades, a new model of PF was proposed by the founders of ACT (Hayes, Strosahl, Bunting, Twohig, & Wilson, 2004; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Within the ACT model it is hypothesised that a psychologically flexible person is able to be present in the moment and to change or persevere in behaving in certain ways if doing so is consistent with their values. Psychological inflexibility, on the other hand, results in individuals being more likely to relate to their private experiences and environmental contingences in a manner that is incoherent with their values and is considered to be a main source of psychopathology (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes et al., 1999).

Within the ACT model, PF comprises the following six processes (please also see Figure 1 in the journal paper):

- *Cognitive Defusion*. Cognitive defusion is the process of altering “the undesirable functions of thoughts and other private events, rather than trying to alter their form, frequency or situational sensitivity” (Hayes et al., 2006, p. 8). Cognitive defusion is, therefore, a learned ability to consider all private experiences as being ‘just experiences, not truths’, and contradicts the notion that private phenomena need to be acted upon. Cognitive defusion aims to reduce the literal quality of thoughts by disrupting the verbal rules which commonly link thoughts to overt behaviour (Hayes, Levin, Plumb-Villardaga, Villatte, & Pistorello, 2013; Hayes et al., 2006). Consequently, cognitive defusion can lead to a reduction in believability and the ‘reason-giving’ properties of private events, and can help person to develop a healthy scepticism about evaluative, reason-giving and literal language.

- *Acceptance*. Acceptance is conceptualised as an alternative to Experiential Avoidance. It promotes willingness to embrace distressing private phenomena (without attempting to alter their frequency or content) when they are experienced in the context of behaving consistently with a person’s values. The process of acceptance contradicts the notion that the distressing symptoms must be controlled or avoided and that

aversive private phenomena need to be absent for meaningful therapeutic change and psychological health (Hayes et al., 1999). The willingness to practice acceptance is thought to commonly fluctuate from moment to moment, as experiencing distressing private events is naturally aversive. Consequently, it is not unusual that a person reverts to avoidance strategies at times, especially when their ability to engage in other ACT practices is compromised (Hayes et al., 1999). Developing an accepting stance is not an end goal in ACT - it is developed and applied to facilitate values-consistent change (Cullen, 2008). Ironically, even though symptom reduction is not the aim of ACT, it has been found that changing the functional meaning of distressing events commonly also changes their form and frequency, which may lead to symptom reduction. It is important to emphasise that acceptance is not an act of a passive tolerance or resignation – it does not encourage accepting aversive experiences ‘for the sake of it’ or because the person does not feel able to change unwanted experiences in their life (e.g. anxiety related to domestic abuse or bullying; Ciarrochi, Robb, & Godsell, 2005; Hayes et al., 1999).

- *Present-Moment Awareness*. Present-Moment Awareness, or mindfulness, has been recognised by many psychological approaches as a crucial skill in achieving psychological well-being (Gilbert & Choden, 2015; Linehan, 1993). Twohig (2012) defines ‘being present’ as ‘flexible, fluid and voluntary attention to internal and external events as they are occurring, without attachment to evaluation or judgment’ (p. 503). The Present-Moment Awareness process enables a person to experience the environment more directly and, consequently, it promotes more flexible behavioural responses which are more likely to be consistent with a person’s chosen values. In order to develop and practice other ACT processes, a person needs to be able to note and describe private events without judgment and assign ‘reason-giving properties’, which is an essence of mindfulness skills. However, it is important to note that an increase in Present-Moment Awareness alone, particularly in relation to aversive private events, is not necessarily adaptive. Hayes et al. (2006) suggests that an increase in Present-Moment Awareness in the absence of acceptance may magnify Experiential Avoidance. Consequently, in ACT, an increase in Present-Moment Awareness is always facilitated in conjunction with acceptance to achieve positive therapeutic outcomes (Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008).

- *Self-as-context*. Self-as-context is a term that refers to a stable sense of self that observes the passing thoughts, feelings and other private phenomena which drift in and out of awareness. A person who has developed a sense of ‘self-as-context’ does not define self-identity with their private experiences but defines self as a ‘platform’ that is having or noticing these experiences (Atkins & Styles, 2016; Flaxman, et al., 2011).

- *Values*. Values can be defined as ‘chosen qualities of purposive action that can never be obtained as an object but can be instantiated moment by moment’ (Hayes et al., 2006, p.9). In ACT, the core processes are not considered be ‘the end’ in itself – they serve the goal of pursuing a life that is consistent with one’s values. It is important to emphasise, however, that only meaningful, client-endorsed (not culturally endorsed) values are considered ‘useful’ in pursuing the goal of ‘valued living’ (Kashdan, Breen, & Julian, 2010; Kashdan & Mcknight, 2013; Sheldon & Elliot, 1999; Wilson & Murrell, 2004; Wong & Fry, 1998). Hayes, Villatte, Levin & Hildebrandt (2011b) proposed that, in conjunction with committed action, Values is an ‘activation process’ which motivates individuals to move towards their chosen life direction.

- *Committed Action*. Hayes et al. (1999) defined committed action as ‘values-based action designed to create patterns of action that is itself values-based’ (p. 95). The Committed Action process involves choosing to behave in ways that are consistent with an individual’s values. The main aim of facilitating Committed Action is to help individuals gradually build patterns of sustainable, value-driven behaviour (Strosahl, Hayes, Wilson, & Gifford, 2004). Flaxman et al. (2011) conclude that elements of Committed Action are associated with: 1) behaving in accordance with a person's values (not just with simply declaring that one will act in a certain way); 2) the ability to notice when behaviour has become values-inconsistent, followed by the modification of that behaviour in service of pursuing the values; 3) committing to act in a values-adherent way, despite being potentially exposed to some aversive private phenomena; 4) assuming an acceptance approach and taking advantage of opportunities to behave in a values-consistent manner in situations when efforts to act in a values-consistent way was unsuccessful; 5) publicly proclaiming commitment to personal values in order to receive support from others when required; and 6) making plans which will move an individual toward their values by setting intermediary goals

and considering how to overcome potential obstacles. All PF processes are crucial in allowing a person to behave in a value-adherent manner.

All six ACT processes have problematic manifestations which contribute to developing PI²⁹ and to the development of psychopathology. The six components of PI are conceptualised as follows (please also see Figure 2 in the journal paper):

- *Cognitive Fusion*. Cognitive Fusion is a result of verbal rules created and sustained by society which encourage the use of literal, reason-giving, problem-solving and evaluative language. Cognitive fusion refers to an excessive reliance on considering private events, such as thoughts or emotions, to explain their behaviour (Ciarrochi et al., 2005). A process of cognitive fusion ‘traps’ people into considering ‘the world in their mind’ as ‘the reality’, where they take their thoughts literally without taking any note of the cognitive processes (Hayes et al., 2013). As a result, humans respond to their thoughts as though they were ‘real’ and, in some instances, they respond to a thought of feared stimuli the same way as actual stimuli – by experiencing anxiety symptoms (Ciarrochi, Bilich, & Godsell, 2010). The presence of fusion is not necessarily detrimental to the person (and it can be very advantageous at times), but it becomes harmful when overextended (Hayes et al., 1999). As a result, a person is less likely to respond to contextual contingencies in a way that allows them to act in a manner consistent with their goals and values.

- *Experiential Avoidance*. Experiential Avoidance is viewed as a potentially harmful process by a wide range of theoretical approaches, including Client-Centred Therapy (Rogers, 1961), the Gestalt approach (Greenberg & Safran, 1987) and Dialectical Behavioural Therapy (DBT; Linehan, 1993). This ubiquity may indicate that Experiential Avoidance is an important aspect of human functioning. Experiential Avoidance can be broadly defined as ‘the attempt to alter the form, frequency, or intensity of private experiences, such as thoughts, feelings, bodily sensations, or memories, even when doing so is costly, ineffective, or unnecessary’ (Hayes et al., 2013; p.184). In line with the functional contextualism approach, there are many different factors that contribute to the development and maintenance of Experiential Avoidance, such as inappropriate and excessive over-extension of verbal rules, social

²⁹ Psychological inflexibility

modelling of experiential avoidance, social expectation for reason-giving (even if sources are difficult to identify) and experiencing positive short-term effects of avoidant behaviour (Hayes, et al., 1999). Arguably, in ACT, not all forms of Experiential Avoidance are considered to be damaging – it only becomes problematic when it is overextended and restricts a person’s ability to introduce changes required to live a values-driven life (Ciarrochi et al., 2005; Flaxman et al., 2011). It is hypothesised in ACT that a person’s tendency to assume that negatively evaluated private events can be changed in the same way as the external events (e.g. by avoiding them) leads to psychological suffering (Hayes, et al., 1996). Evidence suggests that employing avoidance coping strategies, such as thought suppression, substance abuse, developing rituals, etc. is not only often damaging to person’s well-being and health but also results in the increase of experiencing the unwelcome thought or feeling (Ciarrochi et al., 2005; Hayes et al., 1996).

- *Lack of Present-Moment Awareness.* Lack of Present-Moment Awareness is characterised as a person’s inability or unwillingness to attend to the present moment, especially in the context of experiencing unwanted private phenomena. A lack of contact with the present moment often results in living on ‘autopilot’, without paying attention to thinking processes or noticing what a person reacts to and reduces a person’s ability to respond to environmental contingencies. This further contributes to psychological inflexibility by strengthening the ‘controlling powers’ of the conceptualised past and future over a person’s behaviour (Hayes, et al., 1999). It is not suggested that a person should be permanently in state of ‘mindful awareness’, this would not be very practical (Kashdan & Rottenberg, 2010). It is argued, however, that appropriate mindful practice is a key ingredient to increasing psychological flexibility (Hayes et al., 2013).
- *Attachment to Conceptualised Self.* Attachment to Conceptualised Self (or ‘Self-as-Story’; Atkins & Styles, 2016) can be defined as a person’s fused, judgmental and inflexible narrative about themselves. The process of attachment to the conceptualised self contributes further to a person’s psychological inflexibility due to the lack of responsiveness to context. People who are strongly attached to their ‘self-as-story’ narrative are more likely to engage in unhelpful and ineffective avoidant strategies and are less able to notice and appreciate that human behaviour, including their own, is

context-dependant. As a result, they are less likely to notice and appreciate behaviours they display that are inconsistent with their conceptualised view of self (Hayes, et al., 1999; Moran, Almada, & McHugh, 2018).

- *Lack of Values Clarity*. In accordance with the ‘workability criterion’ postulated in functional contextualism, all behaviours are assessed in relation to the adherence to a person’s values; thus, in this context, values govern the criteria for the application of workability (Hayes et al., 2006, 1999). In ACT, processes associated with psychological inflexibility limit a person’s ability to change or persist in behaviour which is consistent with their chosen values. Lack of Values Clarity is particularly evident when a person is unable to specify what the most important value in their life is, when personal values are heavily influenced by society instead of truly personal choices or when values are conceptualised in terms of avoidance. Values which are externally imposed rather than self-integrated are problematic as the behaviours consistent with these values do not have naturally appetitive consequences for the individual and are frequently difficult to maintain (Sheldon & Elliot, 1999).

- *Lack of Committed Action (Inaction, Impulsivity or Avoidant Persistence)*. In ACT, this set of behaviours is thought to limit a person’s ability to commit to value-driven behaviour. This is frequently demonstrated when a person selects achieving short-term goals, which often offer immediate gratification (e.g. drinking alcohol, avoiding anxiety-provoking situations), over behaviours that are consistent with long-term appetitive qualities of life. As a result, the person’s behavioural repertoire narrows and focuses mainly on alleviating psychological pain, rather than living a fulfilling and meaningful life (Flaxman et al., 2011; Hayes, et al., 1999).

1.6 Specific Factors

Specific factors refer to components clearly outlined by proponents of a specific therapy as the active processes of psychotherapeutic change. Supporters of the specific factors approach propose that the use of techniques specific to each particular theoretical orientation in psychotherapy are responsible for achieving psychotherapeutic change in clients. Chambless and Ollendick (2001) argue that some specific models of psychotherapy show superior outcomes for particular difficulties. For instance, research suggests that particular treatments, including CBT, behavioural and psychodynamic

therapies lead to superior outcomes in treating depressive symptoms in adults (Cuijpers, van Straten, Andersson, & van Oppen, 2008; Tolin, 2010). Likewise, Borkovec and Costello (1993) found that CBT was significantly superior to non-directive therapy for generalised anxiety disorder (GAD) among adults. CBT, in particular, has been considered a very effective evidence-based treatment and, as such, has been recommended as a first treatment option for various disorders (NICE, 2011b, 2018). It has been noted, however, that CBT is considered more structured in comparison to less explicitly directive therapies, such as psychodynamic therapy, making it easier to measure. Consequently, the outcomes cited in the literature may be skewed towards CBT. Furthermore, Butler and Strupp (1986) argue that the specific/common factors dichotomy is artificial, as common factors such as working alliance are so profoundly entangled with the techniques delivered in particular psychotherapy models that separation is impossible.

1.7 Therapy Approaches Relevant to This Study

In the current study, PF was conceptualised from an ACT perspective but examined in the context of CBT. In order to better understand differences and similarities between these two approaches, both CBT and ACT will be briefly discussed in this section.

1.7.1 Cognitive Behavioural Therapy (CBT). Cognitive behavioural therapy (CBT) was developed by incorporating two influential therapeutic approaches: behavioural therapy (BT; Wolpe & Lang, 1964) and cognitive theory, (Beck, 1976).

Behavioural therapy. Traditionally, the focus of behavioural therapy was placed on observable behaviours which could be directly targeted for treatment purposes (Davey, 2014). From the behavioural perspective, all adaptive and dysfunctional behaviours displayed by the person were considered a result of the interaction between their learning history, biology and current context (Skinner, 1976). Within the behavioural approach, it has been proposed that all behaviour is functional and that it can be learnt and maintained in two different ways: through classical and/or operant conditioning (Pierce & Cheney, 2013). In short, classical conditioning takes place when a person learns to associate that a particular stimulus (the conditioned stimulus) predicts the occurrence of another particular stimulus (the unconditioned stimulus) (Pavlov, 1902). In contrast, Skinner (1937) introduced the idea of ‘operant conditioning’, which explains the learning of a specific behaviour in context of this behaviour resulting in reinforcing consequences. Behavioural changes are considered to be the main goals in behavioural therapy, and there

is a great body of literature evidencing behavioural techniques as being successful when applied across different populations and presentations (Davey, 2014). A crucial aspect of BT is a collaborative and person-centred approach when working with a client. The therapist is required to understand which of the person's unique experiences resulted in their current difficulties and to select the most appropriate set of techniques to address them. Behavioural techniques, such as exposure, target processes of classical conditioning by exposing clients to the feared stimuli. In order to target behaviours shaped by operant conditioning, techniques such as 'token economy' (receiving tokens for displaying desirable behaviours, which can be exchanged for reinforcing items) or 'response shaping', which entails reinforcing rarely occurring desirable behaviours (Davey, 2014). Another behavioural intervention which aims to target behaviours shaped by operant conditioning is behavioural activation (Westbrook et al., 2011). Behavioural activation consists of various therapeutic strategies aiming to alter the environmental contingencies which impact on low mood and associated behaviour (Dimidjian et al., 2006). Behavioural activation techniques are currently an integral part of therapy for depression rooted in behavioural tradition (Dimidjian, Barrera, Martell, Muñoz, & Lewinsohn, 2011; Westbrook, et al., 2011).

Cognitive theory (CT). A purely behavioural approach to understanding and treating mental health difficulties has been critiqued for not acknowledging the complexity of a person's inner life and ignoring important mental processes, such as beliefs, thoughts and appraisals (Beck, 1967). As a result, in the 1970s, cognitive theory became an influential approach aiming to explain and treat mental health difficulties (Davey, 2014). According to the main CT principle, an individual's appraisal of the event, and not the event itself, is the source of distress. Beck (1976) proposed a distinction between cognitions, emotions, behaviour and physiological sensations and suggests that these components interact with each other. Beck's (1976) model emphasises the primacy of cognitions by hypothesising that feelings and behaviour are fundamentally governed by the way that events are interpreted. Beck's (1976) cognitive model of emotional disorder emphasises the significance of early life experiences in people's development. It theorises that childhood experiences contribute to the development of an individual's core beliefs about the world, others and themselves. Additionally, early life experiences influence the development of a person's 'rules for living' that govern their behaviour. Most individuals develop a combination of positive and negative core beliefs and 'rules for living'.

Furthermore, they adopt various cognitive and behavioural strategies to manage everyday difficulties and to protect themselves from activating negative core beliefs. It has been hypothesised that mental health difficulties are likely to emerge when existing coping strategies become ineffective in the event of a 'critical incident'. The critical incident may be described as a 'one-off event' or an accumulation of many stressful minor events which trigger negative core beliefs and evoke a negative emotional state (Westbrook, et al., 2011). In order to cope with crisis, individuals are likely to employ additional coping strategies which are frequently helpful in the short term (e.g. avoidance of feared situations) but may become problematic in the long term (e.g. being unable to go shopping) or when applied in different contexts. By continuing to employ a dysfunctional pattern of behaviour, individuals create a 'maintenance cycle' that aims to reduce or avoid the distress, but often perpetuates the problem (Greenberger & Padesky, 1995). Within CT, it has been suggested that the majority of individuals develop 'cognitive biases' (thinking errors), which serve as thinking shortcuts and help people make sense of the world. These biases usually reflect an individual 'thinking style' and only become a problem when the bias is exaggerated or chronic (e.g. black-and-white thinking, catastrophising; Westbrook et al., 2011). A more extreme version of cognitive bias is likely to be triggered at times of heightened emotional arousal, which often diminishes a person's ability to attend to and accept evidence that counters their way of thinking, thus strengthening their unhelpful beliefs and reducing their opportunities to make changes (Beck, 2011).

Cognitive Behavioural Therapy (CBT). From their early days, CT and BT continued to develop and influence each other, resulting in the emergence of the treatment model commonly known as Cognitive Behavioural Therapy (CBT; Westbrook et al., 2011). CBT quickly became an attractive choice for clinicians as behavioural techniques proved to be more economical and effective than traditional psychotherapy and, at the same time, mental processes were put at the heart of therapy (Beck, Rush, Shaw, & Emery, 1979; Westbrook et al., 2011). In accordance with the cognitive perspective, in order to reduce distress, an individual needs to alter the way they think. From the cognitive approach, treatment strives to restructure a person's unhelpful cognitive patterns, as it is hypothesised that enabling people to appraise their cognitions in a more realistic and adaptive way will lead to reducing their distress. In order to achieve this goal, cognitive and behavioural techniques, such as thought challenging and/or behavioural

experiments, are recommended and employed by the founders of this approach (Beck et al., 1979). CBT postulates that intervention should always be based on conceptualisation of a problem presented by individual client and that this formulation should inform what approach and techniques are chosen during the course of treatment (Beck, 2011). In order to achieve long-lasting improvement of a person's mental health and psychological well-being, CB therapists aim to identify and modify that person's core beliefs about themselves, others and the world. The National Institute of Clinical Excellence (NICE, 2009, 2011b, 2018) recommends CBT for several psychiatric disorders (e.g. anxiety, depression, PTSD) and number of meta-analyses have found that CBT is an efficacious treatment across various populations and presentations (Butler, Chapman, Forman, & Beck, 2006; Gaudiano, 2010; Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012; Warwick et al., 2017). In the last few decades, however, there has been growing dissatisfaction with the CBT model. The idea of cognitive restructuring being a process of change in CBT has been challenged by research showing that behavioural rather than cognitive techniques were responsible for the majority of the outcomes (Burns & Spangler, 2001; Dobson & Khatri, 2000). To address the shortcomings of CBT, a plethora of acceptance and mindfulness-based therapies, such as ACT, have been developed.

1.7.2 Acceptance and Commitment Therapy (ACT). ACT is deeply grounded in a comprehensive 'post-Skinnerian' contextual behavioural theory of language acquisition and cognition, named Relational Frame Theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001; Hayes et al., 1999). A main goal of ACT is to alter the way the person relates to their private events, without attempting to alter the content or frequency of those events (Hayes et al., 2006). Techniques used in ACT target the six core therapeutic processes described in Section 1.5 to increase a person's level of PF. ACT introduces the idea that helping people to 'live well' is not always synonymous with symptom reduction, and the emphasis on symptom reduction can in fact maintain and promote psychological suffering (Hayes et al., 1999).

One of the fundamental ACT suppositions is that 'the core of human language and cognition is the learned and contextually controlled ability to arbitrarily relate events mutually and in combination, and to change the functions of specific events based on their relations to others' (Hayes et al., 2006, p. 5). In ACT, an inflexible and overgeneralised use of language is hypothesised to lead to human suffering (Hayes et al., 1999). ACT subscribes to the philosophy that in life, pain is inevitable, but suffering is optional, and

it has been proposed that human suffering is maintained by engaging in processes of experiential avoidance and cognitive fusion (Hayes, et al., 2004; Hayes et al., 1999). It has been suggested that humans learned to relate to and make sense of their private events in the same way as they would relate to and understand external events and, consequently, they assume that they can control their cognitions and feelings in the same way they can control the external events (Hayes et al., 1999). In order to control or eliminate unpleasant private phenomena, individuals may engage in behaviours that are potentially damaging to their well-being (e.g. drinking excessively), and which prevent them from living the life they desire (Hayes et al., 1999). In essence, any behaviour that functions to reduce the visceral qualities of experience could be categorised as experiential avoidance.

1.7.3 ACT treatment. In order to demonstrate how PF is traditionally facilitated in ACT, a brief outline of some common techniques used in ACT will be presented in this section.

There is no specific protocol or restricted collection of therapeutic techniques that inform ACT intervention. As a functional approach, ACT should be flexibly applied to individual clients by taking into account their learning history and current context (Hayes et al., 2013). A key aim of ACT is to increase clients' levels of PF, which is considered to be a process of change.

In ACT, the therapeutic process begins with the therapist learning what strategies have previously been employed by their client to solve the presenting difficulty. This is followed by a 'workability assessment', which explores the client's experience of using these strategies to solve the problem. In ACT, workability is viewed as a degree to which a particular behaviour is moving a client towards what they value in life (Hayes et al., 1999). The purpose of this is to help clients realise that the strategies they have utilised in the past, although they may have helped solve different prior problems, are not working to solve the presenting problem. This is usually followed by a process of 'creative hopelessness', which refers to creating a space for attempting new approaches by letting go of unhelpful strategies. The process of creative hopelessness is followed by various techniques that mirror the core ACT process. ACT therapists use a number of techniques to facilitate PF processes.

Acceptance is targeted by the use of metaphors and mindfulness techniques. Clients are encouraged to re-live private experiences, such as anxiety, in the moment, instead of trying to control the frequency or intensity of such experiences occurring (Cullen, 2008).

Clients are familiarised with a concept of acceptance early on in therapy, as the practice of acceptance facilitates other PF processes.

The most common technique used to target defusion in ACT, the ‘word repetition technique’, has been traditionally used in Gestalt therapy. This technique involves repeating a word until its semantic meaning is no longer dominant and is consequently ‘defused’ (e.g. ‘milk, milk, milk’; Flaxman et al., 2011). It is hypothesised that, when applied to ‘distressing’ thoughts, this technique will decrease a client’s attachment to the literal meaning of the unwanted thoughts (Masuda, Hayes, Sackett, & Twohig, 2004), and has been shown to be more effective than distraction (Masuda, Feinstein, Wendell, & Sheehan, 2010). More specifically, defusion exercises aim to increase attention to the process of thinking and reduce the tendency to be governed by aversive internal experiences, such as self-deprecating thoughts.

Various mindfulness techniques (e.g. ‘eating a raisin’; Kabat-Zinn, 1990) and self-as-context interventions (e.g. chessboard metaphor; Hayes et al., 1999) are frequently employed and introduced together to facilitate present-moment awareness, to help clients flexibly shift their attention and to assist disentangling from distressing private events (Hayes et al., 1999).

ACT therapists employ a range of techniques to help clients to uncover and clarify their values and to assist them in (re)gaining a sense of life direction (Strosahl et al., 2004). The ‘epitaph exercise’, which aims to elicit a client’s values by asking them to think about what they would like to be written about them on their tombstone, is a technique frequently used in ACT. Thus, traditional aspects of behaviour change procedures, such as goal setting, are incorporated into therapy, and barriers (in the form of challenging thoughts, emotional reactions and other difficulties) are prepared for and worked through. Any type of behavioural intervention, which might include exposure exercises and skills training, is incorporated at this stage, maintaining consistency with ACT processes and principles (Twohig, 2012).

It is crucial to acknowledge that all six core therapeutic processes are key to producing change, and that a selection of the therapeutic techniques used to target them should be informed by individual formulation (Hayes et al., 2004), including metaphors, stories, mindfulness and defusion techniques (e.g. ‘milk, milk, milk’) to break literal meaning of thoughts and promote commitment to leading a values-driven life.

1.8 Psychological Flexibility as a Process of Change in ACT

The following section will provide an overview of studies which focus on exploring the relationship between PF and distress, as well as on examining the impact of ACT on levels of PF.

In recent years, a number of meta-analyses have shown that ACT is an effective treatment across several different difficulties and populations (A-Tjak et al., 2016; Bluett, Homan, Morrison, Levin, & Twohig, 2014; French, Golijani-Moghaddam, & Schröder, 2017; Öst, 2014). It has been proposed that ACT is successful because it targets common core processes of therapeutic change which PF comprises (Villatte et al., 2016).

There is a growing body of evidence from cross-sectional studies that supports the hypothesis that numerous mental health difficulties can be understood in the context of a person's psychological inflexibility (Ciarrochi et al., 2010). For instance, Masuda, Price, Anderson, Schmertz, and Calamaras (2009) discovered that PF mediates the relationship between psychological distress and stigmatising attitudes in individuals who were stigmatised, as well as in 'stigmatisers'. Additionally, research exploring the relationship between child abuse and psychological distress in young people concluded that individuals who engaged in persistent avoidance strategies following the abuse were more likely to develop mental health difficulties than those who did not (Marx & Sloan, 2002). Bardeen and Fergus (2016) found that individuals who scored highly on cognitive fusion and experiential avoidance may be particularly susceptible to experiencing symptoms of depression, anxiety, stress and PTSD. Additionally, it was noted that a positive relationship between cognitive fusion and symptoms of all measured difficulties were significantly stronger in the presence of high experiential avoidance scores. It was concluded that the interaction between high levels of experiential avoidance and cognitive fusion may be particularly problematic in the context of experiencing psychological distress (Bardeen & Fergus, 2016).

It is important to emphasise, however, that the cross-sectional design used in these studies can limit a researcher's ability to derive the direction of causality – it is impossible to know whether low PF contributes to the development of psychological distress or whether psychological distress leads to psychological inflexibility (Ciarrochi et al., 2010).

In recent years, a considerable amount of literature examining the process of change in ACT therapies has been published (Twohig, Vilaradaga, Levin, & Hayes, 2015).

These studies have shown that changes in ACT processes are related to changes in outcomes. For instance, in their study of ACT for tinnitus distress, Hesser, Westin, Hayes, and Andersson (2009) found that increased levels of cognitive defusion and acceptance predicted long-term symptom reduction. A meta-analysis of laboratory-based component studies conducted by Levin, Hildebrandt, Lillis, and Hayes (2012) showed that the components of PF are ‘psychologically active’ and play an important role in producing desired outcomes.

Twohig et al. (2015) reported that, when a temporal relationship between levels of PF and symptoms of OCD was examined, changes in PF levels predicted changes in symptoms of OCD better than changes of OCD symptoms predicted changes in PF level (Twohig et al., 2015). Similar findings were reported by Dalrymple & Herbert (2007), who found that early changes in PF predicted changes in severity of GAD. Lundgren, Dahl, & Hayes (2008) reported that psychological flexibility mediates changes in quality of life, length of seizures and psychological well-being when ACT is used as psychological treatment for epilepsy. Aforementioned findings support the hypothesis that PF mediates therapeutic change in therapies which target it directly (Villatte et al., 2016).

1.9 Psychological Flexibility as a Process of Change in Other Treatments

As previously discussed, PF is considered to be an important process which contributes to therapeutic outcomes, when targeted directly (Villatte et al., 2016). In this section, the existing literature that examines changes (or lack of) in PF during treatments other than ACT will be briefly discussed.

Arch et al. (2012) found that PF largely increased as a result of both ACT and CBT intervention for mixed anxiety disorders. Similar findings were reported when the outcomes of ‘mindfulness and acceptance-based’ and traditional CBT group therapies for social anxiety disorder were compared (Kocovski, Fleming, Hawley, Huta, & Antony, 2013). Moreover, it has been reported that emotional acceptance and time spent engaging in valued action increased as a result of acceptance-based behaviour therapy for GAD (Hayes, Orsillo, & Roemer, 2010; Roemer & Orsillo, 2007).

In their early articles, Forman et al. (2012) and Forman, Herbert, Moitra, Yeomans & Geller (2007) argued that the evidence from research that compared ACT and CBT for depression and anxiety suggested that CBT and ACT achieve therapeutic change using

distinct mediational processes. In their recent publication, however, Forman and Herbert (2019) concluded that both treatments utilised principles of classical and operant conditioning and that aspects of the ACT approach were becoming more prominent in traditional cognitive and behavioural interventions.

1.10 Research Rationale

In this section, previously discussed key concepts are summarised to outline the rationale for conducting the current study.

As indicated in the Introduction, mental health difficulties have a significant impact on quality and length of life worldwide (IHME, 2013; MHF, 2016). Currently, there is a plethora of psychotherapeutic approaches which are effective in alleviating symptoms of mental illness (Laska et al., 2013; Luborsky et al., 2002), and it has been suggested that identifying and promoting processes of change which are common across various successful types of therapy could lead to increasing the effectiveness of available treatments (Kazdin, 2006). Consequently, the effectiveness of psychotherapy could be improved by either focusing on ‘what works’ in the existing treatment approaches or by developing a ‘modular treatment’, which encompasses all elements of therapy which are thought to produce therapeutic change (Kazdin, 2007; Villatte et al., 2016).

Over the years, various therapeutic processes have been labelled as ‘common factors’ and were considered to largely contribute to the therapeutic outcome (Tschacher et al., 2014; Weinberger, 1995), and there is an abundance of evidence to suggest that factors such as quality of working alliance or exposure techniques contribute to therapeutic outcome (Lambert, 1992; Laska et al., 2013). One change process which has generated much interest and research in the last few decades is the concept of psychological flexibility (Hayes et al., 2013; Hayes, et al., 2011b; Kashdan & Rottenberg, 2010). Psychological flexibility has been considered an important ingredient of psychological health across various psychological approaches (Kashdan & Rottenberg, 2010) but is currently mostly associated with ACT (Hayes et al., 1999).

There is growing evidence that an increase in PF is associated with a decrease in distress across a range of diagnoses, which suggests that PF is a trans-diagnostic concept. It is unclear, however, whether other successful therapies also operate through the process of PF. Consequently, this study aimed to examine whether PF can be detected in the talk of participants who engage in therapy which does not explicitly target PF. Furthermore,

it aimed to explore whether changes in detected levels of PF are related to clinical outcomes.

This study will contribute to existing understanding of change processes in psychological treatment and will potentially inform further research aiming to develop the most effective treatment models. The first step will be to explore whether PF can be identified and quantified across therapies. Additionally, in order to investigate its relationship to outcomes, future research can then seek to replicate findings using an established framework.

2. Extended Methodology

2.1 Epistemology

Potter (1996) suggested that epistemology is an important consideration in research as it shapes how studies are designed, conducted and interpreted. The epistemological position adopted in this study is functional contextualism, which is situated with the paradigm of behavioural pragmatism (Biglan & Hayes, 1996; Hayes et al., 1999), which emphasises psychological epistemology over ontological claims (Vilardaga, Hayes, Levin, & Muto, 2009). Within the functional contextualism approach, the process of scientific analysis is considered to be a process of creation, rather than discovery. Consequently, instead of focusing on uncovering impressive ontological truths, it focuses on analysing the relationship between behaviour and the context it occurs in (Biglan & Hayes, 1996).

In this approach to science, the truth is determined pragmatically, meaning that if an analysis leads to the achievement of analytic goal, then it meets the truth criteria of ‘successful working’ (Hayes, 1993). Furthermore, truth and meaning are related to ‘...the prediction and influence, with precision, scope, and depth, of whole organisms interacting in and with a context considered historically and situationally’ (Hayes et al., 2013, p.181). The core analytical unit of analysis in functional contextualism is ‘act-in-context’. In order to predict and influence any behaviour, a variable that allows for that behaviour to be predicted needs to be identified and evaluated for its ability to influence the outcome when manipulated (Biglan & Hayes, 1996). The aim of scientific examination in functional contextualism is to identify rules and theories that can prove useful to the development of basic and applied theories and the measurement of theoretically important

processes and their effectiveness over a broad range of levels of analysis (Gifford & Hayes, 1999; Hayes et al., 2013).

In adherence with the truth criterion of ‘workability’, all scientific analyses are considered to be valid if there is an analytic goal to give direction and to declare which features of the context are, pragmatically, most significant (Gifford & Hayes, 1999). The aim of this approach to science is not to illustrate how ‘the world is functioning’ but to find useful ways to guide effective action. The analytic goals are always arbitrary and enable analysis; they are not the result of the analysis itself (Biglan & Hayes, 1996). The functional contextualism paradigm does not attempt to disqualify principles of other epistemological positions, as long as they are able to demonstrate utilitarian value and do not prescribe any particular methodology.

The analytic goals of this study are to determine whether PF can be identified in the talk of participants who engage in therapy which does not target PF directly, and to examine whether changes in detected levels of PF are related to clinical outcomes. In adherence with the truth criterion, it has been acknowledged that PF may not be ‘a real construct’ in the ontological sense, but it appears to be a useful way of understanding the processes of therapeutic change.

2.2 Methodology

Functional contextualism allows for many analytic goals and, as such, does not require any particular research methodology (Biglan & Hayes, 1996). The analytic goal of this study was to establish whether PF processes can be identified in participant talk during therapy that does not overtly target PF.

After reviewing relevant literature, the researchers decided that an exploratory study design was the most appropriate to achieve the aims of this study. Qualitative research design is frequently used to study novel under-researched areas or when the field's major concepts, hypotheses, issues, processes and stages are unknown (Bryman, 1984). Exploratory research design allows for novel concepts to be explored flexibly and leads to better understanding of the studied idea (Maxwell, 2009; Robson & McCartan, 2015). Exploratory studies frequently provide ‘a platform’ for future research or may help to determine that further research on the chosen phenomena is not worth pursuing. This approach is useful within this research to generate appropriate data to answer the hypotheses and achieve the outlined goals.

The current study is deeply rooted in pre-existing data and literature on PF, with a particular emphasis on PF defined within ACT. Although evidence supports the notion that PF is an important process of change in ACT, currently, very little is known about whether it also plays an important role in producing change in other successful therapies. In order to explore whether PF processes can be detected in other therapies, a coding framework was developed to aid the process of identifying PF processes in the talk of participants in the context of CBT therapy.

Although no quantitative measures were used in this study, the quantitative outcomes of therapy accumulated in the original study were considered in order to establish whether the identified variables of PF could predict the outcome of therapy (see journal paper for more details). The process of attempting to predict the therapy outcomes has been included in the research design to further explore the ‘workability’ criteria of the truth assumed by the functional contextualism philosophy.

2.3 Data

The data used in this study were collected as a part of a separate doctoral research project. In the original project, there were five clients who each attended eight sessions³⁰ of CBT for depression. Consent for data to be used for secondary analysis was given by three participants.

2.4 Participant Demographics

Table 14 provides the demographic information for the three participants who consented to their data being used for secondary analysis. Ages ranged from 35 to 60 (mean age 44.6 years); one participant was retired and two were unemployed.

Table 14. Additional Participant Demographics

Participant Number	Marital Status	Occupation
1	Married	Unemployed
2	Married	Retired
3	Separated	Unemployed

³⁰ One participant attended nine sessions due to disclosing some safeguarding issues addressing which took priority over the routine therapeutic activity.

2.5 Data storage and security³¹

The audio recordings of the sessions for the three participants who consented for their data to be used in further studies were transferred and saved onto an encrypted USB stick. Recordings of sessions chosen for analysis were securely transferred via ‘Send This File’ to the transcriber, who signed a confidentiality agreement (Appendix D). The transcribed data were stored securely on the encrypted USB stick. Upon the completion of the study, data will be securely stored for seven years and then destroyed.

2.6 Procedure

2.6.1 Coding procedure. In this section, the decision-making process of assigning a specific PF category to examples of participant talk (presented in Table 12 of the journal paper) is outlined in detail.

Acceptance

‘Yeah, and just, yeah. I think, well, this is me and that’s it isn’t it?’

This statement has been coded as Acceptance, as it illustrates participant’s willingness to accept herself as she is, with all positive and unpleasant internal experiences. This was a shift from her expressing that wanted to be ‘normal’ and believing that in order to live a fulfilling life she needed to be free from all the aversive internal experiences. During the conversation, this participant mentioned that she was introducing new activities into her life, which were concordant with her values, despite feeling low in mood. A link between acceptance and committed action is very important to consider as an act of acceptance not accompanied by a clear commitment to behave in particular value-based manner can be conceptualised as a resignation (Hayes et al., 1999).

Acceptance – Experiential Avoidance (Neutral)

‘It’s just hard [to feel this way].’

This statement was coded ‘neutral’ as it could potentially fit within the ‘Acceptance’ or ‘Experiential Avoidance’ category – there is currently not enough information to assign the directional coding. If the above statement was expressed in the context of accepting that one can have a good quality of life despite experiencing unpleasant private events, it would be coded as ‘Acceptance’. If, on the other hand, the participant described avoidant strategies she employed to manage these private

³¹ Please see Appendices A, B, and C in relation to ethical approval obtained for this study.

phenomena, such as suppression, distraction etc., the statement would be categorised as ‘Experiential Avoidance’.

Experiential Avoidance

‘I mean, I can have... I can have the radio on in the morning, like, and I’ll be singing literally to the songs so that my mind don’t think about anything else; and, no, they’re still there.’

In this example, the participant clearly describes utilising avoidant strategies to suppress her thoughts. She reports that she was trying to make sure that she was not thinking about anything else than the activity she was engaging in, but quickly discovered that attempts to suppress the unwanted thoughts were unsuccessful, which is congruent with the literature on thought suppression (Hayes, 2016; Wegner, 1994).

Cognitive Defusion

‘It’s a feeling, it can’t hurt me. That’s what I tell myself all the time.’

The above statement is an example of person recognising that private events can be observed in non-literal way – as just ‘thoughts’ or ‘feelings’; and that they do not have to be acted upon. This participant defuses herself from the feeling by just noting it, without assigning any ‘casual power’ to it, and without trying to change anything.

Cognitive Defusion – Cognitive Fusion (Neutral)

‘I do, yeah, I do feel like it’s too much, but I think that’s because of my mental state. But then is my mental state this way because I’ve taken on too much? That’s what I think.’

The above statement is directionally ambivalent because, on one hand, the participant describes a causal relationship between mental state and feelings (Cognitive Fusion), but, on the other hand, she recognises that she may be just responding to the demands of her current context (Cognitive Defusion).

Cognitive Fusion

‘If my head would switch off for five minutes I’d be fine, but it’s like I went to bed last night quarter past ten, quarter past one... I was still awake.’

In the above statement, the participant is outlining that having thoughts going through her mind is keeping her from being ‘fine’ and furthermore, it’s keeping her from

being able to sleep. A code of Cognitive Fusion was assigned to this statement, as it shows that this participant relates to her thoughts in ‘a reason-giving way’.

Present-Moment Awareness

‘I would say I was between angry and upset.’

This participant described a recent event in her life that resulted in a strong emotional reaction. She demonstrated that she was able to connect with her feelings at that moment, which is an important step in the direction of becoming psychologically flexible (Hayes et al., 2010; Wright et al., 2009).

Present-Moment Awareness – Lack of Present-Moment Awareness (Neutral)

‘It was like when you said, “I’ve been down there and up there but I’ve never been in the middle”. Well I must’ve been.’

In this statement, the participants reports that she has never noted being ‘in the middle’ in terms of her mood, which suggests that her self-awareness skills were not very well developed. At the same time, she does consider the possibility that she might have just not noticed when she was ‘in the middle’, which would indicate that she may be becoming more self-aware.

Lack of Present-Moment Awareness

‘I don’t feel anything, honest, I wish I did, any emotion will do. I mean, who can watch Long Lost Family and not cry?’

In this statement, the participant indicates that she is not experiencing any emotions or feelings – the inability to connect with one’s private events is associated with a lack of present-moment awareness and frequently signals that an individual finds experiencing these private events intolerable and hence engages in various forms of experiential avoidance.

Self-as-Context

No examples identified in participants’ talk.

Self-as-Context - Self-as-Story (Neutral)

‘I mean, some days I don’t think... I don’t think I’m the best mum, but I don’t think I’m the worst mum. But then, other days, I remember situations and I think, “Oh, that was terrible,” and I feel like I’m still waiting to be a good mum.’

In this example, the participant recognises that a ‘sense of self’ is a fluid concept by reporting that her sense of being a good or bad mum fluctuates. She does not, however, consider herself to be a ‘platform’ from which her experiences can be observed, she is waiting to assume the identity of a ‘good mother’. Additionally, the participant reports frequently feeling like she is ‘a terrible mum’, which she then views as a self-defining characteristic.

Self-as-Story

‘Nobody else is a doolally tap like me then.’

In this example, the participant describes herself as a ‘finished product’ which has been defined and is no longer sensitive to changes in context. These type of ‘global’ and rigid views of self are hypothesised to reduce a person’s ability to attend to situational cues which could disconfirm these beliefs; thus, people who are attached to a conceptualised self may find it challenging to make changes.

Values

‘I love my family. I feel guilty for anything bad I’ve said about any of my family. I’ve become more loving because I think, “God, I love you so much”.’

The above statement is a good example of person having clear values – in this case, family. It is hypothesised that having clear values gives individuals a life direction to follow. In the case of this participant, the love for her family would be hypothesised to help her select and persist in behaviours which would ultimately lead to positive outcomes for the family members.

Values – Lack of Values Clarity (Neutral)

‘And then in an afternoon I’d probably sit and do some knitting or go and see my friend.’

From this statement, it could be inferred that the participant values spending time with her friends, but she does not express this clearly, hence the statement has been coded as neutral.

Lack of Values Clarity

'I want a life, but I don't know what I want.'

This participant indicates that, currently, she is not sure what her values are and what type of experiences she would like to repeatedly encounter throughout her life. A lack of values clarity has been associated with difficulties in pursuing a good quality of life, as an individual will find it difficult to know when their behaviour and experiences are reflecting what is important to them in life.

Committed Action

'Well, I let, I don't like ironing about. I thought "I'm going to iron them few bits". That was the other day and then, yesterday, I did all my granddaughter's washing.'

In this statement, a participant describes engaging in the value-consistent behaviour of ironing and washing her granddaughter's clothes. She had outlined previously that 'family' was one of her values and that she considered supporting them a very important aspect of her life, despite the fact that some forms of that support may be less appealing than others.

Committed Action – Lack of Committed Action (Neutral)

'Just didn't feel right. Tried meditating... everything was going wrong.'

In the example above, the participant reports that she made an effort to look after herself by trying to meditate, which would be considered a committed action. At the same time, however, she reported to be unable to persist in that behaviour which would be classed as a lack of committed action.

Lack of Committed Action

'I have to go on a diet. I had a warm fudge brownie...'

This participant provided a good example of engaging in behaviour which was inconsistent with her values. She reported on many occasions that her physical health was important to her and that her weight was a concern. She found it very difficult, however, not to act on impulse (e.g. having cake or chocolate), which was moving her away from achieving her value-consistent goals.

2.6.2 Procedure for calculating percentage of PF components. In this section, the process of calculating the percentage of identified PF components will be described.

Participant's and therapist's talk within the session equates to 100% of talk during the session: (% participant talk) + (% therapist talk) = 100% of talk during the session. Table 15 outlines the percentage of each PF component identified in participant talk in the whole session.

In this study, the researchers were only interested in participant talk; hence, the following equation was used to calculate what proportion of participant talk each identified PF component equated to: $x = (a / b) \times 100$ (a = percentage of identified PF component; b = percentage of participant talk per session; x = percentage of PF identified in participant talk per session). For instance, the percentage of Experiential Avoidance for P1 during session one was calculated as follows (see Table 15 data sources):

$$(1.84 \div 68.51) \times 100 = 2.69$$

The results of all calculations are outlined in Table 16.

Table 15. Percentage of each PF component identified in participants' talk in the whole session (% of participant talk and % of therapist talk per session equals 100% talk).

	100% of talk per session	A	A-EA	EA	CD	CD - CF	CF	PMA	PMA - LPM A	LMP A	CA	CA - IIAF	IIAP	SC	SC-SS	SS	V	V - LVC	LVC
P1S2	P1 and therapist	0	2.4	1.84	0.01	1.45	5.7	0.2	0.86	0	4.75	6.03	5.65	0	0.61	1.17	5.73	9.29	0.39
P1S4	P1 and therapist	0.33	1.74	1.7	0	1.22	2.83	0.16	0.18	0	5.99	3.02	6.5	0	1.8	0.06	8.3	0.57	1.94
P1S9	P1 and therapist	1.1	5.52	7.88	0.89	3.83	3.13	0.89	2.03	2.01	0.83	0	0	0	1.72	0	1.97	0.24	0
P2S2	P2 and therapist	0	0.47	5.79	0	0.29	1.17	0.31	1.12	2.29	7.52	1.1	0.68	0	0.3	0.14	5.14	1.32	0
P2S4	P2 and therapist	0	0.32	0.89	0	0	1.49	0	1.09	0.9	5.02	0.19	1.32	0	0.44	0.11	1.54	0.44	0.47
P2S8	P2 and therapist	0.22	1.57	1.23	0	0.79	0.83	0.06	0.09	0.23	2.71	0.34	0	0	0.2	0.19	0.64	0.29	0
P3S2	P3 and therapist	0	0.59	2.33	0	1.99	0.57	0.1	0.78	2.89	6.15	1.63	0.56	0	0.12	0.07	6.68	4.19	0.71
P3S4	P3 and therapist	0	0.29	0.82	0.1	0.92	0	0	0.08	0.18	2.03	5.29	2.11	0	0.25	0.13	4.14	3.08	0
P3S8	P3 and therapist	0	0.28	2.17	0	0	0.6	0.05	0.08	0	1.88	1.09	0.61	0	0.13	0	1.88	1.42	2.59

Note: A- Acceptance, A –EA – Acceptance and Experiential Avoidance Neutral, EA- Experiential Avoidance, CD- Cognitive Defusion, CD – CF - Cognitive Defusion and Cognitive Fusion Neutral, CF-Cognitive Fusion, PMA –Present Moment Awareness, PMA – LPMA - Present Moment Awareness and Lack of Present Moment Awareness Neutral, LPMA- Lack of Present Moment Awareness, CA- Committed Action, CA – LCA – Committed Action and Lack of Committed Action Neutral, LCA- Lack of Committed Action, SC- Self –as-Context, SC – SS – Self-as-Context and Self-as-Story Neutral, SS- Self-as-Story, V-Values, V- LVC – Values and Lack of Values Clarity Neutral, LVC- Lack of Values Clarity.

Table 16. Percentage of each PF component identified in participants' talk per session.

	% of participant's talk per session	A	A-EA	EA	CD	CD - CF	CF	PMA	PMA - LPM A	LMP A	CA	CA - IIAP	IIAP	SC	SC-SS	SS	V	V - LVC	LVC
P1S2	68.51	0.00	3.50	2.69	0.01	2.12	8.32	0.29	1.26	0.00	6.93	8.80	8.25	0.00	0.89	1.71	8.36	13.56	0.57
P1S4	57.08	0.58	3.05	2.98	0.00	2.14	4.96	0.28	0.32	0.00	10.49	5.29	11.39	0.00	3.15	0.11	14.54	1.00	3.40
P1S9	51.84	2.12	10.65	15.20	1.72	7.39	6.04	1.72	3.92	3.88	1.60	0.00	0.00	0.00	3.32	0.00	3.80	0.46	0.00
P2S2	63.84	0.00	0.74	9.07	0.00	0.45	1.83	0.49	1.75	3.59	11.78	1.72	1.07	0.00	0.47	0.22	8.05	2.07	0.00
P2S4	60.19	0.00	0.53	1.48	0.00	0.00	2.48	0.00	1.81	1.50	8.34	0.32	2.19	0.00	0.73	0.18	2.56	0.73	0.78
P2S8	61.74	0.36	2.54	1.99	0.00	1.28	1.34	0.10	0.15	0.37	4.39	0.55	0.00	0.00	0.32	0.31	1.04	0.47	0.00
P3S2	58.31	0.00	1.01	4.00	0.00	3.41	0.98	0.17	1.34	4.96	10.55	2.80	0.96	0.00	0.21	0.12	11.46	7.19	1.22
P3S4	67.66	0.00	0.43	1.21	0.15	1.36	0.00	0.00	0.12	0.27	3.00	7.82	3.12	0.00	0.37	0.19	6.12	4.55	0.00
P3S8	39.06	0.00	0.72	5.56	0.00	0.00	1.54	0.13	0.20	0.00	4.81	2.79	1.56	0.00	0.33	0.00	4.81	3.64	6.63

Note: A- Acceptance, A –EA – Acceptance and Experiential Avoidance Neutral, EA- Experiential Avoidance, CD- Cognitive Defusion, CD – CF - Cognitive Defusion and Cognitive Fusion Neutral, CF-Cognitive Fusion, PMA –Present Moment Awareness, PMA – LPMA - Present Moment Awareness and Lack of Present Moment Awareness Neutral, LPMA- Lack of Present Moment Awareness, CA- Committed Action, CA – LCA – Committed Action and Lack of Committed Action Neutral, LCA- Lack of Committed Action, SC- Self –as-Context, SC – SS – Self-as-Context and Self-as-Story Neutral, SS- Self-as-Story, V-Values, V- LVC – Values and Lack of Values Clarity Neutral, LVC- Lack of Values Clarity.

3. Extended Results

As the journal paper provides an overview of the key findings of this study, this section outlines a small number of additional findings.

3.1 Identifying PF Processes in Participant Talk

The cumulated percentage of each PF domain identified in every session for all participants was presented and discussed in the journal paper. The means of percentages of identified PF domains for each individual participant are outline in Table 17.

Table 17. Means and Standard deviations of percentages of coded talk for individual participants (including text coded as PF, neutral, and PI).

		1		2		3		4		5		6		
<i>P1</i>	Committed Action	Values		Acceptance		Cognitive Defusion		Present-Moment Awareness		Self-as-Context				
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
	17.6	13.9	15.2	9.7	13.6	12.5	10.9	4	3.9	4.9	3.1	0.4		
<i>P2</i>	Committed Action	Acceptance		Values		Present-Moment Awareness		Cognitive Defusion		Self-as-Context				
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
	10.1	4.9	5.6	3.9	5.2	4.4	3.3	2.6	2.5	0.2	0.7	0.1		
<i>P3</i>	Values	Committed Action		Acceptance		Cognitive Defusion		Present-Moment Awareness		Self-as-Context				
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
	15.2	4.6	12.5	2.9	4.3	2.4	2.5	1.7	2.4	3.5	0.4	0.1		

Note: The processes are ordered from the most (1) to the least (6) frequently identified. P1 – Participant 1; P2 – Participant 2; P3 – Participant 3.

3.2 Double and Triple Coding

As discussed in the journal paper, participant talk could be coded as belonging to more than one domain, and some parts of text were double or triple coded. Double coded

talk accounted for 18% of total coded utterances, across all participants. Triple coded talk accounted for 3% of total coded utterances, across all participants. The analysis suggests that the most frequently double-coded domains across all participants were the Acceptance and Cognitive Defusion domains (7% of coded talk), followed by the Values and Committed Action domains (6% of coded talk). The other pairs were as follows: Self-as-Context / Values (2%), Cognitive Defusion / Present Moment Awareness (1%), Acceptance / Present-Moment Awareness (1%), Committed Action / Cognitive Defusion and Cognitive Defusion / Values (1%).

4. Extended Discussion

4.1 PF Patterns in Participant Talk

Although the discrepancies in distribution of PF components across the whole sample was discussed in the journal paper, it is important to emphasise that there are also idiosyncratic differences in the frequencies of identifying PF components among individual participants (Table 17). Even though these differences are relatively small, they highlight an important issue in relation to PF, comprising six interlinked processes. Namely, does the configuration of the PF components on individual level matter? In accordance with ACT theory, all PF processes are highly interlinked, and developing all PF processes is crucial to achieving positive outcomes in therapy. This would suggest that scores indicating levels of PF components should be relatively equally distributed (e.g. low scores across all domains). However, it was observed in this study that patterns of specific PF components fluctuated across the sessions, with some changing more than others, which would not be captured if levels of PF were reported as a ‘cumulated result’. Presenting levels of PF process as a whole limits understanding of what sub-processes may have been mainly associated with psychotherapeutic change (Levin et al., 2012). The variability in patterns of PF components may, of course, be a consequence of many factors, such as variability in the content of the sessions, with some sessions being more likely to consider topics related to values and goals, and others concentrating on a person’s relationship with their private experiences. There is, however, a body of evidence which suggests that specific PF components may correlate with specific outcomes. For example, Villatte et al. (2016) reported that intervention targeting Acceptance and Cognitive Defusion processes resulted in overall reduction in symptom severity and that intervention targeting Values and Committed Action was associated

with greater quality-of-life improvements. Both interventions overlap in terms of sharing Present-Moment Awareness and Self-as-Context processes, which are considered to facilitate development of other PF processes. These findings are consistent with the literature which explores the relationship between values and well-being (Kashdan et al., 2010; Kashdan & Mcknight, 2013; Wilson & Murrell, 2004; Wong & Fry, 1998). Likewise, a number of studies have examined the impact of Acceptance and Defusion processes on symptom reduction (Bardeen & Fergus, 2016; Hesser et al., 2009). This raises a question whether all PF components are equally important in producing therapeutic change and whether they actually complement each other to form a cohesive model of PF or if they should be treated as individual processes.

The results of this study suggest that it is possible to identify specific components of PF in the talk of participants who engaged in CBT and indicates that particular domains of PF may be more interlinked than others, which is consistent with previous literature. Additionally, the findings highlight that some PF domains are less readily identifiable than others, suggesting that some processes may be (1) less commonly considered in everyday conversations; (2) redundant in the process of generating psychotherapeutic change or (3) better conceptualised as part of another process (e.g. Self-as-Context).

4.2 Double Coding

Due to the fact that PF processes are considered to be highly interlinked, it was not surprising that some of the talk attracted double and triple coding labels. As outlined in Section 3.2, the most frequently identified ‘coding pairs’ were Acceptance and Cognitive Defusion, as well as Values and Committed Action, which maps onto the conceptualisation of PF as three dyadic processes (Hayes et al., 2011) and is consistent with patterns in frequency of specific processes being identified in participant talk, which was discussed in the journal paper.

4.3 Psychological Flexibility and Clinical Outcomes

As discussed in the journal paper, it was found in this study that it was difficult to ascertain whether patterns of PF detected in the participants’ talk could indicate the occurrence of psychotherapeutic change. Apart from a very small variability in clinical outcome across the participants, which has already been discussed, this phenomenon may be related to various other factors, including the nature of the relationship between

PF patterns and reported clinical outcomes which were assessed using psychometric tests.

As discussed previously, the aim of increasing PF in ACT is to reduce Experiential Avoidance in service of increasing values-consistent behaviours, and allowing individual to live well, despite experiencing symptoms of poor mental or physical health (Hayes, Strosahl & Wilson, 2011; Hesser et al., 2009; Kemani, Hesser, Olsson, Lekander & Wicksell, 2016). It has been noted, however, that in many cases, the secondary effect of increasing PF is symptom reduction (Arch et al., 2012; Fledderus, Bohlmeijer, Fox, Schreurs, & Spinhoven, 2013). On the other hand, the main aim of CBT intervention (analysed in this study) is to reduce the symptoms of distress (Beck, 2011; Westbrook et al., 2011).

The relationship between patterns of changes in PF and clinical outcomes in this study is unclear. Although clinically significant changes in participant symptomology and quality of life was mostly correctly predicted by the researchers,³² the predictions of the trend towards improvement or deterioration were less accurate. It was especially evident in the case of Participant 1 – her clinical outcomes suggested a reduction in symptoms (not clinically significant) and improvement in quality of life (clinically significant). These findings were, however, not reflected in the predictions made by the researchers, who suggested that PF patterns indicated that there would be no change in symptomology and/or quality of life, or that there would be no clinically significant trend toward deterioration. This discrepancy may be related to a number of issues, such as differences in the theoretical underpinning of CBT and ACT,³³ issues associated with self-report or/and extra-therapeutic factors.

Self-report may not be the most reliable source of information due to social desirability bias (Van de Mortel, 2008), which refers to participants' tendency to give 'socially accepted' answers and, more importantly, to answer questions to please the researcher (Coolican, 2014). Considering that the identified PF patterns indicated possible deterioration rather than improvement, it could be hypothesised that Participant 1 reported an improvement on the outcome measure to please her therapist. Additionally, self-report is also sensitive to 'mood-congruent' bias, which involves the enhanced encoding and/or

³² see 'outcome prediction' section of the journal paper for details

³³ Please see 'Psychological Flexibility and Clinical Outcomes section of journal paper for discussion related to potential implications of theoretical differences between considered therapy approaches

retrieval of material whose affective valence is congruent with ongoing mood (Blaney, 1986; Matt, Vazquez, & Campbell, 1992). This tendency to remember and report details which are consistent with an individual's mood might have played an important role in providing answers on self-reported measures. On the other hand, it is also possible that the changes demonstrated on outcome measures were results of processes other than PF or were caused by extra-therapeutic factors such as reduction of life-stress, improved relationship with family, etc.

4.4 Strengths, Limitations and Further Research

One of the strengths of this study was that it used a secondary data analysis method to examine data which was already collected for purposes of independent study. Using data which was already collected allowed researchers to be more objective, as they had no personal investment in the data-gathering process, had not formed relationships with participants and had no influence on the outcomes of therapy. Moreover, participants were not in any way influenced by researcher expectations, which made the analysed data more naturalistic. Another strength of conducting secondary data analysis is related to ethical considerations; for instance, it reduces the burden on potential participants and allows for replicability of study findings and, therefore, greater transparency of research procedures and integrity of research work.

The limitations of conducting secondary data analysis are related to lack of opportunity to introduce additional outcome measures which would potentially enrich the findings, such as outcome measures specifically targeting PF (e.g. CompACT; Francis, Dawson, & Golijani-Moghaddam, 2016). Additionally, analysing personal data always carries a risk of unintentional breach of confidentiality, especially when some participants present with very distinct features. In the current report, this risk has been minimised by reporting only a limited amount of raw data, which does not contain any readily identifiable details.

The inclusion of final therapy sessions in the analysis was also identified as a limitation of this study. It has been already acknowledged in the main article that the final therapy session can be difficult for clients (Owen, Drinane, Adelson, & Kopta, 2017) and that completing outcome measures frequently reduces the amount of 'therapeutic talk'. The research team decided to analyse the final session mainly because one of the relevant outcome measures, CORE-OM, was only completed pre- and post-therapy. This

limitation could be addressed in future research by administering all relevant outcome measures in every session, which would allow comparison of gathered quantitative data with patterns of PF identified in participant speech on a session-by session basis. Including PF-specific psychometrics would also allow examination of whether the PF patterns detected in participant talk correlate with scores on self-reported measures, which could potentially help establish whether patterns of PF identified in speech can be utilised to predict outcomes or to assess a person's level of PF.

In the current project, participant talk was coded as flexible, inflexible or neutral for every PF component. It was noted, however, that some examples of coded talk were possibly signalling a greater amount of change (in any direction) than others, and the research team reflected that, in the future, it would be valuable to capture these variations by, for instance, introducing the 'extensiveness scale'. This scale was previously used in the study conducted by Hesser et al. (2009) to rate the 'depth or meaningfulness' of the statements identified as Acceptance and Defusion in ACT therapy for tinnitus. Introducing this scale in future research could help to determine whether detected PF patterns can predict clinical outcome by outlining the extensiveness of change observed in participant talk.

The main strength of this study is its exploratory design, which allowed for a psychological concept of PF to be examined in a novel context. The initial findings of this study provide a platform for further research on trans-theoretical processes of change in psychotherapy, which have important clinical implications (see Section 4.5 for further details).

4.5 Clinical Implications

As noted previously, the epistemological position and scientific model of functional contextualism promotes the idea that research should be conducted on multiple levels of analysis and result in integration of the findings (Hayes et al., 2013). The current study adds to a wider body of literature about change processes in psychological therapy, as well as to discussion about the construct of psychological flexibility considered from the ACT perspective.

Understanding which processes are relevant to producing psychotherapeutic change also has important clinical implications. The widely promoted model of therapists as 'science-practitioners' assumes that therapists use the most up-to-date knowledge to

inform their practice (Shapiro, 2002). Consequently, gaining better understanding about which therapeutic processes are the most effective in producing change should encourage practitioners to focus on these processes while delivering therapy, regardless of which school of psychology they subscribe to. This, in turn, should lead to better outcomes for individuals who engage in therapy. Alternatively, gaining better understanding about which therapeutic processes are the most effective in producing change could lead to the development of a ‘modular treatment’, which would focus solely on targeting change processes which are known to produce psychotherapeutic change.

In order to share the results of this study with a wider community of researchers and clinicians, a journal paper included in this report will be submitted to the *Journal of Contextual Behavioural Science* for publication and will, hopefully, instigate some interest which may lead to further exploration and scientific progress.

5. Reflections

5.1 Reflections on Motivation and Project Development

Initially, I felt overwhelmed by the choice of research topics and it took me a while to narrow my interest. I was committed to choosing a topic which was not only interesting to me but also clinically relevant and would allow me to develop my research skills. In the first year of the DClInPsy programme, we were introduced to a number of different psychotherapeutic approaches, and I became especially interested in ACT and the concept of psychological flexibility due to its emphasis on promoting good quality of life. During the teaching sessions and in conversations with my clinical supervisors, I frequently reflected on what makes the therapy effective.

While discussing potential research topics with the research supervisors on the programme, it became apparent that there was an opportunity to combine my interests by exploring whether psychological flexibility, as defined by ACT, could be considered a common factor which contributes to psychotherapeutic change.

My original project aimed to explore if psychological flexibility was a trans-therapeutic process of change by asking participants who were undertaking psychological therapy other than ACT to complete a number of psychometric questionnaires which measured levels of distress, quality of life and level of psychological flexibility.

Unfortunately, I was not able to pursue that project due to difficulties in obtaining NHS ethical approval. I found the whole process very frustrating due to inconsistencies in requirements which were placed on me by different ethics committees. I was also disappointed to find that there was no committee member on either of the two ethics committees I presented my project to whose professional background was related to psychology or social care. This was especially apparent when the issue of asking participants whether they were experiencing suicidal thoughts was discussed (one of the items on the questionnaire which measures distress). The committee members were concerned that the participants would be triggered by this question and that they would be more likely to complete suicide as a result. I did explain that all participants would be attending therapy and that their risk of completing suicide would be regularly assessed but this appeared to be a very contentious issue which was difficult to resolve. Although I understand the concerns of committee members over participant safety, I felt that this type of concern could be addressed more meaningfully if at least one of the members had a professional understanding of mental health issues and associated risks and how these can be managed. This experience made me wonder how many clinically important studies are never conducted due to similar misconceptions.

The difficulties I encountered with obtaining the ethical approval made me consider other research options which would allow me to answer the research question within the timeframe of the clinical doctorate. After reviewing the relevant literature and consulting my supervisors, I decided that the most appropriate way of examining a well-established concept in a new context was to adapt a qualitative, exploratory research design.

Researching whether psychological flexibility could be considered a psychotherapeutic change process was a very interesting and complex task, even if I felt very overwhelmed at times. On many occasions, I found it challenging to focus solely on the aims of this study, as further questions and ideas occurred throughout the research process, and I had to accept that some of these ideas would offer opportunities for further research in this area.

5.2 Reflections on the Research Process

Conducting a research project at the doctoral level definitely has its challenges, but one of the aspects that I enjoyed throughout was reading relevant literature and gathering background information for my research project, which allowed me to expand my

knowledge base not only in relation to theoretical aspects of psychological factors which may contribute to therapeutic change, but also in relation to new ways of promoting mental health and well-being.

As mentioned earlier, conducting secondary data analysis has its strengths and limitations and, after the initial excitement related to the fact that I could start conducting the research without having to go through the process of applying to the NHS Ethics Committee, it became apparent that the task of analysing a large set of data was going to be very challenging in many ways. For instance, I decided to listen to the recordings of the therapy sessions in order to familiarise myself with the material, which was very time-consuming and, frequently, emotionally difficult. I also underestimated the time and effort required to transcribe audio-recordings, which eventually led me to use an external transcribing service.

I found the process of analysing data very interesting but, once again, overwhelming at times. Although the criteria for coding were clearly defined in the coding framework, I was frequently unsure whether I captured all components of psychological flexibility which were present in text, which meant that I went through the whole material multiple times. I was also worried that I had identified ‘false positives’ in the text - both of these concerns were addressed by inter-reliability checks. Additionally, analysis of the data confirmed for me the complexity of human beings, which is frequently lost in quantitative research. For instance, a ‘value clarification’ is considered to be an important part of pursuing a valued life. In some cases, however, it felt that, by committing an act in accordance with one identified value, a participant was behaving inconsistently with another identified value. This observation influenced my clinical practice by encouraging me to not only help clients to prioritise their values but also to consider prioritising which value they were most committed to and able to currently pursue.

I found the data interpretation to be a very interesting but challenging process. One of the most challenging tasks was finding a way to convey my findings clearly and meaningfully. I considered various options, including presenting my findings purely as ‘total number of how many times a particular PF component was coded in participant speech’, and decided that the current way of presenting data would be the most transparent. Despite the challenges, I really enjoyed the process of interpreting findings

of this study, as it made me feel that I am truly contributing something valuable to the existing knowledge about the change processes.

5.3 Reflections on Epistemology

The purpose of declaring the epistemological position is to outline the researcher's beliefs about how knowledge is acquired. I have always found philosophical concepts difficult to understand; hence, I spent a long time reading about and discussing various philosophical stances towards scientific enquiry. I found the pragmatic approach to the truth criterion proposed in Functional Contextualism very refreshing, especially in the context of designing my study. I personally believe that all behaviour should be considered in context, and that a person's learning history plays a crucial role in the understanding of their current situation, which meant that Functional Contextualism was an 'easy' epistemological position for me to adopt. While conducting my research, I realised, however, that some postulates of Functional Contextualism can make data analysis challenging. For instance, the focus on the 'event as whole' created some challenges in relation to coding procedure. Due to my familiarity with the material, I had good knowledge of all the participants, which allowed me to understand the participants' learning histories. At the same time, this understanding increased the chances that some instances of coding would be based on inference, rather than on a participant's clear statements. This also potentially made it more difficult for secondary raters to understand the rationale for some coding applied to text – and this was especially true for the 'Values' concept, which is not clearly defined, as there are individual differences in terms of what 'valued life' means to different people.

During my supervision, I also reflected upon the fact that nobody could really fully comprehend any person as a 'whole event', as we can only learn some aspects of their learning history, and that many factors which influence a person's behaviour would never be identified or understood. I do recognise, however, that this has been considered within Functional Contextualism by applying a pragmatic approach to science, and accepting that there is a limit to our ability to gather and functionally link information (Hayes et al., 1999).

While conducting my research, I also reflected that there are elements of theoretical incoherence within the Functional Contextualism approach to science, where the unit of analysis is 'the whole event', but the whole is divided into parts to be analysed and

frequently these parts are studied 'out of context'. This is, however, recognised as an integral challenge faced by all psychological research and has been tolerated in order to achieve the pragmatic aims of this study.

5.4 Reflections on Challenges

Given my experiences in completing bachelor's and master's degrees in the UK, I was aware that completing a doctoral degree in a language that is not my mother tongue would be challenging. I did, however, underestimate how challenging it was going to be. Although my passive vocabulary grew throughout the duration of the programme, I found that using that vocabulary actively was very difficult for me, especially at times when I was anxious. I also found that writing assignments took me much longer than normal, as I was worried about making grammatical and semantic mistakes. I have overcome this challenge by asking my peers to proofread my work and offer feedback. I have also used online tools and a professional proofreading service to make sure that my assignments are well-written.

Completing this project provided me with some insight into the challenges related to conducting research whilst also working clinically. At times, it was difficult to manage all the pressures related to conducting the research and completing other assignments, with only one day a week dedicated to independent study. Even though I planned my work commitments in advance, at the beginning, I frequently underestimated the amount of time a particular task was likely to take me to complete. Consequently, I began to pay more attention to how much time specific activities, such as the initial literature searches, were taking me on average, and I adjusted my future planning accordingly; for instance, by starting the literature search a couple of weeks before I started to write the assignment

6. References

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Appendices

Appendix A

A detailed outline of searched terms.



Thursday, July 27, 2017 5:56:52 AM

#	Query	Limiters/Expanders	Last Run Via	Results
S29	S21 OR S22 OR S23 OR S24 OR S25 OR S26	Limiters - Peer Reviewed Narrow by Language: - english Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	118
S28	S21 OR S22 OR S23 OR S24 OR S25 OR S26	Limiters - Peer Reviewed Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	132
S27	S21 OR S22 OR S23 OR S24 OR S25 OR S26	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	224
S26	S1 AND S20	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	50
S25	S2 AND S20	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	1
S24	S3 AND S20	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic	16

			Search Database - PsycINFO	
S23	S4 AND S20	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	155
S22	S5 AND S20	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	13
S21	S6 AND S20	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	17
S20	S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	1,111
S19	"fire raiser"	Search modes - SmartText Searching	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	1
S18	"fire raiser"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	1
S17	"fire starting"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	6

S16	"fire starters"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	4
S15	"fire starter"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	1
S14	"fire raisers"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	2
S13	"fire raising"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - PsycINFO	13
S12	"fire setter"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	9
S11	"fire setters"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	30
S10	"fire setting"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search	97

			Database - MEDLINE	
S9	arson*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	1,736
S8	fire set*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	349
S7	fire set	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	124
S6	desire*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	89,849
S5	rational*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	142,821
S4	motiv*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Basic Search Database - MEDLINE	137,322

S3	urge*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete	24,600
S2	justification*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete	2,643
S1	reason*	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - CINAHL Complete	70,556

Appendix B

A final version of ethics application.

PSY181917

Have you included the following?

1. Psychology Ethics Form



2. EA1/EA2/EA3 Form



The EA3 form should be filled whether an animal is used as ‘participant’ or as part of the study design (e.g. dog intervention)

3. (Appendices) Participant Information Sheet



This MUST include the following:

a. Title

b. Introduction

- Justification for the study

c. What will I be asked to do if I take part?

- Information about exactly what participation entails.

d. Will my data be confidential?

- Information about how and where data will be stored, how it will be processed (e.g. anonymously or pseudo-anonymously), who will have access and what you will do with the analysed data (e.g. publications, presentations etc.).
- N.B. Suggested wording for Info sheet that aligns with GDPR “Data will be treated confidentially and any publication resulting from this work will report only data that does not identify individual participants. Participants' anonymised responses, however, may be shared with other researchers or made available in online data repositories”.

e. Do I have to take part?

- Explanation that participants can withdraw at any point (usually 2 weeks, without having to give a reason, and that they can withdraw after taking part up until either publication, or **anonymization of the data**-Under GDPR we can no longer state the standard “two weeks” if the data is personal and not anonymised). Withdrawal procedure must also be provided here – giving SOPREC contact details for data withdrawal.
- If participants have been referred or approached rather than volunteering, you will also need to include information about why these individuals have been asked to participate specifically.

f. Where can I obtain further information if I need it?

- Contact details of the researchers and any support organisations in case of any issues arising as a result of research participation.

g. PIS must end with the phrase:

**This project has passed Ethical Review by the School of Psychology Research
Ethics Committee: soprec@lincoln.ac.uk**

4. (Standard Appendices) Consent Form

If you are collecting any form of personal data, participants must opt in. Consent should cover all processing activities to be carried out for the same purpose. If there is more than one purpose, consent should be sought for each of them individually. Consent must also be sought separately for secondary analysis, data sharing or archiving.

5. (Standard Appendices) Debrief Form

Information about how results will be disseminated. Contact details of the researchers and any support organisations (both telephone and email) in case of any issues arising as a result of research participation. If information has been withheld until the end of the study, participants must be made aware of this.

6. (Standard Appendices) Advertisement/Recruitment Information

The wording and any visuals of your advertisements (for example on SONA and/or social media) must be included here, as well as details of where adverts will be posted.

7. (Standard Appendices) Stimuli/Questionnaire Measures

All stimuli that have not already been approved must be included. If a stimulus set or questionnaire has already been validated/published, then the references **MUST** be provided, otherwise the stimuli and questionnaires will also be reviewed and may be rejected. If you are including IAPS images please refer to the separate IAPS SOPREC policy.

8. Signature

Applicant and/or member of staff submitting the application on behalf of a student.

Additional documents required for specific studies

9. (Additional Appendices) Permission

If you need permission from an organisation to recruit specific participants or conduct a study on premises (e.g. a specific charity or school) you need to provide the latter/email granting this.

10. (Additional Appendices) Risk assessment form

A risk assessment form for the researcher(s) should be completed for all studies physically conducted outside of the University of Lincoln (e.g. public space, shelters and zoo). This does not apply to online studies.

11. (Additional Appendices) Disclosure and Barring Service (DBS)

A Disclosure and Barring Service should be obtained and showed to the administration office for any research focusing on children.

12. (Additional Appendices) Insurance requirement

(Please contact Zoe Mead if you are unsure if you need this).

PLEASE SEND THIS CHECKLIST ALONGSIDE YOUR ETHICS FORM (all as *one* document - including appendices) DIRECTLY TO SOPREC@LINCOLN.AC.UK

EA1

[doc version 09.02]



UNIVERSITY OF
LINCOLN

Ethical Approval Form:

This form must be completed for each piece of research activity whether conducted by academic staff, research staff, graduate students or undergraduates. Applications by students must be endorsed by an academic member of staff acting as Principal Investigator/supervisor. The completed form must be sent to the designated Ethics Committee within the College.

Please complete all sections. If a section is not applicable, write N/A.

1 Name of Applicant	Monika Panczak - Abrahams
2 School	School of Psychology
3 Position in the University	Trainee Clinical Psychologist
4 Role in relation to this research	Principal researcher

5 Name(s) of collaborators/co-workers and their relationship to the project (e.g. supervisor, assistant etc.)	<i>Name, and role in project:</i> <ol style="list-style-type: none"> 1. Dave Dawson, supervisor 2. Mark Gresswell, supervisor Nima Moghaddam, supervisor
6 Brief statement of main Research Question or Project Title	Is Psychological Flexibility a trans-theoretical mechanism of psychotherapeutic change?
7 Ethical checklist	<p>Does the research involve living human participants, or human tissue? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p><i>If you answered “yes”, submit form EA2 for Ethical Approval.</i></p> <p>Does the research involve living animals, or animal tissue? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p><i>If you answered “yes”, submit form EA3 for Ethical Approval.</i></p> <p>Does the research involve confidential data, or data not in the public domain? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Does the project potentially put you or your collaborators at physical or psychological risk? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Could the topic or results of this research be seen as illegal, or attract legal action against the University from an outside agency? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Could the topic or results of this research attract unwelcome media attention, or affect the reputation or standing of the University? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Could the topic, results or conduct of this research be regarded as offensive, immoral or destructive by some reasonable people? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>

Does this research need to be undertaken under a relevant professional code of conduct?

Yes No

Are there any potential conflicts of interest in conducting this research, including financial gain for the researchers, or for individuals or external organizations affiliated with the researchers?

Yes No

Are there any factors inhibiting the application of the University's ethical guidelines, including those on proper treatment of data, research design and publication of results?

Yes No

Does the research require the approval of any external body? Yes No

If the answer to all questions above is "No", you may complete section 8 to certify that there are no ethical issues, submit this form to the relevant Ethics Committee, and proceed with the research immediately. You accept professional responsibility for this decision, and if unsure should instead submit to the Committee.

If the answer to any of the above questions is "Yes", complete the rest of the form, submit to the relevant Ethics Committee, and await approval before proceeding with the research. Answering "Yes" does not necessarily imply that the research is problematic, only the Ethics Committee needs to consider the research to ensure that it can proceed, and that the research design conforms to best practice.

8 Self certification of Ethical Review

Having reviewed the ethical implications of this research, I certify that there are no issues requiring Ethical Approval. I certify that the research will be carried out in compliance with the University's ethical guidelines for library/desk/laboratory/studio-based research, with Health and Safety regulations, and with all other relevant University policies and

	<p><i>procedures. If there are any changes to the research requiring ethical clearance, I shall apply for such clearance before continuing with the research.</i></p> <p>Signed:</p> <p>Principal Investigator</p> <p><i>Note. This section must be endorsed by the member of academic staff responsible for the project. In the case of research by students, the supervising member of academic staff must sign. The signed form should then be submitted to the relevant Ethics Committee within the College, and the research may proceed.</i></p>
<p>9 Does the research comply with the University's key ethical principles for library/desk/lab/studio-based research ?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <hr/> <p>If "No", provide an ethical justification for your project and explain why you wish to continue with the research in breach of normal ethical principles:-</p>
<p>10 If applicable, please state the relevant professional code(s) under which the research is being conducted and confirm compliance</p>	<p>The British Psychological Society (2014). Code of Human Research Ethics. Retrieved from https://www1.bps.org.uk/system/files/Public%20files/inf180_web.pdf</p> <p>These guidelines will be adhered to at all times.</p>
<p>11 Does this research require the approval of an external body ?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <hr/> <p>If "Yes", please state which body:-</p>

<p>12 Has ethical approval already been obtained from that body ?</p>	<p>N/A Yes <input type="checkbox"/> -Please append documentary evidence to this form.</p> <p>No <input type="checkbox"/></p> <p>If “No”, please state why not:</p> <p>Please note that any such approvals must be obtained and documented before the project begins.</p>
<p>13 If there are any other ethical issues, to which the attention of the approving committee should be drawn, please state them in this section, and explain how you have taken the issues into account, so that the research should be approved. Please consult the University’s ethical guidelines for advice.</p> <p>Please also include here, or attach separately, a brief description of the research, to allow the approving</p>	<p>The data used in this study is from a previous study (REC 17/EM/0070, SOPREC PSY1617276, Hannah Daniels) for which consent for secondary data analysis was provided by participants. No further contact between the researcher of this project and the participants of the previous study is necessary.</p> <p>Given that consent has previously been provided for use of this data in further research, no additional personally identifiable information will be available to the researcher, and there will be no contact with participants, no further ethical issue have been identified.</p> <p>The external transcription service will be used to process the data. The University of Lincoln Data Protection Policies will be adhered to at all times. A Transcriber Confidentiality Agreement will be signed with the appropriate service (see Appendix B). The researcher will ensure that the chosen transcription service has a secure system for data transfer, access, and storage to maintain data confidentiality.</p> <p>Please see the School of Psychology Ethics Approval Form for more information.</p>

committee to
reach judgement.

APPLICANT SIGNATURE

I hereby request ethical approval for the research as described above.

**I certify that I have read the University's ethical guidelines for
library/desk/laboratory/studio-based research.**

14.09.2018

Rebecca - Abrahams

Applicant Signature

Date

FOR STUDENT APPLICATIONS ONLY –
Academic Support for Ethics

Academic support should be sought prior to submitting this form to the designated Ethics Committee within the Faculty.

- *Undergraduate / Postgraduate Taught application* *Academic Member of staff nominated by the School (consult your project tutor)*
- *Postgraduate Research Application* *Director of Studies*

I support the application for ethical approval



Academic / Director of Studies Signature

Date: 14.09.18

Dave Dawson

PRINT NAME

FOR COMPLETION BY THE DESIGNATED ETHICS COMMITTEE WITHIN THE COLLEGE

Please select ONE of A, B, C or D below:

- A. Ethical approval to this research.**
- B. Conditional ethical approval to this research.**

10 Please state the condition (inc.

date by which condition
must be
satisfied if applicable)

C. Ethical approval cannot be given to this research but the application is referred on to the University Research Ethics Committee for higher level consideration.

11 Please state the reason

D. Ethical approval cannot be given to this research and it is recommended that the research should not proceed.

12 Please state the reason,
bearing in mind the
University's ethical
framework, including the
primary concern for
Academic Freedom.

Signature of the Chair of the designated ethics committee within the College

Signature:

Date: _____

Chair of _____

Key ethical guidelines for library/desk/laboratory/studio-based research

The University of Lincoln has drawn up the following key principles for researchers engaged in library/desk/laboratory/studio-based projects in order to promote high professional standards. They should be read alongside the University's Ethical Principles for Conducting Research with Humans and Other Animals, and operate as part of the University's Ethical Framework.

- *Non-falsification of data:* Researchers have an ethical obligation to refrain from tampering with data. Thus questionnaire responses, experimental observations and data analyses should not be fabricated, altered nor discarded. In addition, researchers have a responsibility to exercise reasonable care in processing data to ensure no errors affect the results.
- *Ethics of reporting research:* Researchers are obliged to give full and proper attribution of ideas: presenting the words, data or ideas of another person as your own without properly citing them amounts to plagiarism. This is not only misconduct but can also be an infringement of copyright, amounting to theft of intellectual property.
- *Ethics and research design:* Researchers should be open to a range of methods: failure to consider and evaluate alternative methods and tools for the collection of data may be regarded as too overtly biased. All appropriate steps should be taken to ensure that no samples are obtained from unethical sources e.g. illegal databases; unregistered suppliers of samples from humans or other animals.
- *Authorship credit:* Only those researchers who are significant contributors to a research project should be given authorship credit. A "significant contributor" might be described as a person playing a major role in conceptualising, analysing or writing the final document. Ideally, all those involved in the research project should decide upon the order of authorship. Usually, the first author is the one who has made the biggest contribution.
- *Conflict of interest:* Researchers should be aware of the potential influence of personal or commercial interests on their work and take all practical measures to ensure that information is presented without distortion.
- *The principle of beneficence:* Researchers are required to protect individuals by seeking to maximise anticipated benefits and minimise possible harms. It is therefore necessary to examine carefully the design of the study and its risks and benefits including, in some cases, identifying alternative ways of obtaining the benefits sought from the research. Research risks must always be justified by the expected benefits of research.
- *Professional codes:* Researchers should undertake research legally and in accordance with any relevant professional codes of conduct.
- *Personal information:* Researchers should anonymise information which relates to individuals when they have not obtained informed consent, unless there is a clear justification to the contrary. They should also be aware of the impact of wider public dissemination of their work and the impact this might have on any individual or group of individuals. If it is anticipated that it might cause distress, it is essential to demonstrate that the benefits outweigh this risk.

**SCHOOL OF PSYCHOLOGY ETHICAL APPROVAL FORM
FOR HUMAN PARTICIPANTS**

Tick relevant STAFF Project POSTGRADUATE Project

TRACK A

boxes: UNDERGRADUATE Project

TRACK B

X ROUTINE EXTENSION TO STUDY PSY181917

Title Of Project: Is Psychological Flexibility a trans-theoretical mechanism of psychotherapeutic change?

Name of researcher(s) Monika Panczak Abrahams

Name of supervisor (for student research) David Dawson Date 14.09.2018

		YES	NO	N/A
1	Will you describe the main procedures to participants in advance, so that they are informed in advance about what to expect?			X
2	Will you tell participants that their participation is voluntary?			X
3	Will you obtain written consent for participation?			X
4	If the research is observational, will you ask participants for their consent to being observed / taped?			x
5	Will you tell participants that they may withdraw themselves or their data from the research at any time, that no reason needs to be given, and that they can do so without losing any rewards (if applicable)?			X
6	Will you give participants the option of declining to give information they do not want to give (e.g., not filling out all questions in a questionnaire)?			X
7	Will you tell participants that their data will be treated with full confidentiality, and stored securely (for 7 years at the			X

	minimum) and that, if published, it will not be identifiable as theirs?			
8	Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)?			X

If you have ticked **No** to any of Q1-8, but have **ticked box A** overleaf, please give any explanation on a separate sheet. (Note: N/A = not applicable)

		YES	NO	N/A
9	Will your project involve deliberately misleading participants in any way?			X
10	Is there a realistic risk of any participants experiencing either physical or psychological distress or discomfort? If Yes , give details on a separate sheet and state what you will tell them to do if they should experience any problems (e.g. who they can contact for help).			x

If you have ticked **Yes** to 9 or 10 you should normally **tick box B** overleaf; if not, please give a full explanation on a separate sheet.

		YES	NO	N/A	
11	Do participants fall into any of the following special groups? If they do, please refer to the appropriate BPS guidelines, and tick box B overleaf. Please note that you may also need to gain satisfactory CRB clearance or equivalent for overseas participants.	School children (under 18 years of age)			x
		People with learning or communication difficulties			x
		Patients			x
		Those at risk of psychological distress or otherwise vulnerable			x
		People in custody			x
		People engaged in illegal activities (e.g. drug taking)			x

There is an obligation on the lead researcher to bring to the attention of the School's Ethics Committee projects with ethical implications not clearly covered by the above checklist.

PLEASE TICK EITHER BOX A or BOX B BELOW AND PROVIDE THE DETAILS REQUIRED IN SUPPORT OF YOUR APPLICATION, THEN SIGN THE FORM.

Please tick:

<p>A. I consider that this project has no significant ethical implications to be brought before the Departmental Ethics Committee.</p>	<p>X</p>
--	----------

In less than 150 words, provide details of the study including the rationale, the number and type of participants, methods and tests to be used (i.e. the procedure).

The data used in this study is from a previous study (REC 17/EM/0070, SOPREC PSY1617276, Hannah Daniels) for which consent for secondary data analysis was provided by participants. No further contact between the researcher of this project and the participants of the previous study is necessary.

A Template Analysis will be used to code this transcribed data for evidence of ‘Psychological Flexibility’ – a potential key mechanism in therapeutic change (Hayes, Strosahl, & Wilson, 1999). The findings will contribute to the knowledge of processes that mediate therapeutic change, and may help to facilitate the future development of more targeted psychological therapies.

The external transcription service will be used to process the data. The University of Lincoln Data Protection Policies will be adhered to at all times. A Transcriber Confidentiality Agreement will be signed with the appropriate service (see Appendix B). The researcher will ensure that the chosen transcription service has a secure system for data transfer, access, and storage to maintain data confidentiality.

This form (and any attachments) should be submitted to the school’s Ethics Committee where it will be considered by the Chair before it can be approved.

<p>B. I consider that this project may have ethical implications that should be brought before the Departmental Ethics Committee, and /or it will be carried out with children or other vulnerable populations.</p>	
---	--

Please provide details of the project on an EA2 University Ethics for Human Participants, taking into account the following advice:

1. Be clear about the purpose of the project and its academic rationale.
2. Briefly describe the methods / measurements and parties involved / affected.

Below is a copy of the consent form from the previous study, for which secondary data use permission was provided.

Additional Consent Form

Title of Study: Exploring the impact of psychological formulation on working alliance: a mixed methods, repeated single case investigation

REC Ref: 221260

Name of Researcher: Hannah Daniels

Name of Participant:

I confirm that I have read and understood the information sheet, version number 2, dated 01.03.2017 for the above study and had the opportunity to ask any questions.

I confirm that I have provided verbal and written consent using the consent form, version number 2, dated 01.03.2017 prior to taking part in this study.

I confirm that I give my verbal and written consent for my anonymised data, including audio recordings of my therapy sessions, post therapy interviews and outcome measures to be used for secondary data purposes. This means that the data might be used in future research projects.

..... Name of Participant Date Signature
..... Name of Person Taking Consent Date Signature

When completed, copies for: 1 for participant; 1 for researcher site file; 1 to be kept in medical notes

Appendix C

Email from the SOPREC representative confirming ethical approval for the current study.

Subject	RE: Amendments to PSY181917
Link to Outlook Item	<u>Click here</u>
From	<u>Soprec</u>
To	<u>Monika Panczak-Abrahams (07078791)</u>
Sent	15/10/2018, 11:31:22

Hi Monika,

Your amendments have been sent to the chair and they have approved them.

Kind Regards
Katie

Mrs. Katie Rushbrook | Administrator
College of Social Science
University of Lincoln. Brayford Pool, Lincoln, Lincolnshire. LN6 7TS

Tel: 01522 835521

From: Monika Panczak-Abrahams (07078791)
Sent: 12 October 2018 11:57
To: Soprec <Soprec@lincoln.ac.uk>
Subject: RE: Amendments to PSY181917

Hello Katie,

Thank you for your email – can I just double check: does it mean that you sent it to the Chair or that Chair has approved the amendments?

Kind regards,

Monika

Sent from Mail for Windows 10

From: Soprec
Sent: 12 October 2018 10:52
To: Monika Panczak-Abrahams (07078791)
Subject: RE: Amendments to PSY181917

Dear Monika,

Chairs Action has been approved on your ethics amendments.

Kind Regards

Katie

Mrs. Katie Rushbrook | Administrator
College of Social Science
University of Lincoln. Brayford Pool, Lincoln, Lincolnshire. LN6 7TS
Tel: 01522 835521

From: Monika Panczak-Abrahams (07078791)

Sent: 12 October 2018 10:07

To: Soprec <Soprec@lincoln.ac.uk>

Subject: Amendments to PSY181917

Dear Committee,

Please consider approving the amendments to my research project – highlighted in yellow, as required.

I look forward to hearing from you,

Kind regards,

Monika Panczak

Sent from Mail for Windows 10

Appendix D

General Data Protection Regulation Confidentiality Agreement for transcribers



General Data Protection Regulation Confidentiality Agreement for Transcribers

This Agreement is made as of 23.10.2018 (Date), by and between the University of Lincoln, with principal offices at Brayford Pool Lincoln LN6 7TS (the University) and Nina Douglas with principal offices at 59 Swallow Drive, Bingham, Nottingham, NG13 8QA (the Transcriber).

The Transcriber has been appointed by the University of Lincoln to transcribe audiotapes/audio files and documentation resulting from research undertaken by Monika Panczak-Abrahams which will involve the disclosure to the Transcriber of personal data held by the University. Accordingly the Transcriber is required to deal with any such information in accordance with the terms of this Agreement and the General Data Protection Regulation (UK implementation May 2018, GDPR).

The Transcriber undertakes to respect and preserve the confidentiality of personal data. Accordingly, for an indefinite period after the date of this Agreement the Contractor shall:

- maintain the personal data in strict confidence and shall not disclose any of the personal data to any third party;
- restrict access to employees, agents or sub-contractors who need such access for the purposes of the contract (and then only if the employee, agent or subcontractor is bound by conditions of confidentiality no less strict than those set out in this agreement, which the Transcriber shall enforce at the University's request);
- ensure that its employees, agents or sub-contractors are aware of and comply with GDPR; and
- not authorise any sub-contractor to have access to the personal data without obtaining the University's prior written consent to the appointment of such sub-contractor and entering into a written agreement with the subcontractor including conditions of confidentiality no less strict than those set out in this agreement, which the Transcriber shall enforce at the University's request.
- delete all audio files and/or transcripts relating to the work once all transcripts have been confirmed as received by the researcher.

The Transcriber agrees to indemnify and keep indemnified and defend at its own expense the University against all costs, claims, damages or expenses incurred by the University or for which the University may become liable due to any failure by the Transcriber, its employees, agents or sub-contractors to comply with any of its obligations under this Agreement.

For the avoidance of doubt, the confidentiality imposed on the Transcriber by this Agreement shall continue in full force and effect after the expiry or termination of any contract to supply services.

The restrictions contained in this Agreement shall cease to apply to any information which may come into the public domain otherwise than through unauthorised disclosure by the Transcriber.

This Agreement shall be governed by and construed in accordance with the laws of England and the parties hereby submit to the exclusive jurisdiction of the English courts.

Signed for and on behalf of Typing Services

Signed: N Douglas Name: N Douglas
Title: Business owner Date: 23/10/18

Signed for and on behalf of the University of Lincoln

Signed: A TANNER Name: A TANNER
Title: ADMIN DCLINPSV Date: 24/10/18

DCLinPsv Research Handbook 1819

Poster

Is Psychological Flexibility a Trans-theoretical Process of Change?



Monika Panczak, David L Dawson, Mark Gresswell, & Nima G Moghaddam
Trent Doctorate in Clinical Psychology, University of Lincoln & Nottingham



Introduction

Psychological flexibility has been considered to be an important ingredient of good psychological health for about five decades^{1,2}. It has been suggested that psychological flexibility predominantly refers to a number of dynamic processes which determine persons' interactions with their environment.

For the purpose of this research, the model of psychological flexibility associated with Acceptance and Commitment Therapy (ACT³) has been adopted. From the ACT perspective, psychological flexibility is defined as "the ability to contact the present moment more fully as a conscious human being, and to change or persist in behaviour when doing so serves valued ends"⁴ (p. 7), and consists of six interlinked processes (see Figure 1)

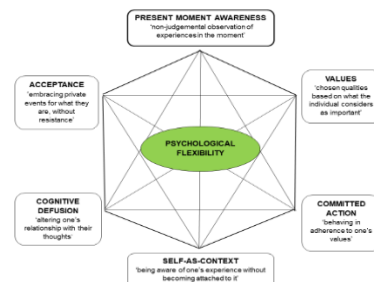


Figure 1. A model of PF adapted from Hayes, Luoma, Bond, Masuda & Lillis, 2006

The evidence suggests that psychological flexibility is a trans-diagnostic process, meaning that the increase in psychological flexibility is associated with decrease of distress across a range of diagnosis. It is less clear however, whether the psychological flexibility is also trans-theoretical, meaning that it is unclear whether other successful therapies, also operate through the process of psychological flexibility.

References

1. Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review*, 30(7), 865-878. 2. Gloster, A. T., Meyer, A. H., & Lieb, R. (2017). Psychological flexibility as a malleable public health target: Evidence from a representative sample. *Journal of Contextual Behavioral Science*, 6(2), 166-171. 3. Hayes, S. C., Strosahl, & Wilson, K. G. (1999). Acceptance and commitment therapy: An experiential approach to behavior change. New York: London: Guilford Press. 4. Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1-25. 5. Leichsenring, F., & Rabung, S. (2008). Effectiveness of long-term psychodynamic psychotherapy: A meta-analysis. *The Journal of the American Medical Association*, 300(13), 1561-1565. 6. Tschacher, W., Junghan, U., & Pfammatter, M. (2014). Towards a Taxonomy of Common Factors in Psychotherapy-Results of an Expert Survey. *Clinical Psychology & Psychotherapy*, 21(1), 82-96. 7. Wampold, B. E., Mondin, G. W., Moody, M., Stich, F., Benson, K., & Alin, H. (1997). A meta-analysis of outcome studies comparing bona fide psychotherapies: Empirically, 'all must have prizes'. *Psychological Bulletin*, 122(3), 203-215. 8. Hubble, M. A., Duncan, B. L., & Miller, S. D. (1999a). The heart and soul of change: What works in therapy. Washington: American Psychological Association. 9. Villatte, J. L., Villardaga, R., Villatte, M., Plumb-Villardaga, J. C., Atkins, D. C., & Hayes, S. C. (2016). Acceptance and Commitment Therapy modules: Differential impact on treatment processes and outcomes. *Behaviour Research and Therapy*, 77, 52-61. 10. Wampold, B. E. (2001). The great psychotherapy debate: Models, methods and findings. Mahwah, NJ: Lawrence Erlbaum.

Results

- The results suggest that psychological flexibility processes can be identified in the speech of participants who engage in therapy that does not explicitly target psychological flexibility.
- The analysed data did not show clear patterns of psychological flexibility and whether psychological flexibility increased or decreased over time, across all participants (Figure 2)
- On average 43% (range 15% to 67%) of participants' talk was coded per session, but some of the statements were double or triple coded.
- The most frequently coded domains of psychological flexibility were: committed action and values, followed by acceptance, cognitive defusion, present moment awareness and self-as-context.
- After examining patterns of psychological flexibility, researchers predicted that there would be no significant change in clinical outcomes, which was largely accurate. It was less clear however whether 'directional predictions' could be made reliably (see Table 1)

Table 1. Participants' individual therapy outcomes and outcome predictions made by the judges

ACTUAL OUTCOMES	PARTICIPANT 1		PARTICIPANT 2		PARTICIPANT 3	
	IMPROVEMENT*	NO CHANGE	IMPROVEMENT*	NO CHANGE	IMPROVEMENT*	NO CHANGE
PHOENIX						
CODE						
MHC-SF						
	DISTRESS	QUALITY OF LIFE	DISTRESS	QUALITY OF LIFE	DISTRESS	QUALITY OF LIFE
JUDGE 1	NC	NC	NC	NC	D	D
JUDGE 2	D	D	NC	I	NC	NC
JUDGE 3	D	NC	NC	NC	NC	NC
JUDGE 4	D	D	I	NC/I	NC	I

Note: ICI and CSC calculated using clinical and non-clinical norms in published literature unless standardised norms are available. * = indicates reliable change. ** = indicates clinically significant change. NC = no change; D = deterioration; I = improvement

Discussion

- There is a large body of research supporting the notion that a number of well-established psychological treatments produce similar outcomes^{5,6,7}, which led some authors to conclude that some therapeutic processes contributing to achieving therapeutic change are common across all psychological treatments^{8,9,10}. It has been argued that psychological flexibility is an important process of psychotherapeutic change, and results of this study shown that its components can be identified in CBT which does not explicitly target psychological flexibility. This finding provides a platform for future research into the role of psychological flexibility in facilitating psychotherapeutic change.
- The results as to whether accurate outcome predictions can be made based on the identified patterns of psychological flexibility were unclear however.
- Given that there are many similarities between ACT and CBT, it would be valuable to examine whether psychological flexibility can be also detected in therapy which does not have cognitive end behavioural roots, such as psychodynamic therapy. Additionally, further research should analyse talk of participants' whose clinical outcomes are more varied in order to examine relationship between patterns of psychological flexibility identified in text and participants' clinical outcomes.

Aims

The primary aims of this study were:

- to examine whether psychological flexibility processes can be detected in client talk during therapy that does not overtly target psychological flexibility as a change process (CBT);
- to examine whether changes in detected levels of PF are related to clients' clinical outcomes.

Methodology

A secondary data analysis of sessions recordings of three participants was conducted in this study, and the following process was employed:

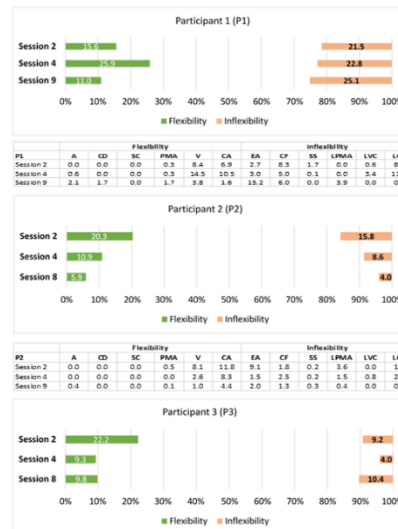
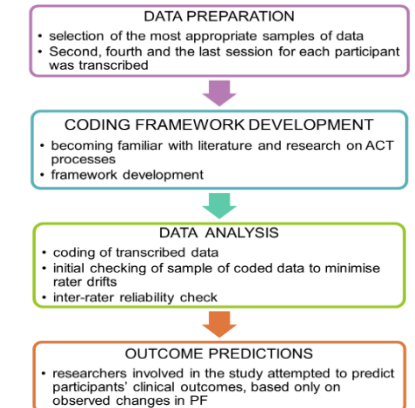


Figure 2 A sum of the percentages of participants' talk coded as 'flexible' and 'inflexible'. Note: Presented tables outline percentages of all coded variables. A- Acceptance, CD- Cognitive Defusion, SC- Self-as-Context, PMA- Present Moment Awareness, V- Values, CA- Committed Action, EA- Experiential Avoidance, CF- Cognitive Fusion, SS- Self-as-Story, LPM- Lack of Present Moment Awareness, LVC- Lack of Values Clarity, LCA- Lack of Committed Action.