RESEARCH THESIS

CLINICALLY DEPRESSED ADULTS' IDIOGRAPHIC GOALS AND CAUSAL EXPLANATIONS

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PREFACE

This dissertation is submitted in fulfilment of the CPD Doctorate in Clinical Psychology. The thesis comprises four chapters; a narrative literature review, a study developing four coding scheme systems, the main investigation and lastly, a public domain paper.

The literature review synthesises the pertinent literature with regard to depression and personal goal processes (i.e. goal motivation, goal specificity, goal content and causal explanations). Chapter two describes the development of specificity coding schemes for personal goals, and their associated causal explanations, in addition to two goal content coding schemes. The main investigation describes how the four (specificity and content) coding schemes were applied to an established data set comprising clinically depressed and never-depressed adults who participated in an ethically (IRAS) approved funded project at the University of Liverpool. Preliminary findings from the original data set have recently been published (Dickson, Moberly & Kinderman, 2011).

This current research is the first study to investigate the specificity of clinically depressed adults' idiographic approach and avoidance goals. It is also the first study to investigate the specificity of individuals' goal-related causal explanations. As such, the findings from this research are seen to contribute to the goal motivation literature. This dissertation was jointly supervised by Dr. Joanne Dickson, University of Liverpool and Dr. Arie Nouwen, University of Birmingham.

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Chapter 1

LITERATURE REVIEW:

DEPRESSION AND PERSONAL GOAL

PROCESSES

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ABSTRACT

Background: Goal research reveals that goal motivational factors alone do not adequately explain depression. Instead, a complex, and particular, interplay of cognitive processes appear to be associated with depression. There is growing evidence that the specificity and content of peoples' personal goals, and the way in which causal explanations are inferred, all influence goal attainment behaviour and depression. Goal theorists, however, have only recently investigated approach and avoidance goal motivational processes in relation to depression, and these few, mainly adolescent, studies have yielded mixed findings. This review seeks to synthesise the existing goal theory literature.

Method: The few studies of approach and avoidance goal motivation investigate differing aspects of goal behaviour across heterogeneous age groups and varied psychological disorders. A systematic review of the relevant literature was undertaken to identify novel research directions for future research with clinically depressed adults.

Conclusions: Preliminary investigation of clinically depressed adults' idiographic approach and avoidance goals suggests that the cognitive and motivational patterns of adults and adolescents may differ. Further goal research is therefore required to investigate the cognitive processes underpinning goal attainment in depressed adults with a view to contributing to the development of more effective cognitive treatments for clinical depression.

Key words: approach and avoidance goals, coding schemes, depression, future thinking, goal content, motivation, specificity.

1. INTRODUCTION

This chapter reviews personal goal motivation within the context of mood disorders with a primary emphasis upon clinical depression. Influential biologically-informed models (Fowles, 1988; Fowles, 1994; Gray, 1982) have theorised upon the approach and avoidance motivational mechanisms underpinning emotional vulnerability and mood disorders. Until relatively recently, however, the approach and avoidance goal motivational profiles of depression have been largely ignored. Goal theory studies have found that the way in which depressed people frame their personal goals (i.e. in approach or avoidance terms), how specific their goals are, the content of their personal goals, and the explanations that people give for attaining their goals, all appear to influence goal motivation and goal pursuit. This chapter summarises the previous literature which has shaped and led the way to the emerging goals research in the area of depression.

1.1 Why does Depression Matter?

Twenty years ago depression was reported to be the fourth highest global cause of disability. After cardiovascular disease, depression is predicted to become the world's most disabling illness by 2020 (Murray & Lopez, 1997) with the more affluent and higher income countries being the worst afflicted (World Health Organisation, 2007; 2008). Within the United Kingdom (UK) approximately half of the population will experience some form of depression within their lifetime (Royal College of Psychiatrists, 2006). Depression is associated with high levels of mortality, morbidity (NICE, 2011) incomplete remission and high recurrence rates (McIntyre & O'Donovan, 2004). Those who suffer from major depressive episodes (MDE) pose a

higher risk of suicide (Witte, Timmons, Fink, Smith & Joiner, 2009). Findings such as these contributed to a major health target for the United Kingdom (UK) to reduce suicide rates by 2010 (Department of Health, 1999). Alarmingly, these depression statistics are likely to underestimate the true clinical picture as many studies traditionally focus upon major mood disorder while ignoring less severe depression which is also associated with chronic impairment (Judd, Akiskal, Maser, et al., 1998).

Direct treatment costs for depression is estimated to be £370 million, with morbidity costs of £8 billion and mortality costs of £562 million (Thomas & Morris, 2003). Untreated depression also contributes to an enormous burden upon medical and social welfare services (Tranter, O'Donovan, Chandra, & Kennedy, 2002) and is twice as expensive to manage as treatable major depression (Greenberg, Corey-Lisle, Birnbaum, Marynchenko, & Claxton, 2004). Layard et al.'s (2006) highly influential report estimated that depression and anxiety represented Britain's greatest social economic burden, with an expected loss of economic output and income of £12 billion per year, equal to 1% of Britain's total national income. These costs are predicted to steadily increase over time (McCrone et al., 2008). Compared to other illnesses, mood disorders represent the greatest costs to employers (McIntyre et al., 2008; McIntyre, Liauw, & Taylor, 2011) and unemployment significantly threatens social inclusion and physical and psychological well-being (Lauber & Bowen, 2010). The current global economic recession is seeing rising unemployment, poverty and debt. Thus depression rates are likely to increase even more dramatically than previously predicted, at a time when health and social care provision are being severely reduced. There is, therefore, an urgent need for more successful psychological interventions for depression. In order, however, to target and treat depression more effectively, greater knowledge is required to better understand the complex cognitive processes which contribute to

major depression. Surprisingly, despite the long establishment of prominent theories of motivation, we know little about depression from a goal motivational perspective.

1.2   **Search Strategy**

There is little research with respect to goal motivation in clinically depressed adults. However, based on theories of motivation (Gray, 1982), depression is thought to be characterised by impaired approach motivation and an increased focus on avoidance motivation. Consistent with motivational theory, goal-regulation theory posits that all human behaviour is structured by approach goals and avoidance goals. Approach goals are defined as goals which involve trying to move toward a desirable outcome (e.g., '*Earn more money*'), and avoidance goals, which involve trying to move away from or to inhibit undesirable outcomes (e.g., '*Don't fail my exams*'). The emerging literature also suggests that there is an association between depression and over-general goals, however, there has been no investigation of the specificity of causal explanations that people give for why they believe that their approach and avoidance goals will (pro-reasons), or will not (con-reasons), be attained. Further goal research is therefore required to determine if there are distinct goal and explanatory cognitive processes which contribute to depression in adults and which may differ from that of adolescents. This narrative review seeks to summarise and synthesise the existing literature for goal specificity and associated causal explanations for adults, and adolescents, with mild to severe depression. This review used a systematic search methodology to identify all relevant studies, and to provide a comprehensive background to the current research, and identify novel directions for further research (Cronin, Ryan, & Coughlan, 2008). Goal motivation research is a novel and developing field and previous research is sparse. The literature comprises primarily heterogeneous, small-scale, correlational

studies addressing disparate aspects of goal theory across differing age groups, populations, psychological disorders and time periods. Due to these limitations it was not possible, or appropriate, to combine the data in a statistical analysis, therefore the literature review was written in a narrative fashion. The following databases were used: Medline, PsycINFO, SCOPUS and Web of Knowledge (see Figure 1). Grey literature (NHS Evidence) was also searched as this source is increasing rapidly, at an estimated rate of three to four times greater than that of traditional, published literature (Farace, 1997).

Given the paucity of published literature, as a preliminary scoping exercise, broad searches were initially employed (see Appendix 1) to include anxiety and suicidality, to assist in gaining an understanding of the background to the development of the emerging specificity research. Figure 1 shows the search criteria for articles (between the years 1980 and 2012) using Ovid's Medline, PsycInfo, SCOPUS and Web of Knowledge databases. The search was restricted to English written peer-reviewed journal articles. Search alerts were employed which failed to identify any pertinent articles. The final search aimed to identify goal content studies and specificity articles (with respect to personal goals and causal explanations) in mild to severely depressed adults and adolescents. Research articles relating to: children (below the age of 16 years), depression secondary to other psychological, psychiatric and physical conditions, and goal theory studies addressing aspects of goal pursuit tangential to the current research (e.g. goal planning, goal likelihood, goal expectancies etc.), in addition to duplicated articles, were excluded. No articles were excluded on the basis of researcher bias and all relevant articles were included irrespective of the findings. Following application of the exclusion criteria, 51 papers were selected for the current literature review.

Figure 1: Search Terms

		Medline	PsycINFO	SCOPUS	Web of Knowledge
#1	"Depress*" OR "dysphori*" OR "anxious" OR "anxiety" OR "suicid*"	462,018	281,004	422,080	1,501,011
#2	"Depress*" OR "dysphori*"	339,692	178,121	300,223	1,176,529
#3	"Personal goal*" OR "life goal*" OR "future goal*" OR "future experience*" OR "future scenario*"	1,415	2,408	300	6,973
#4	"Abstract goal*" OR "moderate goal*" OR "general goal*" OR "extended goal*" OR "specific goal*" OR "concrete goal*"	929	1,206	64	2,366
#5	"Goal motivation*" OR "goal regulation*" OR "goal pursuit*"	149	692	591	491
#6	"Approach goal*" OR "avoidance goal*"	101	584	90	481
	Combined search terms #2 AND #3:	83	164	9	356
	Combined search terms #2 AND #4:	26	35	56	79
	Combined search terms #2 AND #5:	11	32	36	77
	Combined search terms #2 AND #6:	7	19	18	44

[1]Total papers identified post application of inclusion criteria: 51

1.3   **Approach and Avoidance Goal Motivation**

Understanding human behaviour as being essentially goal-directed is fundamental to motivation theory (Ford, 1992). Personal goals can represent immediate, or lifelong, desires and tend to reflect the individual's stage of life. Goals also provide individuals with long-term purpose, strong direction, coherence and meaning in their lives (Winnell, 1987). Cochran and Tesser, (1996) describe goals as a "cognitive image of an ideal stored in memory for comparison to an actual state; a representation of the future that influences the present; a desire (pleasure and satisfaction are expected from goal success); a source of motivation, an incentive to action" (p.100). The process of striving towards, and achieving, personal goals is associated with well-being, personal satisfaction and psychological growth (Oishi, Diener, Suh, & Lucas, 1999; Sheldon, Kasser, Smith, & Share, 2002).   Higgins, (1997) proposed a theory of 'regulatory focus', with 'promotion' goals being associated with aiming towards an outcome which reinforces well-being, while 'prevention' goals aim to avoid aversive events which are associated with anxiety.   More recently personal goals have been conceptualised in the form of approach or avoidance goals (Elliot & Friedman, 2007).   Approach goals characterise the process of working towards, or striving for, a desired aim e.g. 'working hard for promotion' in contrast to avoidance goals, which are associated with the process of avoiding, or creating distance from, an unwanted outcome or state e.g. 'staying away from the dentist'.

Neurophysiological processes have been found to differentiate approach and avoidance behaviour (Miller & Tomarken, 2001).   Impaired approach motivation is associated with reduced prefrontal brain activity (Henriques & Davidson, 1991; Sutton

& Davidson, 1997) while stimulation of the amygdala and hypothalamic regions reduces aversive affect (Irwin et al., 1996; Smith, DeVito, & Astley, 1990). Gray, (1982) developed an influential, biologically informed theoretical model conceptualising the motivational mechanisms thought to underpin mood disorders, personality and emotional vulnerability. Gray's model of motivation, founded upon the process of reward and punishment in shaping individuals' behaviour, postulated two behavioural systems. The behavioural activation system (BAS) is highly sensitised to cues associated with reward and escape from punishment, and associated feelings of elation, happiness and hope. Conversely, the behavioural inhibition system (BIS) is highly sensitised to cues relating to non-reward, punishment, novel experiences and associated feelings of sadness, fear and anxiety. Fowles, (1988; 1994) extended Gray's theoretical model to the clinical domain, proposing that both depression and anxiety are associated with high levels of behavioural inhibition, with depression being uniquely associated with lowered levels of behavioural activation. Other motivational theories, while they differ in some respects, all commonly derive from biological or neurophysiological models of approach and avoidance mechanisms underpinning mood disorders (Davidson, Pizzagalli, Nitschke, & Putnam, 2002). Neurophsyiological conceptualisations of motivation, however, fail to explain the psychological (Goldstein & Roselli, 2003), social and individual contributions to depression (Clark, Beck, & Alford, et al., 1999).

Psychological research has found avoidance behaviour to be associated with rumination, contributing to depression (Giorgio et al., 2010) and a negative cognitive bias. While much of the literature converges upon the central role of assumptions, beliefs and cognitions in relation to depression, there is far less concensus and research

regarding the role and contribution of personal goals. Cognitive and motivational theorists have tended to neglect the exploration of the personal goals of psychologically vulnerable individuals. Little research, therefore, has empirically tested Fowles' theoretical assumptions in relation to depression. While Fowles' work has led to a proliferation of interest in approach and avoidance goal motivation within the domain of personality (Elliott, Sheldon, & Church, 1997; Elliott & Thrash, 2002; Little, Lecci, & Watkinson, 1992) research of this kind in the clinical domain is sparse.

Goal theorists differ in their research focus on aspects of personal goal systems e.g. goal conflict, goal expectations, goal planning etc. There is, however, common agreement that personal goals are associated with the pursuit of aims that individuals strive to achieve or avoid, and influence thought, behaviour and emotion. Personal goals are commonly conceptualised as being subordinate or superordinate, and organised in a hierarchical system which is consciously accessible (Michalak, Yatham, Kolesar, & Lam, 2006). Goal theorists (Carver & Scheier, 2000; Coats, Janoff-Bulman, & Alpert, 1996) believe motivation to be integral to the setting of personal goals, particularly in relation to depression and hopelessness. Coats et al. (1996) found that undergraduates who framed their 'everyday' goals in 'avoidance' terms (e.g. 'it is important for me to avoid bad grades') rather than in 'approach' terms (e.g. 'it is important for me to obtain good grades') were more likely to experience low mood, irrespective of the content of their personal goals. This finding is consistent with prevailing theories of depression (Beck, Rush, Shaw, & Emery, 1979; Beck & Steer, 1987) in that depressed individuals are primarily characterised by pervasive and pessimistic cognitions and attributions. Thus, in goal research, it is clearly important to elicit participants' personal goals within an approach and avoidance framework.

Attainment of approach goals associated with desired attainment (e.g. 'buy a house in the country') are understood to assist well-being. Conversely, avoidance goals (e.g. 'make sure I don't get into debt') are associated with reduced fulfillment and enjoyment of goal pursuit (Elliot & Sheldon, 1997). Extreme pursuit of avoidance goals is thought to be associated with depression and emotional distress (Elliot & Friedman, 2007; Holtforth, 2008; Sheldon et al., 2002).

Carver and Scheier, (2000), however, argue that depression is a fundamentally pessimistic position associated with both impaired pursuit of avoidance *and* approach goals. Their self-regulation model proposes that striving for goals, and the motivation to either approach, or avoid, personal goals is an integral, regulatory, aspect of people's everyday lives (Carver, 2006). Thus, in goal pursuit, if approach and avoidance motivation is essential to the self-regulation of well-being, then impairment of the healthy pursuit of personal goals is also likely to be strongly associated with depression. It is further argued that depressed individuals frequently abandon their approach goals in the belief that their goals cannot be obtained or realised. Failure to attain an avoidance goal (e.g. 'trying to avoid smoking') is argued to lead to a more aversive outcome, given failure to attain an approach goal simply relates to an absence of a positive outcome (e.g. 'not passing an exam') (Carver & Scheier, 1998; Duval & Silva, 2002). Thus, it is argued that failure to realise an avoidance goal is more likely to contribute to depression (Carver & Scheier, 1998; Cochran & Tesser, 1996), lesser satisfaction, greater negativity, low self-esteem, lack of self-agency, reduced life satisfaction and perceived lack of competency in relation to goal pursuit (Elliot & Sheldon, 1998). Avoidance motivation is seen to facilitate surviving compared to approach motivation which facilitates thriving (Elliott, 2006) and it has been suggested

that a tendency towards avoidance goals may indicate a "trait-like vulnerability to depression" (Vergara & Roberts, 2011, p. 1281). Given individuals frequently operate in survival mode, even when immediate danger is absent, avoidance behaviour therefore precludes opportunities for healthy learning, growth and development. Psychological treatments should therefore seek to discourage avoidance motivation, encourage disengagement from unattainable goals (Trew, 2011), and facilitate effective pursuit of approach goals. By doing so, it is argued that depressed individuals will be better equipped to make the necessary transition from survival to that of future thriving.

1.4 Imagining of Future Events

Findings from goal pursuit research suggest that clinical intervention should assist depressed individuals to work towards attainable, future approach goals. Certainty about the absence, or the anticipation, of positive future events has been found in suicidal individuals (MacLeod et al, 2005; Sargalska, Miranda, & Marroquin, 2011), mild to moderate depression (Bjärehed, Sarkohi, & Andersson, 2010) and major depression (Sarkohi, Bjarehed, & Andersson, (2011). If depression is characterised by a reduced anticipation of positive, future events, individuals are unlikely to be motivated to move beyond a position of avoidance, thus reflecting the depressive position. MacLeod and Cropley's (1995) study, however, distinguished that, in dysphoric and control participants, future thinking with regard to negative events was primarily associated with depression while future thinking with regard to positive events was primarily associated with hopelessness. Depressed college students have been found to ruminate and make more automatic and pessimistic predictions in relation to future events (Andersen & Limpert, 2001). Also, pessimism with regard to

probable events in the future is more strongly associated with depression and anxiety than uncertain events (Eysenck, Payne & Santos, 2006). Depressed individuals have also been found to be much more certain in their predictions of unfavourable events occurring and favourable events not occurring (Luxton, Ingram & Wenzlaff, 2006). Clinically depressed (and anxious) individuals appear to pessimistically judge future negative events as likely and future positive events as unlikely (MacLeod, Pankhania, Lee & Mitchell, (1997). Rumination may further reinforce the belief of the probability of negative events happening (Johnson, 2006; Miranda & Mennin, 2007) thus compounding the pessimism and hopelessness of mood-disordered and suicidal individuals.

Sargalska, Miranda and Marroquin (2011)'s study of suicidal patients, however, demonstrated a different clinical 'picture' in that they found a strong *absence* of certainty with regard to positive future events. Being certain about the likelihood of an absence of positive outcomes in the future was associated with suicidal ideation (independent of hopelessness and depressive symptoms). Other studies also suggest that difficulties in being able to imagine positive future events is, in fact, more clinically relevant than having negative perceptions of the future. Dickson and Bates (2006) in a small study of dysphoric and non-dysphoric undergraduates ($n = 34$) found that while the dysphoric group took longer to generate pleasant, or positive, future events, surprisingly no difference was found for unpleasant future events when compared to the control group. Similarly, hopelessness in parasuicidal patients has been found to be more strongly associated with an absence of positive, rather than the presence of negative, future thinking (MacLeod & Cropley, 2005; MacLeod et al; 2005). O'Connor, Fraser, Whyte, MacHale and Masterton, (2008) found that global

hopelessness was associated with suicidal ideation and it was hypothesised that positive thoughts of the future may be associated with increased quality of life and psychological resilience which may in turn "rescue" or protect people from pessimism and depression. It is also suggested that being able to visualise and imagine a positive future, may increase the belief in the probability of the imagined event happening leading to a greater likelihood of future-related action (Johnson, 2006; Miranda & Mennin, 2007).

Thus research suggests that depression is a deeply pessimistic position in which negative events in the future seem probable and more imaginable, while more relevantly, the potential for positive future events appears to be absent or too difficult to imagine. These studies, however, have investigated people's perceptions of hypothetical future events. Bjarehed, Sarkohi and Andersson, (2010) found that depression appears to be more strongly associated with the anticipation of more immediate, compared to distant, events. Conversely, self-generated, idiographic future goals are likely to represent greater relevance, meaning and significance for the individual. Idiographic future goals also tend to reflect sustained periods of activity and thus they may represent greater ecological validity.

1.5   **Future Personal Approach and Avoidance Goals**

Only a few studies have explored depression and future-directed thinking within the context of self-generated, idiographic, approach and avoidance goals (Dickson & MacLeod, 2004a; Dickson & MacLeod, 2004b; Dickson & MacLeod, 2006; Dickson, Moberly & Kinderman, 2011). These studies set out to test Fowles' (1994) motivational

assumptions, based on Gray's (1982) model of motivation, that depression is characterised by high behavioural inhibition and low behavioural activation. The emerging findings are slightly mixed, but with more evidence for challenging Fowles' assumptions, and those commonly held by clinicians, that depression is characterised by a *pervasive* absence of motivation.

In the first of two analogue studies, Dickson and MacLeod, (2004a) asked male and female (*n* = 144) Australian school pupils to generate idiographic, future-directed goals. A Goal Task required participants to generate approach goals (e.g. 'In the future it will be important for me to *work hard at my studies*') and avoidance goals (e.g. 'in the future it will be important for me to avoid *getting up late''*). While anxiety was associated with more avoidance goals, depression was associated with fewer approach goals, but against prediction and counter to Fowles' theory, no relationship was found with avoidance goals. High depression and mixed (depression and anxiety) groups generated fewer approach goals but not more avoidance goals. These findings therefore suggest that depressed adolescents *do not* demonstrate either a heightened avoidance motivation, or a global absence of motivation, but that they do demonstrate a lowered approach motivation. It was argued that reduced approach motivation may reinforce depression, apathy and hopelessness, as a consequence of impaired goal pursuit which reduces the potential for experiencing the pleasure and reward associated with the attainment of desired goals (Dickson & MacLeod, 2004b; Dickson, Moberly & Kinderman, 2011).

Dickson and MacLeod's (2004b) second analogue study of highly depressed (*n* = 27) anxious and depressed (*n* = 25) and control (*n* = 30) adolescents demonstrated

findings consistent with the first study. Compared to the control group, the depressed and mixed group generated fewer approach goals, but counter to prediction, not more avoidance goals, while the anxious group demonstrated a reverse pattern with more avoidance goals but not fewer approach goals. These findings suggest that depression and anxiety are characterised by unique motivational 'profiles' which are contrary to Fowles' assumptions that depression is an expression of high BIS and low BAS.

Dickson and MacLeod's (2006) study of male and female Australian students (n = 56), however, found that while the dysphoric group generated significantly fewer approach goals (consistent with the analogue studies) they also generated *more* avoidance goals, consistent with Fowles' assumptions. Dickson and MacLeod suggested dysphoric adolescents may have a distinct motivational pattern resulting in "fewer approach goal resources to counteract or protect against the negative effects of goals focused on aversive and harmful experiences" (p. 187). Thus although these three adolescent studies demonstrate consistent findings for approach motivation, the findings for avoidance motivation are mixed. Future adult research may provide additional evidence to lend clarity to the motivational processes underpinning low mood and depression. Conversely adult research may reveal preliminary evidence that the goal processes of adults differ from adolescents.

With this in mind, Dickson, Moberly and Kinderman (2011) conducted the first idiographic goal motivation study comprising clinically depressed adults. No differences, however, were found for the depressed and control participants in relation to the number, and rated importance, of either their approach goals or avoidance goals. This preliminary study suggests that adults may differ from adolescents in that they fail

to demonstrate a deficit in approach motivation. This is an important finding which suggests that, contrary to common belief, depressed adults are similarly motivated in their desire to attain their future approach goals, which are as equally valued as that of the goals of non-depressed adults. In contrast however, depressed adolescents were shown to generate fewer approach goals. Dickson, Moberly and Kinderman suggest that dysphoric adolescents, as a consequence of a developmental process reflecting uncertainty around life transitions, may struggle to identify approach goals while avoidance goals may be of more relevance. Indeed fewer approach goals generated by depressed adolescents may reflect a tendency to "live in the moment" with avoidance goals representing greater immediacy. Given avoidance is associated with primitive 'flight' mechanisms necessary for survival, this innate behaviour may be more accessible in adolescents due to neurophysiological immaturity while approach goals formation may be more accessible to adults as a consequence of increased exposure to broader life experiences and choices throughout adulthood. While these studies show some evidence for motivational differences between adults and adolescents, further research is required prior to drawing any firm conclusions. There is, however, some evidence that an absence of goal motivational does not sufficiently explain depression in adults. Dickson, Moberly & Kinderman's (2011) preliminary study found that depressed adults did not differ from never-depressed controls with respect to the number, and importance, of self-generated personal goals. Therefore other cognitive and psychological factors, which interact with motivational processes, may contribute to depression in adults.

1.6   **Specificity of Future Events and Future Thinking**

It has been previously described that there appears to be a strong association between the way in which people imagine their future and the expression of well-being and depression. It is thought that the ability to perceive negative or positive future events vividly, and specifically, contributes to psychological resilience. While rich and extensive evidence is found for a relationship between depression and the retrieval of over-general autobiographical memories, there is little specificity research with regard to future-directed thinking and even less in relation to future personal goals. Memory research shows that depressed individuals struggle to remember specific aspects of past events (Moore, Watts, & Williams, 1988; Williams & Scott, 1988) and have difficulty in generating detailed autobiographical memories (Sumner, 2012; Williams, 1996). Specificity of memory is defined in slightly different ways. Barsalou's (1988) continuum model conceptualises highly discrete autobiographical memories of an 'episodic' nature at one end of the spectrum, with broader and more 'general knowledge' associated memories at the other. Williams' (1996) study of the specificity of retrieved past episodes categorised responses of suicidal individuals as 'specific', 'intermediate' or 'general' according to the level of contained detail. Similarly, Conway and Pleydell-Pearce, (2000) also developed a theoretical model of specificity of autobiographical memory according to event detail. Memories associated with 'lifetime periods' represented lesser specific, broad and prolonged themes (e.g. 'university life', 'war time' etc). Memories associated with 'general events' comprised repeated, themed, or single events, of a higher specificity (e.g. 'going to the dentist', 'when I got married') while 'event-specific knowledge' comprised highly specific,

vivid memories of events, of which post-traumatic stress memories represent an extreme manifestation.

The memory research is relevant in that specificity studies investigating future-thinking, future events, and more recently, future goals, has been influenced by the extensive memory specificity literature. Researchers have hypothesised that individuals with abstract autobiographical memory may also demonstrate an abstract sense of their future, arguing that similar cognitive mechanisms may underlie people's ability to clearly visualise both past and future events (Williams et al., 1996). While there has been scant investigation, a few studies addressing low mood have found mixed evidence of a relationship between specificity of autobiographical memory and specificity of peoples' perceptions of the future. Dickson and Bates, (2006) using positive and negative cue words, found that dysphoric participants were less specific in reporting both past and future events, compared to controls. Sarkohi, Bjarehed and Andersson's (2011) study of mild to moderately depressed adults ($n = 88$), however, found only a weak statistical association between positive autobiographical memory and positive future thinking with respect to specificity. Negative memories were not associated with either positive or negative future-thinking with respect to specificity. This led Sarkohi et al. (2011) to consider that either future thinking and memory, or (consistent with Watson, Clark, & Tellegen, 1988) positive and negative thinking and affect, reflect independent processes. Other studies have investigated the specificity of future events independent of memory, which seems important if, indeed, memory and future-thinking reflect differing processes. MacLeod and Cropley, (1995) found that dysphoric undergraduates, compared to controls, more rapidly generated specific negative, rather than, specific positive, imagined future events, in response to supplied

positive statements (e.g. 'you will feel confident') and negative statements (e.g. 'you will make an important mistake'). In this study, a response which included a time or place (e.g. 'when I'm living with my husband in Spain working in a language school') was defined as highly specific and concrete. A response was defined as moderately specific if it failed to include information relating to a time or place (e.g. 'when I'm settled in a university, and getting good grades'). A general response was defined as being abstract in nature and content (e.g. 'when I feel good about myself'). Similarly, Holmes, Lang, Moulds and Steele, (2008) demonstrated consistent findings in that dysphoric undergraduates ($n = 126$) were more able to imagine negative (but not positive) future events vividly. The vividness of mental images of positive and negative future scenarios were rated using a 5-point Likert scale; (1 = no image at all; 2 = vague and dim; 3 = unclear but recognisable 4 = moderately vivid; 5 = very vivid). Thus, these few studies provide some evidence that low mood appears be associated with more specific and pessimistic perceptions of the future. This literature, however, is concerned with specificity of future thinking and future events and not with future goals which are likely to hold more personal meaning and relevance to individuals.

With respect to goals, studies investigating the specificity of future personal goals commonly categorise goals as being 'abstract' (higher order) or 'concrete' (Street, 2002). Such studies do find that abstract personal goals appear to be associated with vulnerability to depression and low mood (Carver & Scheier, 1990; Carver & Scheier, 1998; Emmons, 1992). Emmons, (1992) investigated the specificity of personal strivings (goals) and psychological and physical well-being. Participants ($n = 188$) generated personal strivings which were rated as being either 'broad, abstract and expansive' or 'concrete and specific'. High-level strivings tended to be 'broad, abstract

and expansive' and were found to be associated with greater psychological distress and depression. Self-harmers, compared to controls, have also been found to generate less specific, overall future goals (Vincent, Boddana, & MacLeod, 2004). Specific goals were defined as relating to a particular life domain, which are detailed and do not "need to be broken down into sub-goals" (p. 93). Vincent, Boddana and MacLeod found that, as well as having less specific goals, the parasuicidal patients also lacked specific plans and were more prone to consider impediments to the attainment of future goals. While these studies investigate the specificity of supplied future goals in mood-disordered individuals, little is known about the specificity of self-generated idiographic approach and avoidance goals. Surprisingly, only one study (Dickson & MacLeod, 2004b) has investigated the specificity of future, idiographic approach and avoidance goals. Dickson and MacLeod used a coding scheme, partially influenced by Williams' (1996) autobiographical memory research, to rate goal responses as 'general', 'moderate' and 'specific'. A 'general' goal was defined as a global, non-specific, target which lacked "a specific goal target or unique experience" (p. 422). A 'moderate' goal comprised a more specific goal or target, and a 'specific' goal was defined as a target or goal featuring detail such as a particular place, time or person/people. Dickson and MacLeod (2004b) found that the high depressed and comorbid adolescents generated less specific approach and avoidance goals and were more prone to be over-general in relation to their description and planning of goals. The high depressed and anxious groups demonstrated less specificity in relation to the scenarios that they wished to avoid, as well as being less specific in their ability to generate plans to avoid these scenarios. Dickson and MacLeod speculated that depressed adolescents' inability to be specific about the goals that they wished to avoid, may lead to the unsuccessful pursuit of

abstract goals over time, thus impeding the formation of more specific, adaptive, future goals and reinforcing beliefs of failure in the pursuit of their future goals.

1.7   Goal Specificity and Goal Pursuit

The few studies investigating the specificity of personal goals suggest that if people's personal goals are vague or abstract, this is likely to impact upon individuals' ability to successfully pursue their future goals. This in turn, is likely to lead to failure and hopelessness, which further impairs successful goal pursuit. Thus goal specificity is a powerful factor in influencing well-being and goal pursuit, with specific, compared to vague or abstract, goals being more effective in regulating goal actions (Locke, 2002). Goal specificity is defined by Locke, Shaw, Saari and Latham (1981, p. 126) as "the degree of quantitative precision with which the aim is specified". Gollwitzer (1993) states that personal goals which are specific, and have clarity, improve goal functioning and provide feedback for measuring goal achievement which assists future intent and the enactment of purposeful behaviour. The more specific and clear the goal, the more focussed performance behaviour becomes, resulting in increased levels of performance and a decrease in the variance of performance (Campion & Lord, 1982; Locke et al., 1981). Goal specificity, goal performance and goal control strategies all contribute to the effectiveness of evaluating the process, and progress, of goal pursuit strategy.

Goals subject to performance variance which are also conditional upon abstract concepts (e.g. 'happiness' or 'peace') which are too vague or unrealistic to pursue − will inevitably lead to marked discontent and dissatisfaction. Abstract, higher order goals tend to be associated with events which are less immediate (e.g. 'being clever',

'being talented at something') and are often central to the attainment or maintenance of general well-being (Winnell, 1987). Abstract personal goals associated with global concepts of an idealised self are argued to be too vague and difficult to define and thus strive towards (Carver & Scheier, 1990). When abstract goals are additionally perceived to be solely conditional upon attaining idealised concepts of happiness and well-being, they are more likely to be unsuccessful. Goals which are strongly associated with the pursuit of identity and self-esteem are often found in depression-prone individuals (Street, 2001). Failure to attain these abstract, higher order, goals appear to leave individuals vulnerable to introspection and depression and (because they are most commonly associated with idealised aspects of 'the self') they are more difficult to disengage from than concrete goals (Carver, La Voie, Kuhl, & Ganellen, 1988; Carver & Scheier, 1990). Other researchers, however, have argued that depressed people's difficulty with disengaging from goals is primarily due to the conditional overvaluing of, or over-investment in, a goal - irrespective of the goal's abstract or concrete nature (Lam, Green, Power, & Checkley, 1996; Pyszczynski & Greenberg, 1987). Conversely, people whose personal and life goals have clarity, and are not conditional, are argued to experience increased personal effectiveness and life satisfaction.

Thus goal specificity studies, as with goal motivation, demonstrate evidence of a complex pattern of cognitive processes which contribute to depression. The studies of autobiographical memory, future-thinking, future goals and specificity, suggest that depression is akin to being 'in a limbo state'. Depressed individuals struggle to remember, and access, their past memories while their future is either experienced as vague and too difficult to imagine – or conversely is too vividly bleak to want to

imagine. No research, however, has investigated self-generated idiographic approach and avoidance goal specificity either in adults, or in a clinical population. As with goal motivation, adolescents may differ from adults in respect of their relationship between goal specificity and goal pursuit. Therefore research investigating specificity using adult samples is necessary to further inform our understanding of the interplay between goal motivation, goal specificity and goal pursuit in clinical populations.

1.8   **Goal Content**

The content of peoples' personal goals is thought to be related to emotional functioning. Little is known, however, about the content of depressed people's personal goals as much of the goal content literature investigates personality and clinical domains unrelated to depression. The adolescent goal content literature, which has been comprehensively reviewed by Nurmi, (1991) and Massey, Gebhardt, and Garnefski, (2008) demonstrates that personal goals reflect gender differences. Adolescent girls generate more interpersonal and educational goals (Nurmi, 1994; Nurmi, Liiceanu, & Liberska, 1999) and relational, self and body image goals (Massey, Gebhardt, & Garnefski, 2008) while boys generate more goals associated with social status (Anderman & Anderman, 1999) and employment and finance (Nurmi et al., 1999). A longitudinal study of Finnish undergraduates ($n = 297$) measured at five time-points over ten and a half years found that, from adolescence to adulthood, the emphasis and trajectory of personal goals changed from education and friends, to family, health and work, with older participants reporting more work and family but fewer friendship related goals (Salmela-Aro, Aunola, & Nurmi, 2007).

While these studies explored the pragmatic content of personal goals, other studies have investigated the more abstract and higher order content of individuals' personal goals across a range of ages. Higher order goals represent goal themes which are abstract and intrinsic in nature. Examples of higher order goals are those described by Emmons (1991) as 'strivings' which are defined as "idiographic goal-directed units that represent what the individual is typically trying to achieve" (p. 649) reflecting intrinsic themes associated with 'achievement', 'affiliation', 'intimacy' and 'power'. Intrinsic higher order goals are argued to be self-rewarding in nature and therefore more likely to contribute to well-being (Emmons, 2005). Consistent with Emmons' findings, goals reflecting 'personal growth', 'self-acceptance' and 'community contribution' have been found to be associated with improved psychological adjustment (Kasser & Ryan, 1996). Extrinsic goals (e.g. social recognition, financial success and physical attractiveness), by contrast, appear to be associated with poor well-being. Achievement-oriented, extrinsic strivings also appear to be associated with lesser well-being than intimacy goals (Emmons, 2005). It is argued that people who are primarily motivated by achievement, rather than intimacy related, goals may be less able to develop intimacy with others (intimacy in relationships being understood to be essential to psychological well-being). Alternatively, depressed individuals may be equally motivated to attain intimacy but struggle to pursue social and intimate relationships as a consequence of depressive symptomatology and social withdrawal (Lecci, Karoly, Briggs, & Kuhn, 1994). However, if the pursuit of higher order goals such as 'happiness' are highly conditional upon the attainment of lower order, achievement goals (e.g. earning a high salary), this is likely to contribute to depression. The need for social approval appears to be particularly associated with the pursuit of conditional goals (Street & Exeter, 2001) or over-valued goals which reflect the 'self-ideal', thus

rendering the individual vulnerable to depression (Campion & Power, 1995; Street, 2002). Personal goals which also reflect personality or 'self-improvement' are also thought to be associated with poor well-being (Salmela-Aro, Pennanen, & Nurmi, 2001). The pursuit of goals associated with self-image frequently reflect a need to gain approval from others in order to "validate their ideal selves" (Canevello & Crocker, 2011, pp. 431). Thus, self-image goals are found to worsen self-esteem while compassionate, interpersonal goals associated with care for others is found to increase self-esteem (Canevello & Crocker, 2011).

People whose happiness is highly conditional upon the sole achievement of very few goals also appear to be more vulnerable to depression. Higher levels of depression have been associated with conditional relationship goals compared to conditional academic goals (Street, 2001). If self-ideal rests entirely, and conditionally, upon the attainment of one particular achievement goal (e.g. becoming very rich) then the potential to fail will have pervasive and far-reaching consequences. A goal of such paramount importance is likely to be difficult to disengage from even when it is failing (Carver, La Voie, Kuhl, & Ganellen, 1988; Carver & Scheier, 1990). Having few, but important, life goals may also reflect restricted, rather than expansive, ambitions and desires. Conditional striving for achievement goals as a means of gaining self-worth and social approval may also reflect a means of compensating for a lack of intrinsic satisfaction and well-being.

1.9 Causal Explanations

Finally, in addition to goal processes, there is some evidence that the way in which causal explanations are formulated, and attached to negative events, also strongly influences depression (Abramson, Metalsky & Alloy, 1989; Teglasi & Fagin, 1984). Being unable to consider reasons for why future events are likely, or not, to happen (Byrne & MacLeod, 1997; Kagan, MacLeod, & Pote, 2004), in combination with experiencing bad events, appears to render people vulnerable to depression (Peterson & Seligman, 1984). Depressed and anxious patients have been found to generate more reasons for negative events happening, than against. Depressed people also rate negative events as being more likely to occur, while the reverse is found for positive events (MacLeod, Pankhania, Lee, & Mitchell 1997). Only two studies, however, have investigated causal explanations for idiographic, approach and avoidance goals. Dickson and MacLeod, (2006) found that dysphoric adolescents generated more causal explanations for the non-attainment of goals, and fewer explanations for the attainment of both approach and avoidance goals, compared to controls. Non-desired goal outcomes were perceived as more likely to occur and desired goal outcomes were perceived as less likely. The only adult study investigating causal explanations for idiographic goals (Dickson, Moberly & Kinderman, 2011) found that control participants optimistically generated significantly more pro-, than con-causal, explanations for attaining future personal goals, while the depressed individuals failed to do so. This appears to be an interesting preliminary finding which is highly relevant to depression. Future investigation of clinically depressed people's explanatory styles will lend to our understanding of goal attainment processes in depressed adults.

1.10 Conclusions and Implications for Future Research

Many of the reviewed studies are correlational and therefore it cannot be inferred whether cognitive styles render individuals vulnerable to depression, or whether the chronic effects of depression influence cognitive processes. While the relationship between depression, motivation and goal pursuit remains poorly understood, growing evidence, however, suggests that depression, contrary to the commonly accepted belief of clinical practice, is not characterised by a global deficit in goal motivation. Emerging goal studies reveal depression to reflect a complex pattern of, and interplay between, specific cognitive and motivational processes (Dickson & MacLeod, 2006). Depressed adults, similar to non-depressed people, appear to have important and valued goals goals for the future, however they appear to be vague and pessimistic about achieving their goals. The few studies that exist find depression and depressogenic hopelessness about the future to be associated with over-general goals coupled with an inability to provide clear or explicit explanations for why future events will, or will not, happen (Abramson, Metalsky & Alloy, 1989; Byrne & MacLeod, 1997; Kagan, MacLeod & Pote, 2004; Peterson & Seligman, 1984). If depressed people are pessimistic about goal attainment, and they also have vague, over-general future goals which are additionally hampered by an inability to generate clear and specific explanations for why they can, or cannot, attain their goals, this may compound their difficulties in effective goal pursuit and entrench their sense of futility and hopelessness. No research, however, has investigated the specificity of idiographic future goals, or the specificity of causal explanations, for clinically depressed adults.

Goal content studies further suggest that psychological well-being is characterised by a broad repertoire of personal goals, which are not over-valued or conditional upon higher order desires (e.g. happiness, attractiveness) and which are directed towards improving the lives of others in contrast to seeking self-improvement. Thus psychological treatments for depression which encourage the expansion of achievable and rewarding intrinsic goals, within an approach framework and which discourage the perseverative pursuit of unattainable conditional goals, may have the potential to increase well-being.

Previous goals research literature has investigated depression from a largely biomedical stance. While the current researcher has adopted a similar language and perspective to preserve consistency with the previous literature, it is recognised that depression is more than a mere manifestation of cognitive processes. The biomedical emphasis of the reviewed studies neglects the role of adverse life experiences, and the relational and emotional contributions, to the development of depression. The literature adopts a narrow understanding of depression which is confined to the exploration of cognitive processes within the context of goal motivation. The value, meaning, content and specificity, of peoples' personal goals, however, is likely to be uniquely influenced by early experiences, and life and educational opportunities, as well as being culturally determined. Also most studies investigate the specificity of peoples' cognitive processes at 'one point in time' however, it should be recognised that individuals' goal processes may vary with, and adapt to, a range of contexts comprising differing expectations and environments which demand differing goal styles with respect to goal content and goal specificity. Thus particular goal styles may be preferred, or necessary, in differing contexts and therefore a repertoire of goal styles and

explanations which are flexible and adaptive, and at times abstract, rather than specific, may be advantageous in particular settings e.g. with creative and exploratory tasks and environments.

A further limitation to the previous research is the correlational nature of the majority of the studies which preclude conclusions about the causality of cognitive styles and depression. Thus it is not possible to determine whether peoples' cognitive styles contribute to a vulnerability to depression, or whether depression, over time, has a deleterious effect upon cognitive processes.

The current investigation has, however, adopted a similar approach to the investigation of goal processes and depression to retain consistency with the literature. Despite some of the limitations of the previous research, goal research of this type is seen to contribute to an improved understanding of the cognitive processes and motivational goal styles associated with depression. Given the current global economic crisis and the anticipated rise in severe depression, the preliminary goal research findings provide a timely and helpful contribution to informing, and enabling, the delivery of more highly effective and targeted cognitive-based interventions within a climate of reduced psychological resources.

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Chapter 2

DEVELOPMENT OF CODING SCHEMES

Abstract: 187 words

Word count: 3,065 (excluding abstract, tables and references)

ABSTRACT

Background: Coding schemes were developed to code the content and specificity of individuals' idiographic, approach and avoidance goals and the specificity of causal explanations. The coding schemes were developed to be later applied to a data sample collected from clinically depressed and control participants (see Chapter 3).

Method: A British, adult sample of twelve volunteer University of Liverpool employees (7 men, 5 women, age 22 - 56 years) participated in the study. Participants were administered the Goal Task, and the Goal Explanation Task, to generate personal approach goals, and pro-and con-causal explanations, in separate approach and avoidance conditions. Participants' responses were coded by the author and blind independent raters. Two specificity coding schemes; one for goals, and one for causal explanations, were developed. Two further goal content ('Life Domain' and 'Functioning') coding schemes were also developed.

Results : All four coding schemes achieved high inter-rater reliabilities.

Conclusions: In the main study, the four coding schemes developed in the pilot study will be applied to approach and avoidance goals and pro-and con-causal explanations derived from an established data set (Dickson, Moberly, & Kinderman, 2011) comprising depressed and never-depressed adults.

Key words: approach and avoidance goals, causal explanations, coding schemes, goal content, specificity.

2.   Introduction to Development of Coding Schemes

This chapter describes the development of specificity and content coding schemes to be later applied (see Chapter 3) to a larger sample of clinically depressed, and control, adult participants derived from an established data set (Dickson, Moberly, & Kinderman, 2011). The specificity and content of people's personal goals, and the causal explanations given for whether goals will be attained or not, all appear to contribute to the expression, or absence of, well-being. Only a few studies have investigated the specificity of people's personal goals (Carver & Scheier, 1990; Carver & Scheier, 1998; Emmons, 1992) and Dickson and MacLeod's (2004b) study is the only investigation of specificity in the context of idiographic approach and avoidance goals. Until now, no research has explored the specificity of causal explanations. This chapter describes the development of four coding schemes to code, and capture, the specificity and content of personal goals and associated causal explanations. As such this study aims to explore novel aspects of goal processes which will contribute to the literature.

Dickson and MacLeod's investigation of adolescents' approach and avoidance goals coded participants' personal goals as 'specific' (influenced by Williams et al., 1996) if the goal comprised a target feature and a specified, place, time or people (e.g. "to exercise daily at the gym regularly"). A 'moderate' goal merely comprised a target feature (e.g. "to exercise regularly") and a 'general' response reflected a vague or global aim (e.g. "to work hard"). As predicted, Dickson and MacLeod found that the highly depressed adolescents generated less specific (approach and avoidance) goals when compared to controls. It was suggested that, over time, having vague, abstract or

over-general goals may impair goal pursuit and reinforce beliefs of failure and pessimism. There is also evidence that the way in which causal explanations are formulated can also strongly contribute to a pessimistic bias (Byrne & MacLeod, 1997; Kagan, MacLeod, & Pote, 2004; Teglasi & Fagin, 1984) but no research has investigated whether the specificity of people's causal explanations may contribute to depression. Only two studies have explored the causal explanations for idiographic, approach and avoidance goals (Dickson & MacLeod, 2006; Dickson, Moberly & Kinderman, 2011) however these studies do not investigate specificity. Finally, little is known about the content of depressed peoples' personal goals given that the goal content literature is mainly confined to studies of personality.

This first aim of this study, therefore, was to develop specificity coding schemes for idiographic approach and avoidance goals, and causal explanations. The second aim was to develop goal content coding schemes. One coding scheme was developed to code the practical content of personal goals reflecting life 'domains' (e.g. work, hobbies, parenting etc) and a second goal content coding scheme was developed to 'capture' the more relational aspects of participants' personal goals.

2.1   **Method**

2.1.1 **Participants**

The study comprised staff participants recruited from Liverpool University Professional Services. Participants were required to be aged 18-years or older, with a sufficient command of English language, literacy and written fluency to understand,

and complete, the test tasks. A recruitment advertisement was placed on the Announcements webpage of the University of Liverpool Staff Intranet (see Appendix 2). Twelve participants (7 men, 5 women, age 22 - 56 years, $M = 40.8$, $SD = 12.1$) were employed in the study. Ethical approval for the study was obtained by the Institute of Psychology, Health and Society Research Ethics Committee (REC), University of Liverpool (Appendix 3).

2.1.2 **Materials**

FAS Task (Lezak, 1976). An abbreviated version of the FAS task, which has previously been adapted by MacLeod and Conway (2005), is a measure developed to test for written fluency. This version of the FAS requires participants to write down as many words that they can think of starting with the letter 'S" within 90s.

Goal Task (Dickson & MacLeod, 2004a). The Goal Task (see Appendix 4) is designed to elicit individuals' idiographic future approach and avoidance goals, independently. The task requires participants, during a period of 90s, to write down as many goals, relevant to them, that they can think of for both conditions (approach and avoidance). The task explains that the chosen future goals should be important and meaningful to the individual, and could be simple or major goals relating to any aspect of their life (e.g. work, home, leisure, study, finance, family, relationships, health or personal qualities). Approach goals refer to goals that individuals think they will be trying to achieve (e.g. seeking promotion, spending more time with the children) at any time in the future (e.g. this afternoon, next week, month or subsequent few years). To facilitate the generation of approach goals, participants are presented with the prompt;

'*In the future it will be important for me to try to…*' and given 90 s to generate their own personal approach goals, writing each goal on a separate line of a test booklet provided. Avoidance goals refer to goals that individuals think they will be trying to avoid (e.g. avoiding redundancy, avoiding putting on weight) at any time in the future. To facilitate the generation of avoidance goals the participants are presented with the prompt; '*In the future it will be important for me to try to avoid ….*' Participants are then required to choose their two most important approach goals, and their two most important avoidance goals, ranking these goals as 'first' and 'second' in each condition.

Goal Explanation Task (Dickson & MacLeod, 2006). The Goal Explanation Task (see Appendix 4) requires participants to generate reasons, or causal explanations, for why their most important chosen goals, will, and will not, be accomplished or avoided. In this way, each generated goal is represented twice, firstly asking the participant to think of explanations for why their goal would be achieved (pro-reasons), and secondly explanations for why their goal would not be achieved (con-reasons). Pro-reasons for the approach goal are elicited with the prompt; '*Reasons why this would be accomplished…*' and con-reasons for the approach goal are elicited with the prompt; '*Reasons why this would not be accomplished…*'. Pro-reasons for the avoidance goal are elicited with the prompt; '*Reasons why this would be avoided…*' and con-reasons for the avoidance goal are elicited with the prompt; '*Reasons why this would not be avoided…*'. Each task lasts 90s, requiring participants to write down as many pro- and con-explanations for both goal conditions.

Goal Importance Rating Task (Dickson, Moberly, & Kinderman, 2011). The Goal Importance Task (see Appendix 4) requires participants to estimate how important they

judge their approach and avoidance goals to be, using a 7-point Likert scale; a score of '1' being 'not very important' and '7' being 'very important'.

2.2 Procedure

The test task used a similar procedure to that of Dickson, Moberly and Kinderman's (2011) study. Following receipt of consent, participants first performed an abbreviated version of the FAS written fluency task (Lezak, 1976) in which participants were asked to '*write down as many words as they could think of starting with the letter 'S'*' within 90s. Next, participants completed the Goal Task, followed by the Goal Explanation Task comprising four paired exercises designed to measure pro- and con-reasons to explain goal success and goal failure in each goal condition.

2.2.1 Development of Specificity Coding Schemes

Specificity Coding Scheme for Goals

During phase one, all pilot participants' approach and avoidance goal responses were initially coded by the author as being 'general' or 'specific' using a preliminary two-category specificity coding scheme (see Appendix 5) comprising coding instructions and coding examples influenced, in part, by Dickson and MacLeod's (2004b) specificity coding system[1]. Next, a trainee clinical psychologist (who was

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[1] Specificity coding schemes for goals and causal explanations were initially developed comprising 'general', 'moderate' and 'specific' categories (influenced by Dickson and MacLeod, 2004b) but failed to yield good inter-rater reliabilities. The three-category coding schemes (which are not reported in this study) were therefore abandoned.

blind to the hypotheses of the study) independently coded the goals data generated by the first pilot participant using the preliminary goal specificity coding system. Independent coding agreement between the author and the trainee clinical psychologist was calculated using Cohen's Kappa reliability coefficients. Immediately after establishing inter-rater reliability for the first set of data, any coding disagreement arising from unsatisfactory coding definitions, instructions or coding examples, was discussed between the author and independent coder. Necessary modifications and refinements were made to the coding system prior to the independent rater coding the next set of goals data generated by the second pilot participant. This process of independent rating, modification and refinement was repeated for the first four data sets. Agreement between the ratings of the independent coder and those of the author was tested following coding of each of the data sets to calculate inter-rater reliabilities.

The goals specificity coding scheme comprised only two coding categories (general *vs.* specific) and the data sets were very small in number therefore the reliable calculation of kappas is somewhat compromised. The descending list of the twelve pilot data sets (see Table 2.1) represents the 'step-by-step' process of attaining coding agreement for the first data set, followed by the subsequent refinement, and improvement, of the coding scheme, prior to coding the next data set. Subsequent tables represent the same procedure (see Tables 2.5, 2.10 and 2.13). Acceptable or complete inter-rater agreement (see Table 2.1 for all pilot study kappa statistics) was attained using Cohen's Kappa reliability coefficients (Landis & Koch, 1977). P-values demonstrated that all kappas were statistically significant, but with relatively wide confidence intervals, which may indicate that the achieved kappas may not be reliable estimates. When, however, all twelve data sets were combined (n = 134), a near

complete agreement was demonstrated with a narrow, and sound, confidence interval; Kappa = 0.917 (p < 0.001), SE .041, 95% CI (0.837 - 1.0).

Table 2.1

Inter-rater Reliabilities for Goals Specificity with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=8	1.0	.000	2.828	.005	-
n=8	1.0	.000	2.828	.036	-
n=14	.837	.155	3.175	.005	(.533 - 1.0)
n=9	1.0	.000	3.000	.012	-
n=11	1.0	.000	3.312	.003	-
n=14	.851	.142	3.220	.003	(.573 - 1.0)
n=13	1.0	.000	3.606	.001	-
n=14	.863	.136	3.241	.005	(.596 - 1.0)
n=10	1.0	.000	3.162	.022	-
n=13	1.0	.000	3.606	.001	-
n=10	1.0	.000	3.162	.022	-
n=10	1.0	.000	3.162	.022	-

Next, to further test the adequacy of the coding scheme, a 25% sample (n = 3) of pilot participants' goal data sets (randomly generated using SPSS) were again, in stages, coded for specificity by the author and a different independent coder (trainee clinical psychologist) who was blind to both the aims and hypotheses of the study, and to the status of the participants. Prior to coding the randomised sample, minor refinements were made to reduce repetition of detail with respect to the coding instructions and any supplied coding examples, which were not seen to 'add value' or utility to the coding scheme were eliminated. The 25% sample demonstrated either acceptable or complete inter-rater agreement (see Table 2.2) however, the middle data

set (n = 14, see Table 2.1), demonstrated the same kappa value, and wide confidence interval, obtained previously.

Table 2.2

25% Sample of Inter-rater Reliabilities for Goals Specificity with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=8	1.0	.000	2.828	.018	-
n=14	.863	.136	3.241	.005	(.596 - 1.0)
n=10	1.0	.000	3.162	.022	-

A summary of the final version of the goal specificity coding scheme (see Appendix 5) with associated instructions and example participant responses is illustrated in Table 2.3.

Table 2.3

Specificity Coding Scheme for Approach and Avoidance Goals with Example Participant Responses

Code	Coding Examples	Participant Responses
General	An over-general, global, vague or abstract goal.	'Avoid sulking' 'Keep my job' 'Avoid being stressed ' 'Meet my soul-mate'
Specific	The goal must contain an explicit aim target or action and refers to a specific event or occasion, *or* a specific time period *or* a specific place or location *or* specific individual/s	'Finish completing the PDR forms this evening' 'Avoid buying any cycling gear before Christmas' 'Tesco to be full-time job for my husband'

The proportion of over-general goals, compared to specific goals (rated in accordance with the final goal specificity coding scheme) is shown in Table 2.4.

Table 2.4

Goals Coded for Specificity

Goals	Approach	Avoidance
General	57 (69.5%)	32 (61.5%)
Specific	25 (30.5%)	20 (38.5%)
Total	82 (100%)	52 (100%)

Specificity Coding Scheme for Causal Explanations

The procedure for developing the specificity coding scheme for causal explanations was very similar to that for the goal specificity coding scheme. The coding scheme comprised instructions, coding descriptions and example responses, to assist rating of the specificity of generated causal explanations. Because of the greater volume of causal explanations data, during the first phase of coding, one independent rater (a trainee clinical psychologist who had not coded any previous data) coded half of the causal explanations and a second independent rater (a qualified clinical psychologist who also had not taken part in any previous coding) coded the remaining data.

The process of attaining coding agreement and the subsequent refinement of the coding schemes, as the coding procedure progressed, produced consistent improvement in the estimate of the reliability of the obtained kappas as shown by increasingly

narrower, and higher, confidence intervals (see Table 2.5) with the exception of the final data set.

Table 2.5

Inter-rater Reliabilities for Specificity of Causal Explanations with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=30	.706	.158	3.885	.001	(.396 - 1.0)
n=41	.725	.182	4.828	.001	(.368 - 1.0)
n=33	.784	.207	4.614	.006	(.378 - 1.0)
n=45	.789	.204	5.413	.003	(.389 - 1.0)
n=36	.873	.124	5.282	.001	(.630 - 1.0)
n=31	.870	.127	4.887	.001	(.621 - 1.0)
n=45	.877	.121	5.926	.001	(.640 - 1.0)
n=34	.821	.121	4.866	.001	(.584 - 1.0)
n=41	.840	.089	5.472	.001	(.666 - 1.0)
n=25	.884	.113	4.449	.001	(.663 - 1.0)
n=9	1.0	.000	3.000	.012	-
n=41	.844	.152	5.472	.001	(.546 - 1.0)

To further check the adequacy of the coding scheme a 25% sample ($n = 3$) of pilot participants' data sets of causal explanations were coded by the author and a different, blind, independent rater. Consistently sound, and reliable, inter-rater agreement was demonstrated with acceptable confidence intervals (see Table 2.6).

Table 2.6

25% Sample of Inter-rater Reliabilities for Specificity of Causal Explanations with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=25	.884	.113	4.449	.001	(.663 - 1.0)
n=41	.840	.089	5.472	.001	(.666 - 1.0)
n=31	.870	.127	4.887	.001	(.621 - 1.0)

The final version of the specificity coding scheme for causal explanations is summarised below.

Table 2.7

Specificity of Causal Explanations Coding Scheme with Example Participant Responses

Code	Coding Examples	Participant Responses
General	An overgeneral, global, vague or abstract explanation which lacks a concrete, explicit reason for goal being accomplished/avoided	'Because of tiredness' 'Because I spend too much' 'Because I am healthy' 'Because I am strong willed'
Specific	A concrete, explicit and specific explanation which also includes specific context/detail or specific event/occasion or specific time period or specific place/location or specific individual/s	'Because I am paying into a pension and buying a house' 'Because ex stops paying mortgage and I have to pay it' 'Because we are moving to Spain next year'

The proportion of over-general, causal explanations compared to specific, causal explanations (rated in accordance with the final version of the specificity coding scheme) is shown in Table 2.8.

Table 2.8
Causal Explanations Coded for Specificity

Explanations	Approach	Avoidance
General	184 (88%)	161 (79%)
Specific	25 (12%)	42 (21%)
Total	209 (100%)	203 00%)

2.2.2. Development of Goal Content Coding Schemes

Goal Domain Content Coding Scheme

On perusal of all the participants' generated goals, a preliminary Goal Domain content coding scheme was developed by the author which initially identified ten emerging life domains: 'children and parenting', 'adult family relationships', 'sexual/marital relationships', 'personal/psychological', 'quality of life' 'health, diet and fitness', 'leisure', 'financial', 'work/career/study', and 'house and home (practical)', (see Appendix 6). The first set of participants' approach and avoidance goal responses were then coded by the author according to the ten life domain categories. Next, a different trainee clinical psychologist (who was blind to the hypotheses of the study and had not coded any previous data) independently coded the first set of participants' goals. Independent coding agreement between the author and

the trainee clinical psychologist was calculated. Refinements were then made to the coding system prior to both the author and the independent rater coding the next set of pilot participants' generated goal responses according to the refined content coding scheme. This process was repeated until all the pilot participants' goals had been coded by the author and the independent rater.

During the coding agreement and refinement process, the ten 'domain' categories were, in stages, eventually reduced to four key domains as some categories were seen to significantly overlap, while others appeared to contribute little as discrete categories. This process of reducing the ten 'domain' categories, to the final four, is described below. Following coding of the first and second participants' goal responses; 'health, diet and fitness', 'leisure', and 'quality of life' were merged into one broad 'quality of life' category. 'Financial' and 'work/career/study' domains were merged as one category. Goals associated with the 'house and home' themes were found to be better 'captured' by the other domain categories and therefore 'house and home' was not retained as a discrete category. Following coding of the third and fourth participants' data sets, the 'sexual/marital/relationships' category was renamed as 'intimate/sexual/marital relationships' and the 'children and parenting' category was renamed as 'parenting/grand-parenting of children'.

Lastly, on completion of coding of all of the participants' data sets, 'intimate/sexual/marital relationships', 'parenting/grand-parenting of children' and 'adult family relationships' were merged as one generic 'relationships' category, as retention of these discrete categories was not seen to add to the narrative. The final version of the Goal Domain content coding scheme, therefore, comprised four domain

categories: 'relationships, 'personal/psychological', 'quality of life', and 'work/study/financial'. The final coding scheme is shown in Table 2.9.

Table 2.9

Goal Domain Content Coding Scheme with Example Participant Responses

Code	Participant Responses
Relationships	'Be nicer to my kids'
	'Avoid distancing myself from family'
	'Be a good friend to my husband'
Personal/psychological	'Avoid constantly criticising myself'
	'Be a good person'
	'Like myself more'
Quality of Life	'Avoid working all hours'
	'Take up art classes'
	'Attend the gym regularly'
Work/Study/Financial	'Get my promotion'
	'Avoid not revising for my exams'
	'Keep my credit card at home'

The 'step-by-step' process of attaining inter-rater coding agreement for each data set, followed by the subsequent refinement of the coding scheme, demonstrated (despite the small size of the data sets) acceptable to complete inter-rater agreement (see Table 2.10). All kappas were highly significant with increasing improvement in the reliability of the kappa estimates evidenced by subsequent narrower, and higher, confidence intervals.

Table 2.10

Inter-rater Reliabilities for Goal Domain Categories with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=8	1.0	.000	5.439	.001	-
n=8	.843	.137	5.412	.001	(.574 - 1.0)
n=14	.813	.120	5.795	.001	(.578 - 1.0)
n=9	.852	.133	4.699	.001	(.591 - 1.0)
n=11	.869	.126	4.622	.001	(.622 - 1.0)
n=14	.821	.117	6.398	.001	(.592 - 1.0)
n=13	.889	.103	4.914	.001	(.687 - 1.0)
n=14	.877	.114	4.318	.001	(.654 - 1.0)
n=10	1.0	.000	5.785	.001	-
n=13	1.0	.000	6.245	.001	-
n=10	.86	.131	4.517	.001	(.603 - 1.0)
n=10	1.0	.000	4.749	.001	-

To further check the adequacy of the coding scheme, a 25% sample (*n* = 3) of pilot participants' goals sets were coded (using the final four-category coding scheme, see Table 2.9) by both the author and an additional blind independent rater (who had not previously participated in the coding of any data). Acceptable inter-rater agreement was retained for the 25% sample (see Table 2.11).

Table 2.11

25% Sample of Inter-rater Reliabilities for Goal Domain Categories with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=8	1.0	.000	5.449	.001	-
n=14	.888	.108	4.633	.001	(.676 - 1.0)
n=10	1.0	.000	5.795	.001	-

Goal Functioning Content Coding Scheme

Participants' goals were also observed to strongly reflect qualitative aspects of relational 'functioning'. Therefore, a second goal content coding scheme was developed to 'capture' the relational functioning underpinning the 'domain' goals. The Goal Functioning content coding scheme comprised three categories[2] 'self-functioning', 'interpersonal functioning' and 'pragmatic functioning' (see Table 2.12). 'Self-functioning' goals are associated with individuals' personal, emotional and psychological functioning, 'interpersonal functioning' reflects goals associated with interpersonal and relationship functioning and 'pragmatic functioning' refers to goals which simply describe the concrete, practical aspects of life and relationships. Thus goals that have been firstly coded according to the Goal Domain content coding scheme can be further coded according to the more qualitative themes of relational functioning.

For example, according to the Goal Domain content coding scheme (see Table 2.9) the goals: 'avoid always destroying all of my relationships', 'avoid me and my husband rowing constantly' and 'have the kids tonight' would all be coded under the same category of '*relationships*'. When the same goals, however, are further coded according to the Goal Functioning content coding scheme (see Table 2.12); 'avoid always destroying all of my relationships' would be coded as '*self-functioning*' as the relational emphasis of the goal primarily reflects the nature of the *individual's self-functioning* within the context of relationship difficulties. 'Avoid me and my husband

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[2] Initially a 'Functioning' goal content coding scheme was developed comprising five categories however this failed to yield good inter-rater reliabilities. The five category-coding system (which is not reported on) was therefore abandoned.

rowing constantly' implies that the relational dysfunction is shared and reciprocal and is thus reflective of '*interpersonal functioning*'. 'Have the kids tonight' is coded as '*pragmatic functioning*' as this goal represents a concrete and practical aim which does not imply relational themes of 'self' or 'interpersonal' functioning or dysfunctionality. The final coding scheme is shown in Table 2.12.

Table 2.12

Goal Functioning Content Coding Scheme with Example Participant Responses

Code	Coding Examples	Participant Responses
Self-Functioning	Goals associated with individuals' personal, emotional, psychological Functioning	'Avoid being unhappy' 'Be a nicer person' 'Avoid getting upset by the past'
Interpersonal Functioning	Goals associated with interpersonal and relationship functioning	'Have happy times with my children' 'Avoid nagging my husband' 'Be more generous to friends'
Pragmatic Functioning	Goals associated with practical aspects of life and relationships	'Take Nan out on Sunday' 'Avoid missing the dentists' 'Get the car fixed'

The previous procedure for independent coding was followed. Despite the small size of the data sets, the Goal Functioning content coding scheme comprising three coding categories, achieved either acceptable, or complete, inter-rater agreement (see Table 2.13). All kappas were significant (with the exception of the first data set) and the confidence intervals suggest that the kappas obtained are relatively reliable estimates.

Table 2.13

Inter-rater Reliabilities for Goal Functioning Categories with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=8	1.0	.000	2.828	.125	-
n=8	1.0	.000	2.828	.018	-
n=14	.888	.108	4.633	.001	(.676 - 1.0)
n=9	1.0	.000	3.000	.028	-
n=11	.867	.130	4.081	.001	(.612 - 1.0)
n=14	.874	.108	4.630	.001	(.662 - 1.0)
n=13	.867	.127	4.322	.001	(.618 - 1.0)
n=14	.863	.121	3.612	.001	(.626 - 1.0)
n=10	1.0	.000	3.162	.022	-
n=13	.872	.122	4.240	.001	(.633 - 1.0)
n=10	1.0	.000	3.162	.005	-
n=10	1.0	.000	3.162	.022	-

Coding of the 25% sample ($n = 3$) of pilot participants' goals data sets retained strong inter-rater agreement (see Table 2.14).

Table 2.14

25% Sample of Inter-rater Reliabilities for Goal Functioning Categories with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=8	1.0	.000	2.828	.005	-
n=14	.863	.121	3.612	.001	(.626 - 1.0)
n=10	1.0	.000	3.162	.022	-

2.3 Further Findings

All four coding schemes demonstrated high inter-rater reliabilities. Table 2.4 shows that participants generated more approach goals ($n = 82$) than avoidance goals ($n = 52$), however, there was little difference between the number of causal explanations generated for approach goals ($n = 209$) and avoidance goals ($n = 203$). No cross category goals were found in either direction i.e. 'to avoid putting on weight' being wrongly generated by the participant as an approach, rather than an avoidance, goal.

In relation to specificity, for both approach and avoidance conditions, participants generated a higher proportion of over-general goals compared to specific goals, and a higher proportion of over-general causal explanations relative to specific causal explanations. For both goals and causal explanations, a higher proportion of specific responses were generated in the avoidance condition compared to the approach condition. Two-tailed Chi-squared analyses revealed no significant difference between Goal Type (approach and avoidance) and specificity (general *vs.* specific), $\chi^2 (1) = 0.85$, $p > .05$, (see Table 2.4). A significant difference was found, however, between causal explanations (approach and avoidance) and specificity, $\chi^2 (1) = 5.76$, $p = .016$, (see Table 2.8).

In the approach condition (see Table 2.15) two-tailed Fisher's exact tests revealed significant differences in the total number of 'Domain' goals generated by the pilot participants for 'Self-functioning' *vs.* 'Interpersonal functioning', $p < .0001$, 'Self-functioning' *vs.* 'Pragmatic functioning', $p < .0001$, and 'Interpersonal functioning' *vs.*

'Pragmatic functioning', p <.0001. Participants generated the highest overall proportion of 'Personal' goals x 'Self-functioning' followed by 'Work/Study/Financial' goals x 'pragmatic functioning'. Overall, 'Quality of life' goals were few.

Table 2.15

'Domain' by Functioning Approach Goals

Code	Self	Interpersonal	Pragmatic	Total
Relationships	1 (1.2%)	14 (16.9%)	7 (8.4%)	22 (26.5%)
Personal/Psychological	27 (33.7%)	2 (2.4%)	1 (1.2%)	30 (37.3%)
Quality of Life	4 (4.8%)	0	1 (1.2%)	5 (6.0%)
Work/Study/Financial	2 (2.4%)	0	23 (27.7%)	25 (30.1%)
Total	34 (42.1%)	16 (19.3%)	32 (38.5%)	82 (100%)

Note: Self = Self-functioning, Interpersonal = interpersonal functioning, Pragmatic = Pragmatic functioning.

In the avoidance condition (see Table 2.16), two-tailed Fisher's exact tests revealed significant differences between the total number of 'Domain' goals generated for 'Self-functioning' *vs*. 'Interpersonal functioning', p <.0001, 'Self-functioning' *vs*. 'Pragmatic functioning', p < .001, and 'Interpersonal' *vs*. 'Pragmatic functioning', p < .0001.

Table 2.16

'Domain' by 'Functioning' Avoidance Goals

Code	Self	Interpersonal	Pragmatic	Total
Relationships	1 (1.9%)	9 (17.0%)	1 (1.9%)	11 (20.8%)
Personal/Psychological	12 (22.6%)	1 (1.9%)	7 (13.2%)	20 (37.7%)
Quality of Life	10 (18.9%)	0	0	10 (18.9%)
Work/Study/Financial	2 (3.8%)	0	9 (18.9%)	11 (22.6%)
Total	25 (47.2%)	10 (18.9%)	17 (33.9%)	52 (100%)

Note: Self = Self-functioning, Interpersonal = interpersonal functioning, Pragmatic = Pragmatic functioning.

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Chapter 3

MAIN INVESTIGATION:

CLINICAL DEPRESSION:

SPECIFICITY OF PERSONAL GOALS AND CAUSAL

EXPLANATIONS, AND GOAL CONTENT

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ABSTRACT

Background: There is little research investigating the goal processes of clinically depressed adults. Goal motivational factors alone do not fully account for depression and having vague future goals is thought to contribute to depression. Only one study, using a non-clinical adolescent sample, has explored the specificity of idiographic approach and avoidance goals and no specificity research exists for causal explanations. This study seeks to extend the goal theory literature by investigating the specificity of clinically depressed adults' idiographic approach and avoidance goals and the specificity of their associated causal explanations. The content of depressed adults' personal goals is also explored.

Method: Specificity and coding content schemes for personal goals and causal explanations were applied to an established data set comprising adult, clinically depressed ($n = 21$) and control samples ($n = 24$).

Results: Participants generated, overall, more over-general approach goals than avoidance goals. As predicted, depressed participants compared to controls, generated more over-general goals than specific goals. Depressed adults also generated more over-general causal explanations than controls for all types of reasons and goals, except pro-reasons for avoidance goals. With respect to goal content, depressed participants' generated significantly more 'Personal/Psychological' goals than controls in both the approach and avoidance conditions, and significantly fewer 'Quality of Life' avoidance goals than controls. The depressed group also generated significantly more 'Self-functioning' goals in both approach and avoidance conditions compared to controls.

Conclusions: Adults with clinical depression appear to be markedly compromised by; their difficulty in formulating specific goals, the content and quality of their goals, and their difficulty in formulating specific reasons for goal accomplishment. Findings from this study provide practical implications for developing more effective cognitive treatments for clinical depression.

Key words: approach and avoidance goals, causal explanations, depression, goal content, motivation, specificity

3.   **Introduction to Main Investigation**

Goal theorists have only recently become interested in the motivational systems underpinning, and contributing to, depressive vulnerability and depression (Dickson & MacLeod, 2004a; Dickson & MacLeod, 2004b; Dickson & MacLeod, 2006; Dickson, Moberly, & Kinderman, 2011; Vergara & Roberts, 2011). Cognitive interventions also fail to acknowledge goal motivational processes in the treatment of depression.

Goal motivational theories of depression commonly derive from biological and neurophysiological models conceptualising approach and avoidance mechanisms of mood and emotional disorders (e.g. Davidson, Pizzagalli, Nitschke, & Putnam, 2002; Gray, 1982). Gray's model of motivation, informed by behavioural reward and punishment, comprises the behavioural activation system (BAS) which is highly sensitised to reward and avoidance of punishment cues and is associated with feelings of elation, hope, and happiness. The behavioural inhibition system (BIS) is highly sensitised to cues of reward, punishment and novel experiences, and is associated with fear, sadness and anxiety. Fowles (1988; 1994) theoretically applied Gray's model to the clinical domain, proposing that anxiety and depression are both associated with high BIS, while depression is additionally associated with low BAS. Surprisingly, until recently, cognitive research has failed to acknowledge the importance of goal motivational mechanisms and their contribution to depression.

Adolescent goal studies have explored dysphoria within the context of idiographic, approach and avoidance goal motivation (Dickson & MacLeod; 2004a; Dickson & MacLeod, 2004b; Dickson & MacLeod, 2006). The two analogue studies

found that dysphoria is associated with a deficit in approach motivation, but counter to prediction, there was no evidence of increased avoidance motivation (Dickson & MacLeod; 2004a; Dickson & MacLeod, 2004b). Dickson and MacLeod's (2006) study, however, in support of Fowles, found that dysphoric adolescents generated more avoidance goals and fewer approach goals, compared to controls. The only investigation of clinically depressed adults' idiographic goal (Dickson, Moberly, & Kinderman, 2011) found no difference between the number, and importance of, approach and avoidance goals generated by depressed and never-depressed participants. These few studies, while demonstrating mixed findings, provide some evidence to contradict the received wisdom (particularly prevalent amongst clinicians) that depression is primarily characterised by a pervasive absence of goal motivation. It would seem that motivation, alone, cannot explain depression. Other cognitive factors, which may differ between adolescents and adults, appear to contribute to the vulnerability to, and expression of, depression.

Depression has long been known to be strongly associated with over-general autobiographical memory (Moore, Watts, & Williams, 1988; Williams & Scott, 1988) and goals research finds that depression also appears to be associated with over-general future goals. Abstract or vague personal goals are found to be associated with low mood and depression (Carver & Scheier, 1990; Carver & Scheier, 1998; Emmons, 1992), while specific goals appear more effective in regulating goal actions (Locke, 2002) goal attainment and goal performance (Campion & Lord, 1982; Locke, Shaw, Saari, & Latham, 1981). Only one study, however, has investigated the specificity of idiographic, future approach and avoidance goals (Dickson & MacLeod, 2004b) which found that high depressed ($n = 25$) and comorbid ($n = 30$) adolescents, when compared

to controls (*n* = 30), were more over-general in forming their approach and avoidance goals and less specific in forming plans. Dickson and MacLeod hypothesise that if depressed individuals are less specific in formulating both their goals and plans, this cognitive pattern is likely to impair successful long-term goal pursuit and increase their experience of depression. What is not known is whether adolescents and clinically depressed adults share similar cognitive-related goal processes.

The way in which causal explanations are formulated also appear to strongly contribute to depression and hopelessness (Abramson, Metalsky, & Alloy, 1989; Teglasi & Fagin, 1984). Depression appears to be associated with a poor ability to consider reasons why future events are likely, or not, to happen (Byrne & MacLeod, 1997; Kagan, MacLeod, & Pote, 2004) and this in combination with experiencing actual negative events, is thought to increase vulnerability to depression (Peterson & Seligman 1984). Depressed and anxious individuals have also been found to generate more reasons for negative events happening, than against, rating negative events as more likely to occur, when compared to controls (MacLeod, Tata, Kentish, Carroll & Hunter, 1997). Only two studies, however, have investigated causal explanations for idiographic, approach and avoidance goals. Dickson and MacLeod, (2006) found that dysphoric adolescents, compared to controls, generated more causal explanations for the non-attainment of goals, and fewer explanations for attaining both approach and avoidance goals, which is suggestive of a pessimistic approach to goal attainment. Dickson, Moberly and Kinderman's (2011) investigation of clinically depressed adults found that never-depressed participants were more optimistic in generating significantly more pro-, than con-causal, explanations for the attainment of future personal goals compared to the depressed group. No research, however, has investigated the

specificity of clinically depressed adults' approach and avoidance goals and causal explanations. It is anticipated that if depressed people's over-general goals lead to ineffective goal pursuit, poor attainment and experiences of failure, and in addition, their reasons for attaining or avoiding their goals are also vague, then they are likely to be 'doubly jeopardised'. Having vague future goals as well as vague reasons for why their goals are likely to be attainable or non-attainable, is seen to increase the individual's experience of hopelessness and depression. Lastly, there is a lack of clinical research with regard to the goal content of clinically depressed adults.

This chapter describes the application of specificity and content coding schemes (see Chapter 2) to an established data set (Dickson et al., 2011) comprising data derived from clinically depressed and never-depressed adults. It is acknowledged that the use of an established data set limited the current investigator's scope and ability to control aspects of the study and exercise decisions with regard to participant inclusion criteria.

This is the first study to investigate the content and specificity of clinically depressed adults' idiographic, future approach and avoidance goals, and also the first study investigating the specificity of causal explanations.

3.1 **Main Investigation Hypotheses**

1) It is predicted that depressed individuals will be less specific in describing both their approach goals and avoidance goals than controls.

2)   It is predicted that depressed individuals will be less specific in describing their

causal explanations for both goal achievement (pro-reasons) and goal non-

achievement (con-reasons) than controls.

Given the lack of theoretical and empirical literature in relation to the content and

themes of personal goals with respect to depression, this research study also explores if

the content of approach and avoidance goals differs between clinically depressed and

never-depressed adults.

3.2   **Method**

3.2.1 **Design**

This study comprised a cross-sectional design. The aim of the study was to

investigate a possible relationship between depression and the generation of over-

general goals and over-general causal explanations. Mixed ANOVAs were conducted

on the number of over-general and specific goals, respectively, with a within-subjects

factor of Goal Type (approach vs. avoidance) and a between-subjects factor of Group

(depressed vs. controls). Mixed ANOVAs were also conducted on the number of over-

general and specific causal explanations, respectively, with a between-subjects factor of

Group (depressed *vs*. controls) and two within-subjects factor of Goal Type (approach

vs. avoidance) and Reason Type (pro-reasons *vs*. con-reasons).   The relationship

between goal content and age was explored using Spearman's correlation tests, and goal

content and gender was explored using Mann-Whitney tests. The number of goal

content categories generated by the depressed, compared to, control participants were

tested for significance using either two-tailed Chi-squared analyses or two-tailed Fisher's exact tests.

3.2.2 **Participants**

The established data set (Dickson, Moberly & Kinderman, 2011) comprised a clinical sample of eight men and thirteen women ($n = 21$, aged 19-74 years, $M = 37.9$; $SD = 17.1$) recruited from National Health Service (NHS) Mental Health and Primary Care Trusts located in the North West of England. The control sample comprised seven men and seventeen women ($n = 24$, aged 18-81 years, $M = 31.17$; $SD = 17.8$) recruited from a community sample (e.g. G.P. surgeries and various leisure and social clubs). Depressed participants were required to demonstrate a current major depressive episode (MDE) as assessed by the Structured Clinical Interview for DSM-IV Axis 1 Disorders (SCID-1; First, Spitzer, Gibbon, & Williams, 2002). Additionally participants were required to score within the symptomatic range of depression (>13) as defined by the Manual for the Beck Depression Inventory–II (BDI-II; Beck, Steer, & Brown, 1996) both at the time of SCID-1 administration (Time 1) and also following the testing phase (Time 2) approximately 24 - 48 hours later. The control group comprised participants who failed to meet the criteria for a current major depressive episode (MDE) and had never in their lifetime met the criteria for major depression or any other Axis I, or Axis II, disorders, and also scored within the BDI-II asymptomatic range (<14) on Time 1 and 2. Any participants with head injury, substance misuse or learning and literacy impairment were excluded.

3.2.2.1 Power Analysis

Dickson et al.'s (2011) original study (n = 49) found large effects when comparing depressed (n = 23) and never-depressed (n = 26) participants' personal approach and avoidance goals and causal explanations. It was, therefore, anticipated that the current study (n = 45) would detect at least medium to large effects given the similar sample size[3] of depressed (n = 21) and never-depressed (n = 24) participants.

3.2.3 Materials

FAS Task (Lezak, 1976), as described in Chapter 2.

Goal Task (Dickson & MacLeod, 2004a), as described in Chapter 2.

Goal Explanation Task (Dickson & MacLeod, 2006), as described in Chapter 2.

Goal Importance Rating Task (Dickson, Moberly, & Kinderman, 2011), as described in Chapter 2.

For descriptions of the above measures see Chapter 2 (pp. 48-50).

Structured Clinical Interview for DSM-IV Axis 1 Disorders (SCID-1; First, Spitzer, Gibbon, & Williams, 2002) is a commonly used tool for research and clinical purposes by those who have received prior training in using the SCID-1. The SCID-1 maps on to DSM-IV Axis 1 mental illness disorders and is used to determine whether discrete psychiatric disorders are present, subthreshold, or absent. The SCID-1 demonstrates high levels of reliability with Kappa scores of K = .80 for major depressive disorder (Zanarini et al., 2000) and high validity (Basco et al., 2000).

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[3] The sample size for the current study is slightly smaller than Dickson et al.'s (2011) original study due to missing data.

Beck Depression Inventory, Second Edition (BDI-II; Beck, Steer, & Brown, 1996) is a 21-item self-report screening measure assessing symptoms of depression. The BDI-II recommends the following scoring thresholds; 0-13 = minimal depression; 14-19 = mild, 20-28 = moderate and 29-63 = severe depression. The BDI-11 has excellent psychometric properties with high validity and reliability when comparing clinical and non-clinical samples, with a test-retest reliability of .93 (Beck et al., 1996) and an internal consistency of α = .89 (Whisman, Perez, & Ramel, 2000). Alpha reliabilities for the current investigation were .91 (Time 1) and .92 (Time 2) with a test-retest reliability score of .96.

3.2.4   **Procedure**

Participants were administered the SCID-1 (First, Spitzer, Gibbon, & Williams, 2002) and the BDI-11 (Beck, Steer, & Brown, 1996) at least one day prior to administration of the test tasks. For the test tasks, participants were administered an abbreviated version of the FAS task (Lezak, 1976) to assess for written fluency and to also act as an 'ice-breaker' and practice trial, followed by the Goal Task, the Goal Explanation Task and the Goal Importance Rating Task (see Appendix 4) using the same procedure described in Chapter 2. The Goal Task and Goal Explanation Task exercises were counterbalanced (across four task sequences) to protect against any ordering, fatigue or practice effects. The BDI-II was repeated, as part of the test tasks, to ensure that participants' depression scores remained within the appropriate clinical, or non-clinical ranges for controls, on both pre- and post-testing.

3.3. **Coding Schemes**

All depressed and control participants' generated responses (goals and causal explanations) were coded according to the relevant coding schemes developed in the previous study (see Chapter 2). The coding schemes comprised; two specificity coding schemes (for goals and causal explanations) and two ('domain' and 'functioning') goal content coding schemes. The author, and four trainee clinical psychologists (one for each of the coding schemes), who were blind to the aims and hypotheses of the study, and to the status of the participants, acted as independent co-raters. For each of the coding schemes the author, and one of the co-raters, coded randomly selected (using SPSS) data sets comprising 25% of the goals and causal explanations generated by the depressed and control participants. Table 3.1 (and all subsequent tables showing inter-rater reliabilities) represents the 'step-by-step' process of attaining coding agreement for each of the randomly selected data sets in both the control and depressed conditions.

Table 3.1

Inter-rater Reliabilities for Goals Specificity in the Control Condition with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=16	.875	.120	3.528	.001	(.640 - 1.0)
n=16	.887	.110	4.179	.001	(.671 - 1.0)
n=12	1.0	.000	3.464	.015	-
n=16	.862	.132	3.482	.002	(.603 - 1.0)
n=19	.894	.103	3.918	.001	(.692 - 1.0)
n=15	.865	.129	3.381	.001	(.612 - 1.0)

Despite the small size of the data sets, coding of the goal specificity data in both the control condition (see Table 3.1) and the depressed condition (see Table 3.2)

demonstrated acceptable, or complete, agreement. All kappas were statistically significant, however, the confidence intervals suggest that the obtained kappas may be less reliable estimates for the control condition while being reasonably reliable for the depressed condition.

Table 3.2

Inter-rater Reliabilities for Goals Specificity in the Depressed Condition with 95%
Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=12	1.0	.000	3.460	.015	-
n=15	.867	.127	3.389	.001	(.618 - 1.0)
n=19	1.0	.000	4.359	.001	-
n=9	1.0	.000	3.000	.01	-
n=14	.863	.136	3.241	.005	(.596 - 1.0)

The causal explanations data sets (see Tables 3.3 and 3.4) comprised larger sample sizes achieving acceptable, or complete, inter-rater agreement in both the control condition and the depressed condition.

Table 3.3

Inter-rater Reliabilities for Specificity of Causal Explanations in the Control Condition
with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=26	.843	.105	4.354	.001	(.637 - 1.0)
n=37	.892	.074	5.425	.001	(.747 - 1.0)
n=18	.870	.126	3.721	.001	(.623 - 1.0)
n=20	.898	.099	4.037	.001	(.704 - 1.0)
n=21	.890	.103	3.921	.001	(.688 - 1.0)
n=27	.824	.113	4.347	.001	(.603 - 1.0)

With the exception of one data set (see Table 3.4) all kappas were highly significant with narrow, and relatively high, confidence intervals suggesting that the achieved kappas are reliable estimates.

Table 3.4

Inter-rater Reliabilities for Specificity of Causal Explanations in the Depressed Condition with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=20	.900	.099	4.040	.001	(.706 - 1.0)
n=33	.836	.111	4.867	.001	(.618 - 1.0)
n=12	1.0	.000	3.464	.015	-
n=24	.86	.132	4.271	.001	(.601 - 1.0)
n=40	.867	.091	5.533	.001	(.689 - 1.0)

The goal domain coding scheme, which comprised four coding categories, (despite the small size of the data sets) demonstrated strong inter-rater agreement for the goal domains generated in both the control condition (see Table 3.5) and in the depressed condition (see Table 3.6). All kappas were significant and the confidence intervals suggest that the kappas obtained are reliable estimates.

Table 3.5

Inter-rater Reliabilities for Goal Domains in the Control Condition with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=15	.903	.092	5.747	.001	(.723 - 1.0)
n=13	.889	.103	4.914	.001	(.687 - 1.0)
n=8	1.0	.000	4.680	.002	-
n=16	.913	.084	6.184	.001	(.748 - 1.0)
n=9	1.0	.000	3.000	.003	-
n=12	1.0	.000	5.540	.001	-

Table 3.6

Inter-rater Reliabilities for Goal Domains in the Depressed Condition with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=9	1.0	.000	3.000	.012	-
n=15	.900	.094	5.457	.001	(.716 - 1.0)
n=19	.840	.105	5.246	.001	(.634 - 1.0)
n=14	.897	.100	5.294	.001	(.701 - 1.0)
n=15	.880	.111	4.340	.001	(.662 - 1.0)

Finally, despite the small size of the data sets, the goal functioning content schemes comprising three coding categories demonstrated acceptable, or complete, inter-rater agreement for goals generated in both the control condition (see Table 3.7) and in the depressed condition (see Table 3.8). All kappas were significant with the exception for one data set (n = 8, see Table 3.7) which is small in size.

Table 3.7

Inter-rater Reliabilities for Goal Functioning in the Control Condition with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=15	1.0	.000	5.440	.001	-
n=13	.872	.122	4.240	.001	(.633 - 1.0)
n=8	1.0	.000	2.828	.035	-
n=16	.870	.124	4.191	.001	(.627 - 1.0)
n=9	1.0	.000	3.000	.003	-
n=12	.860	.134	4.072	.001	(.597 - 1.0)

Confidence intervals suggest that the achieved kappas are reasonably reliable estimates for the control condition, while demonstrating sounder reliability for the depressed condition.

Table 3.8
Inter-rater Reliabilities for Goal Functioning in the Depressed Condition with 95% Confidence Intervals

Items	Kappa	S.E.	T-value	P-value	C.I.
n=9	1.0	.000	3.889	.003	-
n=15	.900	.096	4.963	.001	(.712 - 1.0)
n=19	.915	.083	5.342	.001	(.752 - 1.0)
n=14	.892	.103	4.747	.001	(.690 - 1.0)
n=15	1.0	.000	5.403	.001	-

3.4   **Results**

Introduction to Data and Preliminary Analysis

Two-tailed t-tests found that age did not significantly vary between the depressed participants (M = 37.90, SD = 17.09) and controls, (M = 31.17, SD = 17.73), $t(42)$ = -1.28, p >.05, nor did written fluency significantly vary between the depressed participants (M = 16.57, SD = 6.30) and controls (M = 19.79, SD = 5.39; $t(43)$ = 1.85, p = .07). Chi-squared analysis also revealed no significant difference in the proportion of men and women in the depressed and never-depressed groups, χ^2 (1), = .40, p >.05, two-tailed.

Next age and gender were explored with respect to specificity for the whole sample (controls and depressed combined). A Pearson's correlation test revealed that age was not significantly correlated with mean specificity of goals, $r = .26$, $p > .05$ or with mean specificity of causal explanations, $r = -.051$, $p > .05$. Two-tailed t-tests also found that men ($M = 2.36$, $SD = .47$) did not significantly differ to women ($M = 2.43$, $SD = .54$) on mean goal specificity, $t(43) = -.46$, $p > .05$, nor did men ($M = 5.55$, $SD = .55$) differ significantly from women ($M = 5.65$, $SD = .92$) on mean specificity of causal explanations, $t(43) = -.39$, $p > .05$.

Age and gender were further explored with respect to goal content for the whole sample. For 'Domain' content, Spearman's correlation tests demonstrated a significant relationship between age and 'Work/Study/Financial' approach goals ($r = -.53$, $p < .001$). No other goal 'Domains', in either approach or avoidance conditions, were significantly correlated with age. Mann-Whitney tests revealed no significant relationship between gender and goal 'Domains' in either the approach or avoidance conditions (all p's $> .05$). With respect to goal 'Functioning', Spearman's correlation tests found no relationship between age and goal 'Functioning' (all p's > 0.5), however, 'Pragmatic' avoidance goals neared significance, $r = -.29$, $p = .053$. Mann-Whitney tests also found no significant relationship between gender and goal 'Functioning' (all p's > 0.5).

An analysis of the number and importance of approach and avoidance goals was also calculated. A preliminary mixed ANOVA was conducted with a within-subjects factor of Goal Type (approach *vs*. avoidance) and a between-subjects factor of Group (depressed *vs*. controls) on the number of personal goals generated by participants.

There was no significant main effect of Group or of a significant Group-by-Goal Type interaction (Fs < 1.1). There was, however, a significant main effect of Goal Type, demonstrating that participants generated more approach goals (M = 6.20, SD = 2.34) than avoidance goals (M = 4.89, SD = 1.91), $F(1, 43)$ = 18.05, p >.001, η^2_p = .30. A similar mixed ANOVA on mean goal importance revealed no significant main effect of Goal Type, $F(1, 41)$ = 2.58, p = .12, η^2_p = .06, no significant main effect of Group, F < 1, and no significant Group-by-Goal Type interaction, $F(1, 41)$ = 1.66, p = .21, η^2_p = .04.

Thus, in summary, the depressed and never-depressed groups did not significantly differ with respect to age, gender, written fluency, or the number, or rated importance, of their personal goals.

The next section reports on all other findings for; goal specificity, specificity of causal explanations and lastly, goal content.

3.4.1 Goal Specificity

Hypothesis 1: Depressed individuals will be less specific in describing their approach goals and avoidance goals compared to controls.

Number of General and Specific Goals

A mixed ANOVA was conducted with factors of Goal Type (approach *vs.* avoidance) and Group (depressed *vs.* controls) on the number of general goals. Results

showed a main effect of Goal Type, $F(1, 43) = 9.89$, $p = .003$, $\eta^2_p = .19$, with more general goals reported in the approach condition ($M = 5.11$, $SD = 2.70$) than in the avoidance condition ($M = 3.98$, $SD = 2.38$). As predicted, a significant main effect of Group, $F(1, 43) = 5.69$, $p = .02$, $\eta^2_p = .12$, demonstrated that depressed participants reported a greater number of general goals ($M = 10.71$, $SD = 4.48$) than controls ($M = 7.67$, $SD = 4.08$). There was no significant Group-by-Goal Type interaction ($F < 1$). Table 3.9 presents descriptive statistics for the number of general and specific goals.

Table 3.9

Mean (SD) Number of General and Specific Approach and Avoidance Goals by Group

	Approach Goals		Avoidance Goals	
Group	General	Specific	General	Specific
Depressed	5.90 (2.88)	0.52 (0.75)	4.81 (2.36)	0.43 (0.68)
Controls	4.42 (2.38)	1.58 (1.41)	3.25 (2.19)	1.21 (1.02)

A similar mixed ANOVA was also conducted with factors of Goal Type (approach *vs*. avoidance) and Group (depressed *vs*. controls) on the number of specific goals. There was no significant main effect of Goal Type, $F(1, 43) = 2.15$, $p = .15$, $\eta^2_p = .05$, or for Group by Goal interaction, $F < 1$, however, as predicted, there was a main effect of Group, $F(1, 43) = 12.45$, $p = .001$, $\eta^2_p = .22$. Thus in support of the hypothesis, control participants generated a greater overall number of specific goals ($M = 2.79$, $SD = 2.08$) than depressed participants ($M = 0.95$, $SD = 1.24$).

3.4.2 **Causal Explanations**

Hypotheses 2: Depressed individuals will be less specific in describing their causal explanations for both goal achievement (pro-reasons) and goal non-achievement (con-reasons) than controls.

Number of Pro- and Con-reasons for Goal Attainment

A mixed ANOVA was conducted with a within-subjects factor of Goal Type (approach *vs.* avoidance), a within-subjects factor of Reason (pro-reasons *vs.* con-reasons) and a between-subjects factor of Group (depressed *vs.* controls) on the number of causal explanations. There was no significant main effect of Goal Type, $F(1, 43) = 2.55$, p $= .12$, $\eta^2_p = .06$, and no significant main effect of Group, $F < 1$. There was, however, a significant main effect of Reason (pro *vs.* con), $F(1, 43) = 6.71$, $p = .01$, $\eta^2_p = .13$, and a Group-by-Reason interaction, $F(1, 43) = 7.46$, $p = .009$, $\eta^2_p = .15$. A two-tailed t-test revealed no significant group differences on the number of pro ($t(43) = .35$, $p > .05$) or con-reasons ($t(43) = 1.40$, $p = .09$). Controls however generated significantly more pro ($M = 17.42$, $SD = 5.63$) than con-reasons ($M = 13.83$, $SD = 6.13$) whereas depressed persons did not differ significantly ($F < 1$) on the number of pro ($M = 16.76$, $SD = 6.98$) and con-reasons ($M = 16.67$, $SD = 7.42$). No other effects were significant (all Fs < 2). Thus while controls generated more pro- than con-reasons for goal attainment, the depressed group did not.

Mean Number of General and Specific Causal Explanations for, and against, Goal Attainment

A two-tailed t-test revealed that depressed and control participants generated proportionately fewer specific pro-reasons than controls for approach goals, $t(43) = 4.69$, $p = .001$, but not for avoidance goals, $t(43) = 1.29$, $p = .20$. A mixed ANOVA with a between-subjects factor of Group (depressed $vs.$ controls) and two within-subject factors of Goal Type (approach $vs.$ avoidance) and Reason Type (pro-reasons $vs.$ con-reasons) was then conducted on the mean number of general causal explanations. There was a significant main effect of Goal Type, $F(1, 43) = 4.27$, $p = .04$, $\eta^2_p = .09$, indicating that overall participants generated a greater mean number of general explanations for approach goals ($M = 5.13$, $SD = 3.04$) than they did for avoidance goals ($M = 4.71$, $SD = 2.84$). As predicted, there was a significant main effect of Group, $F(1, 43) = 5.85$, $p = .02$, $\eta^2_p = .12$, in that depressed participants generated a significantly greater number of mean general explanations both for, and against, goal attainment ($M = 5.96$, $SD = 3.00$) than controls ($M = 4.01$, $SD = 2.42$). There were no other significant effects (all p's > .10).

A mixed ANOVA on the mean number of specific causal explanations revealed no significant main effect of Goal Type (approach $vs.$ avoidance), $F(1, 43) = 1.36$, $p = .25$, $\eta^2_p = .03$, but there was a significant main effect of Reason, $F(1, 43) = 5.78$, $p = .02$, $\eta^2_p = .12$, in that participants generated more specific pro-reasons ($M = 1.71$, $SD = 0.96$) than specific con-reasons ($M = 1.39$, $SD = 0.86$). As predicted, there was a significant main effect of Group, $F(1, 43) = 11.61$, $p = .001$, $\eta^2_p = .21$), with depressed participants generating fewer specific causal explanations overall ($M = 2.32$, $SD = 1.14$)

than controls (M = 3.78, SD = 1.65). There was a significant three-way Group-by-Goal Type-by-Reason interaction, F (1, 43) = 4.48, p = .04, η^2_p = .09.

Table 3.10 presents descriptive statistics for the mean number of general and specific pro- and con-reasons for approach and avoidance goals.

Table 3.10

Mean (SD) Number of General and Specific Causal Explanations for Goals

Group	Approach Goals		Avoidance Goals	
	Pro	Con	Pro	Con
	General		General	
Depressed	3.31 (1.43)	3.05 (2.13)	2.50 (1.45)	3.07 (1.75)
Controls	2.21 (1.41)	1.85 (1.55)	2.23 (1.62)	1.73 (1.14)
	Specific		Specific	
Depressed	0.98 (0.80)	1.17 (0.64)	1.45 (1.13)	1.05 (0.74)
Controls	2.17 (0.92)	1.58 (1.02)	2.13 (1.06)	1.69 (1.03)

Note: Pro = pro-reasons; Con = con-reasons.

To further explore the significant three-way interaction, two (2 x 2) ANOVAs with a between-subjects factor of Group and a within-subjects factor of Goal Type (approach *vs.* avoidance) were conducted on the mean number of specific pro-reasons and the mean number of specific con-reasons. The first ANOVA on the mean number of specific pro-reasons revealed, as predicted, a main effect of Group, F(1, 43) = 13.58, p = .001, η^2_p = .24, in that depressed participants reported fewer specific pro-reasons (M = 1.21, SD = 0.83) than controls (M = 2.15, SD = 0.86). There was no significant main effect of Goal Type, F(1, 43) = 2.11, p = .15, η^2_p = .05, and the Group (depressed *vs.*

controls)-by-Goal Type (approach *vs*. avoidance) interaction failed to reach significance, $F(1, 43) = 2.99$, $p = .09$, $\eta^2_p = .07$.

The second ANOVA on the mean number of specific con-reasons revealed, as predicted, a main effect of Group, $F(1, 43) = 4.58$, $p = .04$, $\eta^2_p = .10$, in that depressed participants reported fewer specific con-reasons (M = 1.11, SD = 0.64) than controls (M = 1.64, SD = 0.6). There was no significant main effect of Goal Type, $F < 1$, and no significant Group-by-Goal Type interaction, $F(1, 43) = 1.38$, $p = .25$, $\eta^2_p = .03$. In summary, in support of the hypothesis, the depressed participants provided more general reasons and fewer specific reasons for, and against, goal attainment than controls.

Proportion of Specific Causal Explanations

A mixed ANOVA with a between-subjects factor of Group (depressed *vs*. controls), and two within-subjects factors of Goal Type (approach *vs*. avoidance) and Reason Type (pro *vs*. con) on the proportion of specific goal reasons revealed a main effect of Group, $F(1, 43) = 10.74$, $p = .002$, $\eta^2_p = .20$, with depressed participants generating a lower proportion of specific reasons (*M* = .32, *SD* = .15) than controls (*M* = .50, *SD* = .21). Table 3.11 presents descriptive statistics for the proportion of reasons that were specific in each goal condition. The only other significant effect was the three-way Group-by-Goal Type-by-Reason interaction, $F(1, 43) = 6.64$, $p = .01$, $\eta^2_p = .13$.

Table 3.11

Proportion of Specific Causal Explanations for Approach and Avoidance Goals

Group	Approach Goals		Avoidance Goals	
	Pro	Con	Pro	Con
Depressed	.23 (.15)	.34 (.23)	.41 (.30)	.30 (.25)
Controls	.53 (.25)	.46 (.29)	.52 (.25)	.50 (.24)

Note: Pro = pro-reasons; con = con-reasons

To further explore the significant three-way interaction, two (2 x 2) ANOVAs with a between-subjects factor of Group and a within-subjects factor of Goal Type were conducted on the proportion of specific pro-reasons and the proportion of specific con-reasons. The first ANOVA on the proportion of specific pro-reasons revealed a significant main effect of Group, $F(1, 43) = 10.32$, $p = .002$, $\eta^2_p = .19$, and a significant main effect of Goal Type, $F(1, 43) = 5.07$, $p = .03$, $\eta^2_p = .11$. These main effects were qualified by a significant Group-by-Goal Type interaction, $F(1, 43) = 6.18$, $p = .02$, $\eta^2_p = .13$. A two-tailed t-test revealed that depressed participants generated proportionately fewer specific pro-reasons than controls for approach goals, $t(43) = 4.69$, $p = .001$, but not for avoidance goals, $t(43) = 1.29$, $p = .20$.

The second ANOVA on the proportion of specific con-reasons revealed a significant main effect of Group, $F(1, 43) = 5.52$, $p = .02$, in that depressed participants generated proportionately less specific con-reasons ($M = .32$, SD = .22) than controls ($M = .48$, $SD = .23$). There were no other significant effects, Fs < 1.2. Thus in support of the hypothesis, depressed participants provided significantly, and proportionately, fewer specific reasons than controls on all types of reasons and goals. The only

exception was pro-reasons for avoidance goals, for which the depressed and control participants did not differ.

3.4.3 **Goal Content**

Research question 3: Does the content of approach and avoidance goals differ between clinically depressed and never-depressed adults?

Goal 'Domain' Content

Firstly, goal 'Domain' content was explored with respect to group, age and gender. For controls, Spearman's correlation tests demonstrated no significant relationship between age and 'Domain' content (all p's > .05), however for the depressed group, a significant relationship was found between age and 'Work/Study/Financial' approach goals ($r = -.69$, $p = .001$). No other goal 'Domains', in either the approach or avoidance conditions, were significantly correlated with age. Mann-Whitney tests revealed no significant relationship between gender and goal 'Domains' for the depressed or control groups (all p's > .05).

In the approach condition (see Table 3.12) Chi-squared analysis revealed a significant difference between the number of 'Domain' content goals generated by the depressed and controls χ^2 (3), = 9.607, p = .022, two-tailed. A Mann-Whitney test found that significantly more 'Personal/Psychological' goals were generated by

depressed participants than controls, $U = 145.0$, $p = .01$, $r^4 = -.39$. No other significant relationships were found.

Table 3.12

Goals by Group by Goal 'Domain' Content

	Approach Goals		Avoidance Goals	
Group	Depressed	Controls	Depressed	Controls
R	33 (24.4%)	40 (27.9%)	27 (24.1%)	30 (28.0%)
P	29 (21.5%)	12 (8.4%)	44 (39.3%)	18 (16.8%)
Q/L	43 (31.9%)	51 (35.7%)	17 (15.2%)	34 (31.8%)
W	30 (22.2%)	40 (27.9%)	24 (21.4%)	25 (23.4%)
Total	135 (100.0%)	143 (100.0%)	112 (100.0%)	107 (100.0%)

Note: R = 'relationships', P = 'personal/psychological', Q/L = 'quality of life', W = 'work/study/financial'.

In the avoidance condition (see Table 3.12) Chi-squared analysis also revealed a significant difference between the number of 'Domain' content goals generated by the depressed and control groups, χ^2 (3), = 16.643, p = .012, two-tailed. The depressed participants, as in the approach condition, generated significantly more 'Personal/Psychological' goals than controls, $U = 123.0$, $p = .002$, $r = -.45$ but generated significantly fewer 'Quality of Life' avoidance goals than controls, $U = 144.5$, $p = .01$, r = -.38. For ease of interpretation, the mean number of approach and avoidance goals, generated by the depressed and controls, for each 'Domain' content category is illustrated in Table 3.13.

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[4] *r* denotes effect sizes (Field, 2009, p. 550).

Table 3.13

Mean Number of Generated Goals for 'Domain' Categories

	Approach Goals		Avoidance Goals	
Group	Depressed	Controls	Depressed	Controls
R	1.75	1.43	1.19	1.25
P	1.38	0.54	2.14	0.79
Q/L	2.19	2.17	0.71	1.42
W	1.38	1.54	1.05	1.04

Note: R = 'relationships', P = 'personal/psychological', Q/L = 'quality of life', W = 'work/study/financial'.

Goal 'Functioning' Content

For controls, Spearman's correlation tests demonstrated a significant relationship between age and 'Interpersonal functioning' approach goals ($r = .42$, $p = .044$), however no significant relationship between age and goal 'Functioning' was found for the depressed group (all p's $>.05$). Mann-Whitney tests revealed no significant relationship between gender and goal functioning for either the controls or the depressed group (all p's $> .05$).

A Mann-Whitney test found that significantly more 'Self-functioning' goals were generated by depressed participants than controls, in both the approach, $U = 110.0$, $p = .001$, $r = -.49$, and avoidance conditions, $U = 134.5$, $p = .006$, $r = -.41$. Fewer 'Pragmatic' goals (nearing significance), however, were generated by the depressed group in the avoidance condition, $U = 169.0$, $p = .052$, $r = -.29$. The mean number of

approach and avoidance goals, generated by the depressed and controls, for each goal

'Functioning' category is illustrated in Table 3.14.

Table 3.14

Mean Number of Generated Goals for 'Functioning' Categories

	Approach Goals		Avoidance Goals	
Group	Depressed	Controls	Depressed	Controls
Self	2.57	1.08	2.86	1.50
Interpersonal	1.09	1.29	0.90	1.00
Pragmatic	2.76	3.50	1.48	2.04

Note: Self = 'self-functioning', interpersonal = 'interpersonal functioning', pragmatic = 'pragmatic functioning'.

'Domain' by 'Functioning' Goal Content Distribution

Goals which had firstly been coded according to 'Domain' categories were then, secondly, coded according to 'Functioning' (see Tables 3.15 and 3.16). The tables illustrate the number of goals generated (for each 'Domain' x 'Functioning' category), as a percentage of the total number of goals generated within the same group (depressed *vs*. controls) in the approach condition (Table 3.15) and avoidance condition (Table 3.16) respectively.

In the approach condition, two-tailed Fisher's exact tests revealed no difference between the depressed and control groups for 'Domain' x 'Self-functioning', $p = 5.29$ or 'Domain' x 'Interpersonal functioning', $p = .94$. Chi-squared analysis also revealed no significant difference between the two groups on 'Domain' x 'Pragmatic

functioning', χ^2 (2), = 0.088, p = .96, two-tailed. It is of interest that the highest proportion of goals were generated by the control group for 'Quality of Life' x 'Pragmatic functioning' (accounting for nearly one third of all goals generated by the control group in this condition).

Table 3.15

Approach Goals by Group by 'Domain' by 'Functioning' Goal Content

	Self-functioning		I/P Functioning		Pragmatic Functioning	
	Depressed	Controls	Depressed	Controls	Depressed	Controls
R	9 (6.7%)	5 (3.5%)	18 (13.3%)	27 (18.9%)	5 (3.7%)	8 (5.6%)
P	28 (20.7%)	11 (7.7%)	1 (0.7%)	1 (0.7%)	0 (0.0%)	0 (0.0%)
Q/L	10 (7.4%)	3 (2.1%)	2 (1.5%)	2 (1.4%)	31 (22.9%)	46 (32.2%)
W	8 (5.9%)	7 (4.9%)	1 (0.7%)	3 (2.1%)	22 (16.3%)	30 (20.9%)
Total	55 (40.7%)	26 (18.2%)	22 (16.3%)	33 (23.1%)	58 (42.9%)	84 (58.7%)

Note: R = 'relationships', P = 'personal/psychological', Q/L = 'quality of life', W = 'work/study/financial'.

In the avoidance condition, Chi-squared analysis revealed no significant difference between the depressed and control groups on 'Domain' x 'Self-functioning', χ^2 (3), = 7.047, p = .07, two-tailed. Two-tailed Fisher's exact tests also revealed no difference between 'Domain' x 'Interpersonal functioning', p = .99 and 'Domain' x 'Pragmatic functioning', p = .45. It is of note that the highest proportion of goals were generated by the depressed group for 'Personal/Psychological' x 'Self-functioning'.

Table 3.16

Avoidance Goals by Group by 'Domain' by 'Functioning' Goal Content

	Self-functioning		I/P Functioning		Pragmatic Functioning	
	Depressed	Controls	Depressed	Controls	Depressed	Controls
R	6 (5.4%)	9 (8.4%)	20 (17.9%)	19 (17.8%)	1 (0.9%)	2 (1.9%)
P	43 (38.4%)	16 (14.9%)	0 (0.0%)	1 (0.9%)	1 (0.9%)	1 (0.9%)
Q/L	4 (3.6%)	4 (3.7%)	0 (0.0%)	0 (0.0%)	13 (11.6%)	29 (27.1%)
W	8 (7.1%)	7 (6.5%)	0 (0.0%)	1 (0.9%)	16 (14.3%)	18 (16.8%)
Total	61 (54.5%)	36 (33.6%)	20 (17.9%)	21 (19.7%)	31 (27.7%)	50 (46.7%)

Note: R = 'relationships', P = 'personal/psychological', Q/L = 'quality of life', W = 'work/study/financial'.

3.5 Discussion

This is the first study to investigate the specificity of clinically depressed adults' idiographic approach and avoidance goals and causal explanations. As a secondary aim, personal goals were explored to determine if the content of depressed and never-depressed adults' goals qualitatively differed. This study aimed to contribute towards a greater understanding of the content and specificity of clinically depressed adults' future goals, as well as depressed individuals' explanatory style for future goal attainment. The depressed and never-depressed participants did not significantly differ with respect to word fluency or on the number of, and importance of, their personal goals. As predicted, the never-depressed participants generated, overall, a greater number of specific goals than the control group. The never-depressed participants generated significantly more pro- than con-reasons for attaining their goals, whereas the depressed group did not. As predicted, the depressed participants generated

significantly, and proportionately, fewer specific explanations for all types of reasons and goals with the exception of pro-reasons for avoidance goals. With respect to goal content, the content of the depressed participants' personal goals was seen to differ qualitatively from those of the control group. The highest proportion of goals that were generated by the depressed group were that of 'personal/psychological' goals associated with 'self-functioning' in the avoidance condition. The never-depressed participants generated the highest proportion of 'quality of life' goals associated with 'pragmatic functioning' in both approach and avoidance conditions.

It is of interest that the clinically depressed adults did not differ from never-depressed participants on age, or on the number, and perceived importance, of their generated future approach and avoidance goals. Thus the depressed group appeared as equally motivated as the never-depressed group, to pursue a range of valued, future goals. This appears contrary to Fowles' (1994) assumption that depression is uniquely characterised by both low approach activity and high avoidance activity and suggests that depression is not characterised by goal motivational factors alone. Also despite the widely reported 'gendered nature' of depression, with more women than men apparently suffering from depression (Culbertson, 1997; Cyranowski, Frank, Young & Shear, 2000), the current study showed no significant difference in the proportion of men and women in the depressed and never-depressed groups. Men and women also did not differ significantly with respect to specificity of goals or causal explanations, or in the content of their goals.

The findings for goal specificity, specificity of causal explanations and goal content are more fully discussed, in turn, below.

Goal Specificity

All participants generated more over-general future approach goals than avoidance goals. Despite similar levels of motivation however, and in support of the main hypothesis, the depressed adults generated more overall general goals, and fewer overall specific goals, than the never-depressed group. Williams et al. (1996) argued that, as with autobiographical memory, depressed individuals' sense of the future may also be vague and over-general. The current study provides further evidence for Williams et al.'s thesis and the current findings are also consistent with Dickson and MacLeod's (2004b) study in which high depressed and mixed (high anxious and high depressed) adolescents generated fewer specific (approach and avoidance) goals compared to controls. Thus the current findings suggest that the association between depression and over-general future goals is irrespective of age. There is further evidence that depressed patients are more preoccupied with past and present, rather than future, events (Gallagher, 2012) and being less 'orientated' towards the future may lead to difficulty in visualising future goals with clarity. It may also be argued that, for depressed people, having an over-general sense of the future may be protective in shielding against a future which is perceived as too bleak and hopeless to wish to imagine. Abstract and expansive personal strivings have been associated with greater psychological distress and depression (Emmons, 1992) and conversely, personal goals which have clarity and specificity are thought to contribute to effective goal functioning (Gollwitzer, 1993) and superior goal performance (Campion & Lord, 1982; Locke et al., 1981). Effective goal pursuit, in turn, may improve individuals' sense of self-efficacy and well-being and protect against depression.

The current findings that adults, irrespective of mood, are more specific in conceptualising the goals that they wish to avoid, is of interest, and somewhat counter-intuitive. There is evidence that depressed individuals demonstrate a poor ability to imagine positive (but not negative) events vividly (Holmes, Lang, Moulds, & Steel, 2008) and they may be sensitised to vividly conceptualising avoidance goals which are associated with aversive consequences, as a consequence of rumination and catastrophising. The current findings suggest, however, that non-depressed adults also formulate negative scenarios more clearly than positive scenarios. Possibly the accumulation of life experiences, strategies and skills, may equip 'healthy' adults to formulate their avoidance goals more specifically. Never-depressed adults may be more confident in their ability to achieve approach goals and thus more 'focussed' and adaptive in generating specific images of the problematic goals that they wish to distance themselves from. In this way, the generation of more vivid avoidance goals may aid problem-solving strategies in non-depressed adults and affirm their pursuit of approach goals. Thus, while both depressed and never-depressed adults are more specific in their formulation of avoidance goals, differing mechanisms may be 'at play'.

Specificity of Causal Explanations

With respect to causal explanations, while the control group generated significantly more pro-reasons than con-reasons (irrespective of goal type) for goal attainment, there was no significant difference for the depressed individuals. These findings differ from that of adolescents with dysphoria who, compared to controls, generated more reasons for the non-attainment of goals and fewer reasons for the attainment of both approach and avoidance goals (Dickson & MacLeod, 2006). As

predicted, the depressed group also generated proportionately fewer specific causal explanations than controls for all types of reasons and goals (with the exception of pro-reasons for avoidance goals for which depressed and control participants did not significantly differ). These findings are again consistent with the evidence that depressed individuals demonstrate a poor ability to imagine positive (but not negative) events vividly (Holmes, Lang, Moulds, & Steel, 2008).

Providing over-general reasons for attaining, or failing to attain, goals may indicate a hopeless style in that the depressed individuals are too pessimistic to sufficiently engage with clearly imagining reasons for, or against, goal attainment. Alternatively, providing over-general explanations may reflect a compensatory desire to avoid both failure and success. Failure to access, or conceptualise, specific explanations for, or against, goal pursuit, may provide depressed individuals with an 'excuse' that their goals are too difficult, or unrealisable, to pursue. It is of interest, however, that pro-reasons for avoidance goals was the one exception where depressed participants were no less specific than controls. Depressed participants appear to provide reasons that are no less specific than controls, for why they believe their non-desired goals would be avoided. Depressed adults may be prone to generating more vivid avoidance goals which are likely to be aversive, given that formulating clearer explanations for why undesirable goals will be avoided is likely to be the most 'pressing' and preoccupying priority.

In summary, the depressed group, despite being similarly motivated as the control group, and having similarly important goals, generated more over-general goals overall than controls. The depressed individuals (similar to controls) were more specific in

forming avoidance goals but (unlike the controls) they appear to struggle to consider the 'reasons for' versus 'reasons against' goal attainment, and are also more vague in the explanations they generate for goal attainment. Positive beliefs about the future are believed to protect people against depression (O'Connor, Fraser, Whyte, MacHale, & Masterton, (2008). If depressed adults' future approach goals are vague and they are also unable to generate specific explanations for why they may, or may not, attain their future goals, then this is likely to impair goal planning, decision making and goal performance (Campion & Lord, 1982; Locke, Shaw, Saari, & Latham, 1981). If depressed adults are most able to clearly conceptualise reasons for creating distance from their avoidance goals, this would suggest that they are primarily avoidance motivated rather than approach orientated. Avoidance goals are thought to be associated with reduced enjoyment and fulfillment with respect to goal pursuit (Elliot & Sheldon, 1998). Avoidance motivation is also more akin to survival rather than psychological and emotional thriving (Elliott, 2006) and is thought to be associated with trait-like vulnerability to depression (Vergara & Roberts, 2011). Failure to attain avoidance goals is also argued to be more aversive than failing to achieve an approach goal (Carver & Scheier, 1998; Cochran & Tesser, 1996; Duval & Silva, 2002). To make matters worse, a pessimistic explanatory style coupled with the occurrence of negative events (of which failing an avoidance goal is an example) is also likely to increase an individual's vulnerability to depression (Peterson & Seligman, 1984).

 Goal Content

    It is of interest that no significant relationship between gender and goal content was found. Neither was age found to be significantly associated with goal content

except for 'Work/Study/Financial' approach goals (negatively correlated with age for the depressed group) and 'Interpersonal functioning' approach goals (positively correlated with age for the controls). Thus younger, depressed adults appear more concerned with pursuing goals associated with education, employment and finance while never-depressed adults appear more concerned with interpersonal relationships as they age. For the depressed group the greater focus, at a younger age, upon personal goals associated with the pursuit of education, employment and finance, may reflect a desire to succeed in these domains as a means of compensating for, and protecting against, dissatisfaction 'with self', low self-esteem and poor self-identity. For the never-depressed, the greater focus upon interpersonal functioning goals with age, may reflect the broadening, and deepening, of valued social relationships reflecting life-span transitions. In contrast, the depressed group may be too preoccupied with feelings of hopelessness and depression to pursue goals associated with interpersonal functioning. Depressed individuals may also tend to avoid, or withdraw from, interpersonal relationships (Lecci, Karoly, Briggs, & Kuhn, 1994) which are perceived as being potentially unmanageable or harmful.

Goal content findings also show that the depressed participants generated significantly more 'Personal and Psychological' approach and avoidance goals than controls, and significantly fewer 'Quality of Life' avoidance goals than controls. The depressed adults also generated significantly more 'Self-functioning' goals in both approach and avoidance conditions, demonstrating a trend of fewer 'Pragmatic' avoidance goals compared to controls. For the control group, 'Quality of Life' goals associated with 'Pragmatic functioning' in the approach condition were most relevant, while for the depressed group, 'Personal and Psychological' goals associated with

'Self-functioning' in the avoidance condition, were of most relevance. Thus, the content of depressed participants' future goals appear to reflect a differing 'narrative' to that of the never-depressed adults.

The depressed group appear to be most highly motivated to pursue approach and avoidance goals associated with personal and psychological goals reflecting self-functioning, while generating significantly less 'Quality of Life' avoidance goals than controls. This is particularly relevant given that personal goals associated with the 'self', particularly those associated with 'self-improvement' and personality, are thought to contribute to low mood (Salmela-Aro, Pennanen, & Nurmi, 2001). Thus the depressed group appear to be preoccupied with pursuing goals associated with self-improvement (particularly, in younger age, with respect to education, employment and financial attainment) while also (and more so) avoiding future scenarios which are perceived to adversely impact upon their 'sense of self' and their self-functioning. The depressed group generated significantly fewer 'Quality of Life' avoidance goals than controls which may reflect depressed adults' pessimistic beliefs about the future and their consequent difficulty in generating pragmatic goals for avoiding scenarios perceived to be associated with adverse quality of life. These findings are consistent with the belief that goals, which are strongly associated with the pursuit of identity and self-esteem, are frequently found in individuals prone to depression (Street, 2001). Over-valued, goals reflecting the 'self-ideal' are thought to be strongly associated with depression (Campion & Power, 1995; Street, 2002) and goals associated with self-image frequently appear to reflect dissatisfaction and a desire to gain validatory approval from others, thus the pursuit of 'self-related' goals is likely to further impair self-esteem (Canevello & Crocker, 2011; Crocker & Canavello, 2008). To add to this

'gloomy picture', abstract, higher order, goals (relating to 'the self') are also thought to render people more vulnerable to introspection and depression, as well as being more difficult to both pursue, and disengage from, than concrete goals (Carver, La Voie, Kuhl, & Ganellen, 1988; Carver & Scheier, 1990).

In conclusion, the goal content findings suggest that the never-depressed adults are most highly motivated to pursue 'Quality of Life' approach goals associated with 'Pragmatic functioning'. They appear to thrive by pursuing 'externally located', practical goals associated with the enhancement of quality of life. With age, the never-depressed adults also appear more motivated to pursue goals associated with interpersonal functioning, This may reflect a successful, and adaptive, attitude to consolidating, and developing, new forms of attachments throughout life.

In contrast, depressed adults appear to function in a restricted 'mode of survival' being highly motivated to avoid future scenarios that are perceived to further threaten their self-functioning and potential pleasure in life. This pattern of goal motivation is likely to increase rumination and entrench the depressive position. Escape from the depressed individual's dissatisfactory experience of mere 'survival' appears further handicapped by an inability to formulate clear and specific explanations for why they believe their approach and avoidance goals may, or may not, be attained. In turn this is likely to impair effective goal planning and decision making, increase their sense of powerlessness and pessimism for the future, and encourage further retreat into avoidance.

Clinical Implications for the Treatment of Depression

Depressed adults appear to be characterised by generating over-general personal goals and formulating over-general explanations for goal accomplishment. This cognitive 'combination' is likely to weaken the depressed individual's capacity to pursue, and accomplish, their future personal goals effectively. This in turn, is likely to increase the individual's sense of hopelessness and pessimism with regard to the future culminating in a downward spiral of futility and depression. Within the context of the current, global, economic crisis we are beginning to see significant 'cuts' to psychological services at a time when people are experiencing great personal despair and fear for the future. With reduced resources and the advent of 'payment by results' it is likely that, as depression rates rise, cognitive treatments for depression will be required to be briefer while also being more effective.

In this present climate, research enabling clinical interventions to be more effective in targeting the highly individual (and until now unacknowledged) goal motivational processes underpinning clinical depression, is timely. This current research demonstrates very clear, practical implications for clinical practice by the development of cognitive models for the treatment of depression which explicitly target goal motivational processes. Cognitive approaches to treating depression should seek to 'reframe' avoidance goals as approach aims (Coats, Janoff-Bulman & Alpert, 1996) and assist the individual to focus upon approach goals that have clear importance and significance for them (Rodebaugh & Shumaker, 2012). Interventions which focus upon aims consistent with the patient's needs and values (Lyubomirsky et al., 2011) are likely to be most effective. The depressed patient should be encouraged to explicitly

imagine and visualise pursuit goals, and causal explanations, for successful goal attainment, possibly through "training in concreteness" (Bjarehed, Sarkohi, & Andersson, 2010). It is known that failure to visualise future goals explicitly weakens the judgement, evaluation and planning essential to predicting and managing the likelihood of future unfavourable events both occurring or not occurring (Luxton, Ingram, & Wenzlaff, (2006). Positive thoughts and beliefs relating to the future should also be strengthened to "rescue" people from depression (O'Connor, Fraser, Whyte, MacHale & Masterton, (2008).

Strengthening the depressed individual's ability to visualise and formulate pro-reasons for approach goals is likely to improve decision-making and active problem solving providing hope for the future. Given the ability to clearly visualise the future is associated with a strengthened belief in the desired event happening (Johnson, 2006; Miranda & Mennin, 2007) then it is essential for individuals to also gain the skills to develop specific and realistic explanations for why their approach goals can, and will, be attained. The pursuit of specific approach goals, in addition to formulating clear explanations for success, will assist the depressed individual to better visualise their aims, which in turn will help their goals to become more realisable. Encouraging individuals to broaden their repertoire of approach goals (in keeping with the findings of this study) while also discouraging the pursuit of over-valued (Campion & Power, 1995) and compensatory, achievement-oriented goals is also seen to be of merit. Depressed individuals should also be helped to understand that the pursuit of, and preoccupation with, personal goals associated with improvements to the individual's self-ideal, and perceptions of self, is likely to strengthen their sense of worthlessness and depression. Psychological treatments which encourage the expansion of

achievable, valued (but not over-valued) and realistic 'approach-framed' goals, which also assist the individual to formulate specific explanations for why, and how, their goals can be achieved, is likely to increase self-efficacy, and hope for, and belief in, a more positive future.

Methodological Considerations and Future Research

A number of methodological considerations deserve comment. One limitation of the present study was the absence of available demographic details concerning the participants' education, employment and socio-economic status. This limited a broader investigation of the psychosocial influences contributing to depression. It is also recognised that the key studies that influenced this current research (Dickson & MacLeod, 2004a; Dickson & MacLeod, 2004b; Dickson & MacLeod, 2006) comprise samples of Australian adolescents, the findings of which may not be generalisable to British or adult samples. Dickson and MacLeod's (2004b, 2006) studies also comprise relatively small numbers of participants.

The sample size of the established data set (Dickson, Moberly & Kinderman, 2011) was relatively small due to difficulties in recruiting patients, with primary depression, from mental health services established for adults with complex needs. While the current study's sample size was small, it was nevertheless, sufficient to detect large effects. Small samples, however, are more likely to comprise random fluctuations which occur by chance and therefore fail to represent the wider population. A larger sample size may have led to greater investigative precision and more accurately reflected the characteristics of the populations (Cronbach, Gleser, Nanda, &

Rajaratnam, 1972; Marcoulides, 1993) that the depressed and never-depressed adults were recruited from. Also, while the current research finds that the depressed and control groups did not differ in some respects, small sample sizes are subject to greater Type-II errors. Thus alternative hypotheses are more likely to be determined with large effect sizes, and therefore the current study may have failed to detect other important findings. Another limitation is that a number of participants in Dickson, Moberly and Kinderman's (2011) original study were recruited from health and fitness clubs, where adults with eating disorders are highly over-represented. Eating disorders are characterised by rigid, highly conditional but extremely specific weight, and self-image, related goals which are also strongly associated with marked depression and anxiety. It is therefore suggested that future goals research employ a brief screening measure to exclude the potential for recruiting eating disordered prone individuals. With respect to participants' generation of goals, in this study participants were asked to generate personal goals and causal explanations within a relatively brief time-frame (90 seconds) designed to elicit the most salient responses. Future research may wish to provide a longer time-frame for generating responses, as a means of potentially eliciting richer and more expansive goals and causal explanations. While, in this present study, the coding schemes for goals and causal explanations demonstrated face validity and good inter-rater reliability, a design eliciting richer and more expansive participant responses may more easily lend itself to using coding schemes comprising three categories; e.g. 'general', 'moderate' or 'specific'. It should also be stated that Dickson et al. (2011) acknowledge that the goal task employed in this current study does not enable the generation of implicit, pre-conscious goals which may demonstrate other patterns of goal mechanisms influencing goal attainment. The investigation of implicit goals, however, lies outside the scope of this research.

It should also be stated that, given the correlational nature of this current research, causality cannot be inferred. Thus, it remains unclear whether over-general cognitive styles render individuals' vulnerable to depression, or whether the chronic effects of depression influence cognitive processes. While the present study clearly implicates reduced specificity and over-generalisation in depression, investigation of other salient contributions to depression, other than cognitive processes, was unfortunately beyond the scope of this study.

The current research has retained the somewhat 'medical' language, and approach, to conceptualising depression in order to preserve consistency with previous publications in this field. It is, however, fully acknowledged that there is more to depression than merely cognitions. The focus of this current research upon cognitive processes fails to take into account other contributory factors with respect to the development of depression such as attachment, early aversive experiences and adverse life events. Relational, cultural and environmental factors are also known to strongly influence depression, thus the experience of depression is likely to be different for each individual. The importance, value and meaning, that individuals attach to the content and pursuit of their personal goals is also likely to be uniquely influenced by their early, and life, experiences. For these reasons, depression cannot be adequately explained, or understood purely, within the context of cognitive processes. While the current study emphasises the negative sequelae of depression it is also acknowledged that, for some individuals, the experience of depression can provide the opportunity for new insights, learning, creativity and positive direction for the future. Thus future goal content research may benefit from using a qualitative methodology to gain a broader, richer,

and more meaningful understanding of the unique and complex cultural contributions to, and expressions of, depression.

Finally, due to time constraints, this research was confined to investigating goal content in a purely preliminary and tentative manner, and future research focusing more centrally on goal content is seen to be of interest. Also, transdiagnostic goal theory research offers an 'untapped' potential for increasing clinical understanding across a range of mental health disorders. Complex, chronic clinical conditions, which comprise prominent yet poorly understood motivational features (e.g. schizoid personality disorder, anorexia nervosa, bipolar disorder and negative symptoms in schizophrenia) would all benefit from, and lend themselves well to, future goals research. Most importantly, however, further goals research with adult clinical samples is recommended with a view to informing tailored, and more effective, cognitive treatments for clinical depression, which specifically target the complex goal processes contributing to depression.

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EXECUTIVE SUMMARY – PUBLIC DOMAIN PAPER

What is the Content of, and how Specific are, Depressed Peoples' Personal Goals?

How specific are the reasons depressed people give for accomplishing their goals?

Word count: 948 (Excluding references)

Introduction to Study

Depression rates are rapidly increasingly worldwide, and the cost to sufferers, society and the economy, is alarmingly high. Depression remains a difficult condition to treat and more effective psychological interventions are needed. Lack of motivation alone does not fully explain depression and it has been found that depressed people tend to having vague personal goals for the future. Only one adolescent study has explored the specificity of future approach and avoidance goals and there has been no adult investigation of how specific depressed peoples' explanations are for why they believe they will, or will not, achieve their personal goals. This study seeks to explore how specific the goals, and explanations for goal attainment, are for clinically depressed adults are. The nature and content of depressed adults' personal goals is also explored to see if the content of their goals differ from people who have never been depressed.

Aims of the Research

The aim of this research was, firstly, to conduct a preliminary study to develop coding schemes to rate how vague, or specific, adults' approach goals (aims that people wish to work towards) and avoidance goals (situations that people strive to avoid) are. Similar coding schemes were developed to rate how specific peoples' explanations are for why they believe their personal goals will, or will not, be accomplished. Two other coding schemes were also developed to explore the content of peoples' personal goals.

Secondly, in the main investigation, the four coding schemes developed in the preliminary study, were used to code the personal goals and causal explanations generated by clinically depressed and never-depressed adults.   Exploring the differences between the goal processes of depressed and never-depressed adults helps researchers and clinicians to better understand which factors make it difficult for depressed people to effectively pursue and attain their future personal goals.

Method and Procedure

1.   <u>Development of Coding Schemes</u>

The first study was carried out with twelve volunteer University of Liverpool staff employees (7 men, 5 women) aged between 22 and 56 years. The volunteers were asked to complete a practice task to test their written fluency, a Goal Task (Dickson & MacLeod, 2004a) and a Goal Explanation Task (Dickson & MacLeod, 2006). The Goal Task required participants to generate as many future personal goals as possible that they would like to achieve and that they would like to avoid. Participants then chose the two most important goals that they would like to achieve and the two most important goals that they would like to avoid. They were then asked to generate as many reasons as possible for why they thought they may, or may not, be successful in achieving or avoiding their important goals.

The following coding schemes were developed from the participants' responses;

- a scheme to code how specific the content of their personal goals were.

- a scheme to code how specific their explanations were for the accomplishment, or non-accomplishment, of their goals.

-   a scheme to code the 'life domain' content of their goals.

-   a scheme to code the 'relational functioning' content of their goals.

2.   <u>Main Investigation Study</u>

In the main study, the four coding schemes (described above) were applied to the goals and causal explanations of 21 depressed and 24 never-depressed male and female participants who had taken part in a previous, ethically approved research study. Depressed participants were assessed for, and included, if they demonstrated a current major depressive episode using the Structured Clinical Interview for DSM-IV Axis 1 Disorders (SCID-1; First, Spitzer, Gibbon, & Williams, 2002). The Beck Depression Inventory, Second Edition (BDI-II; Beck, Steer, & Brown, 1996) was also administered to test for any presence of moderate or severe depression. The depressed participants were recruited from mental health services within the local NHS Trust. The never-depressed adults who, on assessment, were found to have never suffered depression at any time in their lives, were recruited from G.P. practices, university and various gyms and social groups.

Next, the four coding schemes were used to 'code' the content of the depressed and never-depressed participants' personal goals and goal explanations. Coding was conducted by the main researcher and a number of independent raters who were blind to the aims of the research. Minor changes were made to the coding schemes until reliable ratings were achieved between the coders (for each of the four coding schemes) for all of the goals and causal explanations which had been generated by the depressed and never-depressed participants. Next the coded responses were analysed.

Results

<u>Specificity for Goals and Causal Explanations</u>

As predicted, the depressed group, overall, generated more general goals and more general causal explanations, than the never-depressed.   All participants generated more specific pro-reasons than con-reasons.   Depressed participants provided proportionately less specific reasons than the never-depressed for all types of reasons and goals. The only exception was that no difference (between the depressed and never-depressed participants) was found with regard to how specific the generated 'pro-explanations' were for goals that people wished to avoid.

<u>Goal Content</u>

The depressed participants' generated significantly more 'Personal' goals than the never-depressed individuals for both approach and avoidance goals, and significantly fewer 'Quality of Life' avoidance goals than those who were not depressed. The depressed participants also generated significantly more 'Self-functioning' approach and avoidance goals compared to the never-depressed group.

Conclusion

 This study found that adults with clinical depression appear to be strongly compromised by the content and vagueness of their personal goals as well as by their poor ability to formulate reasons for accomplishing their goals. The findings from this study provide an understanding of the practical ways in which cognitive treatments can be enhanced to improve the clinical effectiveness of psychological interventions for clinical depression.

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APPENDICES SECTION

Appendix 1:

Literature Search Terms

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Appendix 2:

Participant Information

Dear colleague,

Staff volunteers wanted to take part in a short pilot study

I wonder whether you, or any members of your team or service, would be able to help. If at all possible I would also be very grateful if you could pass this e-mail on to any of your colleagues or staff members.

I am looking for male and female University of Liverpool staff volunteers, aged 18 and above, who are able to spare about 45 minutes to take part in a small pilot study. If you take part in the pilot study you will be paid £10.00 to compensate you for your time.

I am a qualified Clinical Psychologist and I work part time at Liverpool University. I am based in the Whelan building on Mondays and Tuesdays. I am conducting a pilot study to assist me in the development of a coding scheme to explore peoples' descriptions and explanations of their future personal goals. I am hoping to recruit volunteers who are staff members of the University of Liverpool.

Participating in the study should not take more than 45 – 60 minutes. The study requires participants to complete a booklet questionnaire which asks very simple questions about your personal goals for the future. If you are interested and/or want to know more, then please e-mail me, or telephone me on; 07790 xxxxxx. If you telephone me and I am unavailable, please leave a voice mail message for me with details of a contact number so that I can get back to you.

 After speaking to me, I can then send you further information about the pilot study and if you still wish to participate, I will arrange for a suitable venue for us to meet so that you can take part in the study. I can arrange to meet up with you at any time during the day (preferably a Monday or Tuesday) and I can also make specific arrangements to meet with you either before, or after, your working day, or in your lunchtime – whichever is easier for you. I may, however, with enough notice - be able to be available on other days too. If you do volunteer to take part I will be present while you complete the task, so that I can provide assistance. I will also be very happy to answer any additional questions that you may have both before, and after, participating it the study.

Your answers, and any personal information, will remain entirely confidential and you can change your mind, or withdraw from the study, at any time.

With kind regards,

Susan Mitzman,
Senior Clinical Tutor/Clinical Psychologist,
Division of Clinical Psychology.

Participant Information Sheet

Title of the Research: An Investigation of the content of, and how specific are, depressed peoples' descriptions and explanations of their future personal goals.

You are being invited to participate in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask us if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends and relatives if you wish. It is stressed that you do not have to accept this invitation and you should only agree to take part if you want to. Thank you for reading this.

What is the purpose of the study?

This is an established research study which aims to explore the content of, and how specific, are, depressed peoples' future personal goals.

Why have I been chosen to take part?

I am aiming to find 7 more adult volunteers (aged 16 and above), who are currently suffering from depression but do not have any other mental health difficulties or current heavy use of street drugs or alcohol.

Do I have to take part?

Participation in this project is voluntary and you are free to withdraw at anytime without explanation and without incurring a disadvantage.

What will happen if I take part?

You will be confidentially interviewed by me, Susan Mitzman, Researcher and Clinical Psychologist, employed by the University of Liverpool. I will try to arrange a time that is convenient for you, and we would meet where you already attend to see your psychologist or mental health worker.

The research will take from 60 to 90 minutes but you will have a break in the middle if you need to. If you consent to participate in the study, you will be assessed by me using a

psychological screening task to make sure that you do not have any significant mental health concerns other than depression. This will take about 30-45 minutes. If you do not have any other significant current mental health difficulties you will be then given a booklet with instructions of simple tasks to help identify some of your future personal goals. This, again, will take about 30-45 minutes. You will have time to talk to me about any questions, or concerns, that you may have, after you have completed the tasks. You will not be recorded, in any way, as part of this study. All data gathered, as part of this study, will be completely anonymised (your name and any identifying details will not be entered on any of the data sheets) and all information will be completely confidential.

Expenses and/or payments

You will be paid £10.00 to compensate you for the time that you have taken in participating in, and completing, this study.

Are there any risks in taking part?

It is highly unlikely that participation in this research is likely to cause you any physical or emotional upset or discomfort. If, however, in the unlikely event of you feeling any discomfort or anxiety about participating in the study, then you can stop immediately and talk to the me as I will be with you throughout. You can ask for a break, or withdraw from the study, at any point. You will be invited to talk, and de-brief, with me when you complete the tasks. This will provide you with an opportunity to talk about any aspects of the study with me, should you think this helpful.

What if, as a result of taking part in the study, I begin to worry about my emotional or psychological health?

As stated above, you can withdraw from the study at any time, and you may also speak to me immediately after the task. All participants will also be given information relating to local counselling and psychological support services.

Are there any benefits in taking part?

This is part of an ongoing research study which will help to investigate aspects of future personal goals of depressed and non-depressed adults. It is anticipated that this broader research will assist researchers and clinicians in better understanding the personal goals and motivations of adults who are depressed, and who have never been depressed.

Will my participation be kept confidential?

When you are asked to complete questionnaires as part of this pilot study, a code number, and not your name, or any other identifying details, will be entered on any data forms to ensure complete confidentiality. Consent forms and any demographic information will be stored separately in a locked filing cabinet at the University of Liverpool. Data relating to the completed pilot questionnaires will be kept, in secure conditions, at the University of Liverpool for up to a period of 5 years however any identifying information will be destroyed.

Will my taking part be covered by an insurance scheme?

This study has been ethically approved by the University of Liverpool and therefore you are automatically covered for insurance purposes.

What will happen to the results of the study?

As already stated, data from this study will assist the researchers with investigating aspects of personal goals of depressed, and non-depressed adults. It is anticipated that this broader research will be completed in 2012 and may be published, at a later date, in professional journals, in addition to being presented at research conferences. None of the participants in the pilot study will be identifiable, in any way, from the research data, findings or potential publications.

What will happen if I want to stop taking part?

You are free to withdraw at anytime, and without explanation. Any information and data, up to the point of withdrawal, may be used, but only if you are happy for this to be done and providing you have given your consent for this to happen. Alternatively, you may request that any information is destroyed and that no further use is made of any information.

What if I am unhappy or if there is a problem? Who can I contact if I have further questions?

If you are unhappy, or wish to contact the researcher at any time, my contact details are shown below;

If you remain unhappy or have a complaint which you feel you cannot come to us with, then you should contact the Research Governance Officer on; 0151 794 8290, or by e-mail; (ethics@liv.ac.uk). When contacting the Research Governance Officer please provide details of the name or description of the study (so that it can be identified) as well as information regarding the researcher/s involved, and the nature and details of the complaint which you wish to make.

Information Sheet Guidelines v3x2
Developing a coding scheme to explore the content of, and how specific are, peoples' descriptions and explanations of their future personal goals.
07 September 2010
SFM

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CONSENT FORM

Title of Research Project: Developing a coding scheme to explore the content of, and how specific are, peoples' descriptions and explanations of their future personal goals.

Researcher(s):   Susan Mitzman, University of Liverpool

This pilot study is contributing to a Professional Development Clinical Psychology Doctorate supervised by the Universities of Liverpool and Birmingham.

	Please initial box
I confirm that I have read and have understood the information sheet dated (DATE) for the above study. I have had the opportunity to consider the information, ask questions, and have had these answered satisfactorily.	[ ]
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, and without my rights being affected.	[ ]
I understand that I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish.	[ ]
I understand that, under the Data Protection Act, all the data will be stored securely and will be fully anonymised and confidential.	[ ]
I agree to take part in the above study.	[ ]

Participant Name _____

Date _____   Signature _____

Name of Person taking consent _____

Date _____   Signature _____

Researcher _____

Date _____   Signature _____

The contact details of the Researcher are:

The contact details of the Supervisors are:

Consent form (Researcher V.2]
Developing a coding scheme to explore the content of, and how specific are, peoples' descriptions and explanations of their future personal goals.
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RECEIPT OF PAYMENT OF EXPENSES

Title of Research Project: Developing a coding scheme to explore the content of, and how specific are, peoples' descriptions and explanations of their future personal goals.

Researcher(s):   Susan Mitzman, University of Liverpool

Thank you for your voluntary participation in the above pilot study.

To compensate you for your time taken to complete this pilot study, a token payment of £10.00 has been paid to you.

Confirmation of receipt of £10.00 expenses

Date paid   _____ _____

Participant Name _____

Participant Signature _____

Researcher Name _____ _____

Researcher Signature _____

Receipt of paid expenses [Participant 1]
Developing a coding scheme to explore the content of, and how specific are, peoples' descriptions and explanations of their future personal goals.
07 September 2010
SFM

Appendix 3:

Research Ethics Committee Application and Approval

Faculty of Medicine Research Support Office

Research Registration Form
incorporating
University Sponsorship and University Indemnity

This form is to be used for registering research and, if applicable, will ensure your request is processed for University sponsorship and University insurance cover. To enable your application to be handled as quickly as possible, please answer all questions, giving as much detail as possible. Once completed, the named **Chief Investigator** should email this form to

In submitting this form, the **Chief Investigator** confirms that:

- the study will have, or has already, the approval of a recognised research ethics committee *(Note that all research undertaken by University of Liverpool employees that involves humans as participants must undergo a review of the ethical considerations before the study can commence)*
- the study will have, or has already, the approval of the relevant NHS Trust R&D Director(s)
- staff and students involved in the execution of the study have the relevant training or adequate supervision, including health and safety
- the premises where the study is to take place are appropriate
- the research methods are justified and have been peer-reviewed
- the study has adequate and secured funding

   ➢ **I confirm I have read the above statement and understand my responsibilities as Chief Investigator** *(Please check box)*   ☒

Check list of required documents to be returned with this form:

- Research Protocol   ☒
- Patient Information Sheets and Consent Forms   ☒

A1)	Project title	Specificity and content of coding schemes for goals, and causal explanations for goals, in relation to goal pursuit.

A2)	Name of Chief Investigator*	

A3)	Employer of Chief Investigator	University of Liverpool

*Please note for Student Projects the CI needs to be a member of University of Liverpool staff

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A4)   For Student Projects only

Name of Student

	Email address	

Degree

A5)　　Other Investigators

Susan Fiona Mitzman, Senior Clinical Tutor and Clinical Psychologist, Division of Clinical Psychology, Institute of Psychology, Health and Society

A6)	Is the project multi centre?	Yes ☐	No ☒

A7)	Are any of the study sites outside of the UK?	Yes ☐	No ☒

A8)　　Please name all NHS Trusts involved (if there is not enough room please supply a list when returning the form)

N/A

A9)	Do you have NHS Trust R&D approval?	Yes ☐	No ☒
			Pending ☐

A10)　　If so please give the reference:

B1)　　How is the research funded?

No funding is required for this pilot study

B2)　　For externally funded research, please give details of the funder and where available the RG account:

> ➢ Funder

> ➢ RG Account

B3)　　For internally funded research please detail the directly incurred costs and the account code from where these will be met:

> ➢ Directly incurred costs

> ➢ Account code

C1)　　Proposed start date

September/October 2010

C2)　　Proposed end date

February 2011

C3)　　Proposed no. of participants

12

C4)　　How will you identify *and* recruit participants?

A University of Liverpool e-mail will be circulated within the Institute of Psychology, Health and Society, in addition to other University of Liverpool staff groups e.g. postal staff, porters, security staff etc., requesting volunteers to participate in the pilot study

C5)	Will there be NHS patients involved?	Yes ☐	No ☒

C6)	Will any NHS patients be seen outside	Yes ☐	No ☐　N/A ☒

of NHS premises?

> If yes, where?

C7)   Will any children or vulnerable adults be involved?

Children ☐
Vulnerable Adults ☐
Neither ☒

D1)   Has an NHS Trust agreed to co-sponsorship?

Yes ☐   No ☒

Pending ☐

> If yes, which Trust?   **N/A**

> If Other, please detail

D2)   What type of research is it?*

E

*p
lease select appropriate category from KEY in Appendix 1 A, B, C, D, E, F, G, H, I, J,

> If category **N** (*Other Research*), please specify

D3)   Is the project a clinical trial under the EU Clinical Trials Directive?

Yes ☐   No ☒

D4)   At what stage are you regarding your Ethics application?

Preparing application

Please provide an outline of the study *(Please include, if applicable, what age participants are, where clinical work will take place, who is doing clinical work, where samples are stored, who the custodian of any data and human material is etc.)*

I am intending to conduct a small pilot study which will involve administering questionnaires to twelve non-clinical (male and female) volunteer University of Liverpool employees, aged 18 and over. The pilot interview will take place in a suitable university room that will have been pre-booked at a time convenient for each of the volunteers. The pilot questionnaires will take approximately 45 minutes, in total, to administer. The questionnaires comprise a set of written and verbal instructions relating to tasks which aim to elicit participants' important future personal goals and beliefs about why their future goals may, or may not, happen, and how likely it is that their future goals may, or may not, happen, and how much control participants believe they have in relation to their future goals.

Generated responses from the pilot study will then be used to develop preliminary coding schemes, using qualitative methods, under the supervision of Dr. Joanne Dickson (lead supervisor), University of Liverpool. These coding systems will then be applied to an established data set of depressed, remitted and control adults, for further qualitative and quantitative analysis as part of a research project, in relation to personal goal systems, which I will be conducting under the supervision of Dr. Joanne Dickson and Dr. Arie Nouwen (secondary supervisor), University of Birmingham. The accessing of the pilot study data will take place solely on the Liverpool University site and the data will not leave University premises. Dr. Joanne Dickson will remain as the data custodian and all pilot data and materials will be kept in a locked filing cabinet within the Division of Clinical Psychology.

Any other issues regarding sponsorship:

None

This form MUST be completed and submitted by the named CI.
In the case of student projects, the form should be completed by the student and their supervisor and returned by the supervisor to

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**For Office use only**
Date received:

Faculty Reference:

APPENDIX 1

- A. Clinical trials of investigational medicinal products (including phase I drug development)
- B. Clinical investigations or other studies of medical devices
- C. Performance evaluation of an in vitro diagnostic device
- D. Other clinical trial or investigation
- E. Research administering questionnaires/interviews for quantitative analysis, or using mixed quantitative methodology
- F. Research involving qualitative methods only
- G. Research limited to working with new human tissue samples and/or data
- H. Research limited to working with existing identifiable human tissue samples and/or data
- I. Research limited to working with human tissue samples anonymous to the researcher and/or data
- J. Research limited to using newly obtained surplus human tissue
- K. Research limited to working with identifiable data
- L. Research limited to working with anonymised or pseudonymised data
- M. Research Tissue Bank
- N. Other research

V5.3 5/4/2010
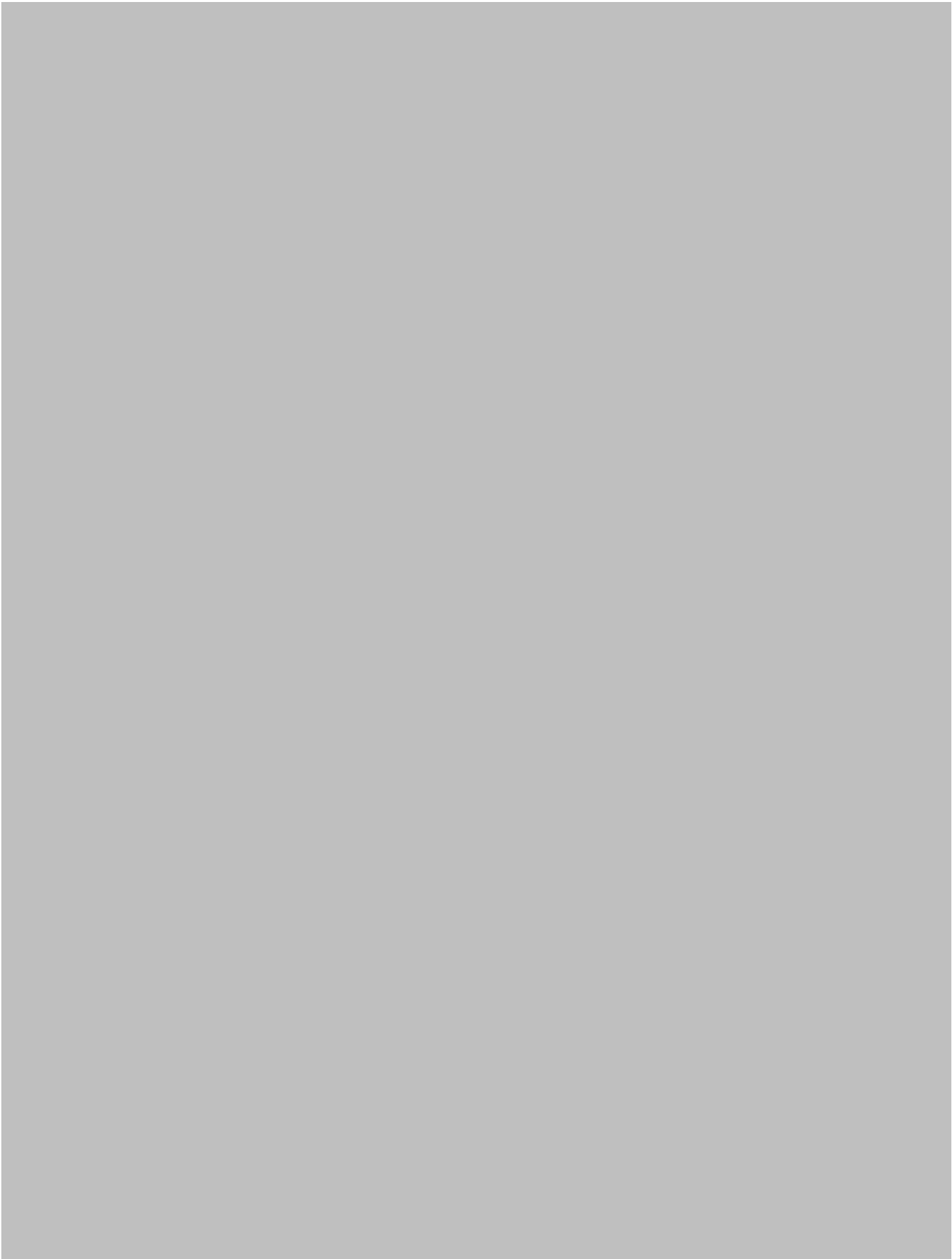
B1) Proposed study dates and duration

Start date:	01.09.2010	**End date**:	31.02.2011

B2) Give a full lay summary of the purpose, design and methodology of the planned research.

Purpose and Summary of Pilot Study
The pilot study will aim to develop preliminary 'specificity' and 'content' coding schemes for;
1) goal tasks and 2) causal explanation tasks.
Data from the pilot task will assist in developing coding schemes which will then be applied to an established data set of depressed, remitted and non-depressed adults in an investigation of their personal goal systems. As part of the pilot study, inter-rater reliabilities will be conducted to assess the reliability of the 'specificity' and 'content' coding schemes and once sound reliabilities are determined, these coding schemes will be applied to the established data set.

Design
A cross-sectional design will be used to assess the reliability of the preliminary 'specificity' and 'content' coding schemes which will be developed, from the pilot study, under the supervision of Dr. Joanne Dickson and Dr. Arie Nouwen.

Sample Size
A sample of 12 non-clinical participants will be used for the purposes of this small pilot study.

Subjects
Male and female University of Liverpool staff (e.g. administrative, technical and support services staff) above the ages of 18, will be recruited as volunteers. Participants recruited to take part in the pilot study will therefore provide a good match with the experimental participants from the main data set in relation to educational, and other, relevant demographic variables.

Methodology
Measures to be completed in the pilot study;

1) Goals Task [1]. The Goals task was designed by Dickson and MacLeod [1] to measure individuals' idiographic and avoidance goals, independently. Goals refer to future experiences that individuals think they will be trying to achieve (e.g. seeking promotion, spending more time with their partner etc) or avoid (e.g. trying not to be so untidy, trying not to get home so late from work etc). Task prompts for each condition will be given; 'In the future it will be important for me to try to/avoid....'.

2) Goals Causal Explanation Task [2]. The Explanation Task was designed by Dickson and MacLeod [2] and asks participants to think of causal explanations for why their most important approach goal, and most important avoidance goal, may or may not be achieved. In this way, each idiographic goal is represented twice, firstly requesting the participant to think of goal achievement reasons (pro-reasons) and secondly for goal non-acievement

reasions in each (approach and avoidance) goal condition.

Coding Schemes
Coding schemes developed from the pilot study will be used with the established data set to determine the content and specificity for participants' goals and causal explanations for goal achievement and non-achievement.

With the assistance of the research supervisors, Dr. Joanne Dickson and Dr. Arie Nouwen, the researcher, using data from the pilot study, will be designing a preliminary content coding scheme and a preliminary specificity (which is a novel development) coding scheme. This, therefore, has the potential to make a worthwhile contribution to the research literature. Coding schemes from the pilot study will be applied across four conditions, to the main data set, to categorise and/or determine;
-        the 'content' and 'specificity' of descriptions of personal goals (approach and avoidance) and causal explanations i.e. goal achievement (pro-reasons) and goal non-achievement (con-reasons).

Inter-rater reliabilites will be assessed under the supervision of Dr. Joanne Dickson and Dr. Arie Nouwen.   Dr. Joanne Dickson will act as a co-rater and the inter-rater reliability will be measured using Cohen's Kappa reliability co-efficients.

References.

1. Dickson JM, MacLeod AK. (2004a) Anxiety, depression and approach and avoidance goals and plans: Their relationship to anxiety and depression. Cognition and Emotion, 18: 423-430.

2. Dickson JM, MacLeod AK. (2006) Dysphoric adolescents' causal explanations and expectancies for approach and avoidance goals. Journal of Adolescence, 29: 177-191.

B3)   List any research assistants, sub-contractors or other staff not named above who will be involved in the research and detail their involvement.

| |
| |

B4)   List below all research sites, and their Lead Investigators, to be included in this study.

Research Site	Individual Responsible	Position and contact details
Whelan Building Division of Clinical Psychology, Institute of Psychology, Health and Society	Susan Mitzman, Researcher	

B5)   Are the results of the study to be disseminated in the public domain?

YES ☒ NO ☐

➢   *If not, why not?*

B6)   Give details of the funding of the research, including funding organisation(s), amount applied for or secured, duration, and UOL reference

Funding Body	Amount	Duration	UoL Reference
N/A			

B7)   Give details of any interests, commercial or otherwise, you or your co-applicants have in the funding body.

None

SECTION C - EXPEDITED REVIEW
C1)

a) Will the study involve recruitment of participants outside the UK?	No
b) Does the study involve participants who are particularly vulnerable or unable to give informed consent? *(e.g. children, people with learning or communication disabilities, people in custody, people engaged in illegal activities such as drug-taking, your own students in an educational capacity) (Note: this does not include secondary data authorised for release by the data collector for research purposes.)*	No
c) Will the study require obtaining consent from a "research participant advocate" (for definition see guidance notes) in lieu of participants who are unable to give informed consent? *(e.g. for research involving children or, people with learning or communication disabilities)*	No
d) Will it be necessary for participants, whose consent to participate in the study will be required, to take part without their knowledge at the time? *(e.g. covert observation using photography or video recording)*	No
e) Does the study involve deliberately misleading the participants?	No
f) Will the study require discussion of sensitive topics that may cause distress or embarrassment to the participant or potential risk of disclosure to the researcher of criminal activity or child protection issues? *(e.g. sexual activity, criminal activity)*	No
g) Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind?	No
h) Will samples (e.g. blood, DNA, tissue) be obtained from participants?	No

i) Is pain or more than mild discomfort likely to result from the study?	No
j) Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?	No
k) Will the study involve prolonged or repetitive testing?	No
l) Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?	No

C2)

a) Will the study seek written, informed consent?	Ye
b) Will participants be informed that their participation is voluntary?	Ye
c) Will participants be informed that they are free to withdraw at any time?	Ye
d) Will participants be informed of aspects relevant to their continued participation in the study?	Ye
e) Will participants' data remain confidential?	Ye
f) Will participants be debriefed?	Ye

If you have answered 'no' to all items in SECTION C1 and 'yes' to all questions in SECTION C2 the application will be processed through expedited review.

If you have answered "Yes" to one or more questions in Section C1, or "No" to one or more questions in Section C2, but wish to apply for expedited review, please make the case below. See research ethics website for an example "case for expedited review".

C3) **Case for Expedited Review –** *To be used if asking for expedited review despite answering YES to questions in C1 or NO to answers in C2.*
N/A

SECTION D - PARTICIPANT DETAILS

D1) **How many participants will be recruited?**

12

D2) **How was the number of participants decided upon?**

Only a small number of participants are required for the pilot study which is required to develop preliminary 'specificity' and 'content' schemes for 1) goal tasks and 2) causal explanations tasks. Given also that the pilot study will be eliciting very brief and 'thin' (i.e. one or two line) responses for most tasks, it is anticipated that 12 participants should be sufficiently adequate for the purposes of the pilot study. The

> data generated from the pilot task will then be applied to an established data set comparing depressed, remitted and control subjects in the investigation of personal goals systems.

D3)

a)   Describe how potential participants in the study will be identified, approached and recruited.

> Administrative, technical and support staff (representative of the general public) employed by the University of Liverpool will be contacted by e-mail, detailing information relating to the pilot study, giving information regarding the nature of the study, and the length of participation time. The e-mail will request staff to contact the researcher if they are willing to take part in the pilot study.

b)   Inclusion criteria:
Males and females above the ages of 18 years.

Males and females below the age of 18 years.
c)   Exclusion criteria:

d)   Are any specific groups to be excluded from this study? If so please list them and explain why:
N/A

e)   Give details for cases and controls separately if appropriate:

N/A

f)Give details of any advertisements:

N/A

D4)   State the numbers of participants from any of the following groups and justify their inclusion

Children under 16 years of age:	N/A
Adults with learning disabilities:	N/A
Adults with dementia:	N/A
Prisoners:	N/A
Young Offenders:	N/A
Adults who are unable to consent for themselves:	N/A
Healthy Volunteers:	12
Those who could be considered to have a particularly dependent relationship with the investigator, e.g. those in care homes, students of the PI or Co-applicants:	N/A
Other vulnerable groups (please list):	N/A

D5)

a)   Describe the arrangements for gaining informed consent from the research participants.

Once staff reply to the e-mail requesting participation in the pilot study - the research investigator will arrange to meet at a time which is most convenient for the participants. The investigator will then meet with the participants with a view to answering any concerns or questions, and then should the participants still wish to proceed - the investigator will ask the participants to complete a consent form and read the information sheet prior to completing the pilot task. It will be made clear to all participants that annonymity will be assured and that they will be free to withdraw their consent and withdraw from participation at any stage.

b)   If participants are to be recruited from any of the potentially vulnerable groups listed above, give details of extra steps taken to assure their protection, including arrangements to obtain consent from a legal, political or other appropriate representative in addition to the consent of the participant *(e.g. HM Prison Service for research with young offenders, Head Teachers for research with children etc.).*

N/A

c)   If participants might not adequately understand verbal explanations or written information given in English, describe the arrangements for those participants (e.g. translation, use of interpreters etc.)
The written and verbal instructions for the pilot task are very brief and simple to understand and it is not anticipated that there will be any difficulty in understanding any of the instructions.

d)   Where informed consent is not to be obtained (including the deception of participants) please explain why.

N/A

D6)   What is the potential for benefit to research participants, if any?

> *There is no direct benefit, however, it will be explained to participants that their involvement in the pilot study will contribute to further research within the Institute of Psychology, Health and Society, relating to depression and personal goals. The research findings will be explained and fedback to interested participants upon request, on completion of the pilot study.*

D7)   State any fees, reimbursements for time and inconvenience, or other forms of compensation that individual research participants may receive. Include direct payments, reimbursement of expenses or any other benefits of taking part in the research?

> All participants will receive £10.00 to compensate, and reimburse, them for their time taken up in participating in this study.

SECTION E - RISKS AND THEIR MANAGEMENT

E1)   Describe in detail the potential physical or psychological adverse effects, risks or hazards (minimal, moderate, high or severe) of involvement in the research for research participants.

> There are no potential pysical or psychological adverse effects, risk or hazards (minimal, moderate or severe) of involvement in the research for participants.

E2)   Explain how the potential benefits of the research outweigh any risks to the participants.

> There are not understood to be any risks to the participants.

E3)   Describe in detail the potential adverse effects, risks or hazards (minimal, moderate, high or severe) of involvement in the research for the researchers.

> None are foreseen.

E4)   Will individual or group interviews/questionnaires discuss any topics or issues that might be sensitive, embarrassing or upsetting, or is it possible that criminal or other disclosures requiring action could take place during the study (e.g. during interviews/group discussions, or use of screening tests for drugs)?

YES   ☐   NO   ☒

> ➢   *If Yes, give details of procedures in place to deal with these issues.*

> N/A

E5)   Describe the measures in place in the event of any unexpected outcomes or adverse events to participants arising from their involvement in the project

> It is highly unlikely that any unexpected outcomes or adverse events are likely to arise, but should there be any concerns, all participants will have the opportunity to speak to the researcher. All adverse incidents will be reported to the School Administrator, Dawn Holdman, and the Research Governance Officer, within 24 hours. All participants will be fully debriefed and given information relating to local counselling and psychological support services.

E6)   Explain how the conduct of the project will be monitored to ensure that it conforms with the study plan and relevant University policies and guidance.

> The pilot project will be fully supervised, in keeping with University policy and guidance, by the lead supervisor, Dr. Joanne Dickson who is a lecturer and researcher employed by the Institute of Psychology, Health and Society, and Dr. Arie Nouwen, Senior Lecturer in Clinical Psychology, University of Birmingham. The researcher is also employed as a Senior Clinical Tutor, by the Institute of Psychology, Health and Society, and therefore is also bound by the policies and guidance of the University.

SECTION F - DATA ACCESS AND STORAGE

F1)   Where the research involves any of the following activities at any stage (including identification of potential research participants), state what measures have been put in place to ensure confidentiality of personal data (e.g. encryption or other anonymisation procedures will be used)

Electronic transfer of data by magnetic or optical media, e-mail or computer networks	N/A
Sharing of data with other organisations	N/A
Export of data outside the European Union	N/A
Use of personal addresses, postcodes, faxes, e-mails or telephone numbers	N/A
Publication of direct quotations from respondents	N/A
Publication of data that might allow identification of individuals	N/A
Use of audio/visual recording devices	N/A
Storage of personal data on any of the following:	Code numbers will be used, and no identifying details of participants will be included, on any of the study questionnaires. Consent forms and any demographic information will be stored separately in a locked filing cabinet at the University of Liverpool. Data relating to the completed pilot questionnaires may be kept, in secure conditions, at the University of Liverpool for up to a period of 5 years however any identifying information will be destroyed.
Manual files	See above
Home or other personal computers	N/A
University computers	N/A
Private company computers	N/A
Laptop computers	N/A

F2)   Who will have control of and act as the custodian for the data generated by the study?

Dr. Joanne Dickson, Lead Supervisor, University of Liverpool.

F3)   Who will have access to the data generated by the study?

Dr. Joanne Dickson, Lead Supervisor, University of Liverpool, and Susan Mitzman, Researcher, University of Liverpool

F4)   For how long will data from the study be stored?

5 years

SECTION G – PEER REVIEW

G1)   Has the project undergone peer review?

YES   ☒   NO   ☐

If yes, by whom was this carried out?
By Dr. James Reilly, Senior Clinical Tutor, School of Clinical Psychology, University of Liverpool

SECTION G - CHECKLIST OF ENCLOSURES

Study Plan / Protocol	
Recruitment advertisement	
Participant information sheet	
Participant Consent form	
Research Participant Advocate Consent form	
Evidence of external approvals	
Questionnaires on sensitive topics	
Interview schedule	
Debriefing material	
Other (please specify)	
Evidence of peer review (If G1 = Yes)	

**Research Ethics Application Form,
Version 4.0
17/8/09**
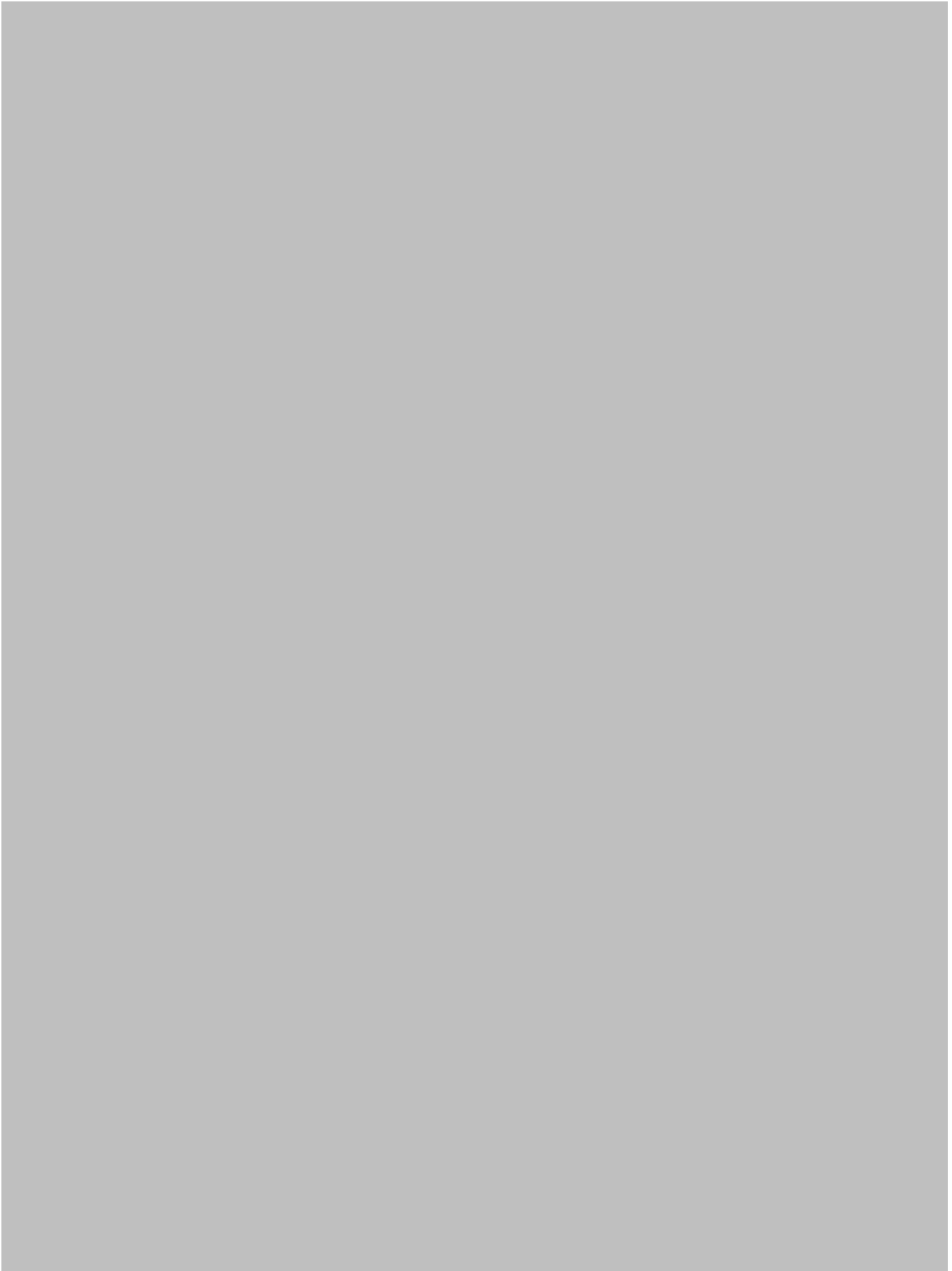
Appendix 4:

Pilot Task Booklet and Verbal Instructions

Appendix 5:

Final Specificity Coding Schemes for Goals and Causal Explanations

Appendix 6:

Final Goal Content Coding Schemes

Appendix 7:

SCID-1 and BDI-II

Appendix 8: