



**The Role of Goals and Goal Orientation  
as Predisposing Factors for Depression**

**Literature review and empirical paper.**

Submitted by Ulrike Klossek for the degree of

Doctor of Clinical Psychology

in May 2015

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## Table of Contents – Literature Review

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<b>Introduction</b>	<b>1-5</b>
Approach and avoidance goals	1
Goal setting and goal pursuit – engagement, re-engagement and attainability	2
Goal orientation theory	3
Aims of the present review	4
<b>Method</b>	<b>5-7</b>
Search strategy and identification of studies	5
Selection and inclusion criteria	6
Evaluation criteria and quality assessment	7
<b>Results</b>	<b>8-22</b>
Reasons for exclusion	9
Study characteristics and quality assessment	9
Studies examining personal goals and goal pursuit in depression	10
Number of personal goals in depression	10
Importance of goals	11
Goal specificity	11
Perceived attainability and control over attainment	12
Approach and avoidance motivation	19
Goal pursuit and disengagement	20
Promotion goals and predictors of treatment response	20

---

<b>Discussion</b>	<b>22-26</b>
Personal goals	23
Belief in goal attainability	23
Avoidance	24
Linking goal characteristics and goal pursuit	25
Implications for therapy	26
Conclusions	26
<b>References</b>	<b>27-40</b>
<b>Appendix A</b> – Search strategy for OVID	<b>i</b>
<b>Appendix B</b> – Excluded studies	<b>ii-viii</b>
<b>Appendix C</b> – Publication guidelines (JCCP)	<b>ix-xx</b>

### **Table of Contents – Empirical Paper**

<b>Introduction</b>	<b>1-9</b>
Goal orientation theory and response to task failure	2
A goal orientation approach to depression	3
Potential implications for therapy	5
Aims of the present study	6
Predictions	7

<b>Method</b>	<b>9-18</b>
Participants	9
Measures	10
Performance task	13
Procedure	17
<b>Results</b>	<b>19-31</b>
Mood ratings	21
Task performance	24
Satisfaction with performance self-ratings	24
Manipulation check	25
Goal orientation as a predictor of affect and performance ratings	28
Effects of trait GO and interactions with GO instructions following failure	29
<b>Discussion</b>	<b>30-36</b>
<b>References</b>	<b>37-43</b>
<b>Appendix A</b> – Sample test items	<b>i-iv</b>
<b>Appendix B</b> – Measures	<b>v-xi</b>
<b>Appendix C</b> – Ethics approval letter	<b>xii</b>
<b>Appendix D</b> – Publication guidelines (JoAP)	<b>xiii</b>
<b>Appendix E</b> – Dissemination statement	<b>xiv</b>

## List of Tables

---

### Literature Review

---

Table 1. Selected characteristics of included studies on personal goals, goal pursuit and goal orientation in depressed individuals.	13-18
Appendix A - Table A1. Search strategy for OVID.	i
Appendix B - Table B1. Excluded studies with reasons for exclusion.	ii-viii

---

### Empirical Paper

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Table 1. Measures - Means and standard deviations by experimental group.	20
Table 2. Means and standard deviations for pre- and post-task mood and performance ratings	23
Table 3. Mean number of correct responses and performance satisfaction ratings.	25
Table 4. Correlations between main measures.	26

---

## List of Figures

---

### Literature Review

---

Figure 1. Study identification and selection process. 8

---

### Empirical Paper

---

Figure 1. Flowchart illustrating the experimental procedure. 18

Figure A1, Appendix A. Example of ‘pattern’ problem used in the experimental tasks (example shown to participants prior to completing the task). i

Figure A2, Appendix A. Example of ‘twisted cable’ problem used in the experimental tasks (example shown to participants prior to completing the task). ii

Figure A3, Appendix A. Sample test item - ‘reasoning’ problem used in task 1. iii

Figure A4, Appendix A. Sample test item – ‘reasoning’ problem used in task 2. iv

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**SCHOOL OF PSYCHOLOGY**  
**DOCTORATE IN CLINICAL PSYCHOLOGY**

**LITERATURE REVIEW**

**Goals, Goal pursuit and Goal Orientation in Depression**

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## **Abstract**

Dysregulation of the motivational and incentive functions that underlie goal setting and goal pursuit is thought to be a key factor implicated in the aetiology of Major Depressive Disorder. Although research over the past two decades has shown that motivational and cognitive factors can play an important role in increasing negative affect and making individuals vulnerable to depression, much of this work has involved dysphoric and non-depressed samples and much less is known about their role in the maintenance of and recovery from clinical depression. The objective of the present study was therefore to identify and synthesize the evidence from studies that examined goals, goal pursuit and goal orientation in clinically depressed individuals. Only 9 studies meeting the inclusion criteria could be identified through systematic literature searches and were heterogeneous in design and quality. The results therefore do not allow strong conclusions to be drawn and need to be interpreted with caution. Bearing this caveat in mind, the findings did not support the idea that depressed individuals set fewer, less valued or more avoidant personal goals than non-depressed individual and suggested that problems were more likely to lie in the motivational and cognitive processes governing goal engagement and goal pursuit. Factors identified by the present studies likely to play a significant role in disrupting motivational processes and promoting maladaptive strategies of goal pursuit were perceived goal attainability, perceived lack of control, personal resources and skills required, type of goal focus, lack of goal specificity and goal engagement and disengagement processes. The results of two randomised clinical trials further suggested that therapies focusing on goal dysregulation in patients identified to lack adaptive strategies for goal pursuit and goal reengagement may be more effective than standard models. These findings identified promising areas for future research and highlight the importance of understanding individual profiles and

subtypes of depression in order to target key areas of dysregulation and tailor treatment accordingly and in collaboration with the patient. The review highlighted the paucity of good quality studies involving samples of clinically depressed individuals and the need for more translational work focusing on clinically significant outcomes and developing reliable measures to assess day-to-day goal engagement and pursuit in depressed individuals.

## **Introduction**

Cognitive theories emphasize the importance of the individual's subjective interpretation of events, suggesting that the meanings, beliefs and assumptions derived from experiences are key factors that make individuals vulnerable to depression (e.g. Beck, 1967, 1987; Ellis, 1962), but have tended to neglect to explicate the role of motivational factors and the interface between cognition and hedonic and incentive processes (e.g. Dykman, 1998). The last two decades have seen a resurgence of interest in the role of motivation and personal goals in depression and their relationship with cognitive vulnerabilities, frequently linking research on depression with work in the area of social cognition (Ames, 1984; Elliott, 1999; Elliott & Dweck, 1988; Cantor & Zirkel, 1990; Emmons, 1989; Maslow, 1968, 1987; Dweck & Leggett, 1988; Dweck, 1999; Dykman, 1998; Rothbaum, et al. 2009). This work has yielded some insights into the types of goals and ways of pursuing them that may make individuals vulnerable to depression.

## **Approach and Avoidance Goals**

It has been suggested that Major Depressive Disorder (MDD) is characterised by an underlying dysfunction in the motivational systems that regulate goal-directed approach and withdrawal behaviours (Davidson et al., 2002; Emmons & Kaiser, 1996). Gray (1973) proposed two independent systems responsible for the regulation of appetitive and aversive motivation, which he referred to as behavioural activation (BAS) and behavioural inhibition systems (BIS). Fowles (1994) proposed that depression may be characterised by an imbalance of these two functions, so that BIS activity is enhanced, while BAS is attenuated, leading to increased sensitivity to punishment and withdrawal and low approach motivation and reward-seeking (Fowles, 1994). This would suggest that depressed individuals may also have a deficit in approach goals, be more motivated to avoid expected punishment or generally generate and pursue fewer personal goals than non-depressed individuals (Champion & Power, 1995). Findings in support of these ideas were reported by several studies reporting higher levels of self-reported BIS vs. BAS activity

(Kasch et al., 2002; Carver & White, 1994), reduced reward sensitivity (Henriques & Davidson, 2000), attenuation of positive and potentiation of negative emotional reactivity (e.g. Bylsma et al., 2008) and fewer self-reported approach goals (Dickson & MacLeod, 2004). Other authors suggested that depressed individuals may generate fewer intimacy and more achievement goals (Lecci et al., 1994) and that their goals may be more abstract, more complex and less specific than the goals of non-depressed individuals, which may make them harder to attain, thus potentially increasing negative affect and the probability of goal failure (Carver & Scheier, 1990; Dickson & MacLeod, 2004; Emmons, 1992).

### **Goal Setting and Goal Pursuit - Engagement, Re-engagement and Attainability**

Lack of progress towards and failure to attain important personal goals are also thought to be important factors in predisposing individuals to depression (e.g. Carver & Scheier, 1990; Pyszczynski & Greenberg, 1987), giving rise to negative affect, brooding, increased self-focus and ruminative, negative thinking (Martin & Tesser, 1996; Moberly & Watkins, 2010). Klinger (1975) proposed that depression reflects a natural process of grieving and disengagement from important, highly valued, but unattainable goals that has become prolonged or arrested. While withdrawal and helplessness responses are generally recognized as typical depressive reactions when faced with a goal that is perceived to be or actually impossible to obtain (e.g. Seligman, 1975), inability to disengage from pursuing unattainable goals or ‘misguided persistence’ can equally lead to or sustain depressive symptoms (Carver et al., 1988; Nolen-Hoeksema, 1994; Wrosch et al., 2003). Progress towards valued goals can also be impaired and give rise to depressive symptoms if individuals hold goals that conflict with each other, such as trying to build a successful business and spending more time with one’s family (Emmons et al., 1993). A number of studies have shown that increased goal conflict and lack of mutually facilitative goals are associated with depressive symptoms and suggested that depressed individuals may hold a

greater number of conflicting goals (e.g. Emmons & King, 1988; Dickson & Moberly, 2010; Ryan et al., 1996).

Over-investment in a specific or small number of goals as well as conditional goal-setting may also contribute to painful engagement and disengagement experiences in goal pursuit (Street, 2002). Individuals who believe that higher-order, abstract goals such as ‘happiness’ are attainable and contingent on realising a specific lower-order goal, such as being married or having a specific body weight are likely to over-invest in the lower-order goal and engage in a type and pattern of goal pursuit that may make them vulnerable to depression (Street, 1999). Consistent with these ideas, reframing and successful disengagement from unattainable goals have been shown to promote increased well-being (Heckhausen et al., 2010; Moskowitz et al., 1996; Tunali & Power, 1993; Sprangers & Schwartz, 1999).

### **Goal Orientation Theory**

The findings discussed so far illustrate not only that the number, type and content of personal goals as well as certain unhelpful ways and strategies of goal-setting and goal pursuit may all play an important role in promoting depressive responses and symptoms, but also highlight the importance of the integration of motivational and cognitive factors, such as beliefs about the attainability of certain goals, in order to understand the different pathways that may lead individuals into or maintain clinical depression. In the context of a stress-diathesis model of mental health and depression, cognitive style may thus interact with underlying motivational dispositions that affect goal-directed behaviour to confer a vulnerability to respond to stressful events with depressive symptoms. Goal-orientation theory (Dweck & Leggett, 1988; Dykman, 1998) proposes that individuals pursue different types of implicit motivational goals in

achievement situations, performance goals and learning goals. A focus on performance goals has been associated with a helpless response pattern, whereas learning goals tended to promote mastery-oriented responses (Dweck & Leggett, 1988; Elliott & Dweck, 1988). Dykman (1998) therefore proposed that their goal-orientation could render individuals either vulnerable or resistant to depression. Specifically, he proposed that depression-prone individuals were validation-seeking and engaged in behaviours consistent with these goals, which would lead them to respond to setbacks with a withdrawal of effort, avoidance and rumination to avoid further proof of their perceived worthlessness (Baer, Grant & Dweck, 2008; Cury et al, 2006; Elliott & Dweck, 1988; Lindsay & Scott, 2005).

### **Aims of the Present Review**

The findings discussed above suggest that the number and type of personal goals, their content as well as maladaptive ways of goal-setting and goal pursuit characterised by over-investment, avoidance motivation and failure to reframe and disengage from unattainable goals can increase depressive symptoms such as negative affect, withdrawal and rumination. However, most of the findings discussed above are based on samples of university students and other convenience samples that did not meet criteria for clinical depression and may at best only be representative of a subset of individuals with depressive symptoms in terms of their education, socio-economic status, resources and general aspirations. It is therefore unclear to what extent current findings can be extended to clinically depressed samples and how well they reflect the experiences of individuals who meet criteria for MDD at the time of study.

There are also no recent systematic literature reviews of studies that have examined the role of personal goals, goal-setting and goal orientation within clinical depressed populations. Two existing narrative reviews on conditional goal-setting and goal pursuit (Street, 2002) and

on goal orientation in depression (Rothbaum et al., 2009) also cited mostly evidence from studies on non-depressed samples, such as dysphoric students, and did not conduct systematic searches of the research literature.

The aim of the present review was therefore to identify and review relevant research articles to evaluate and summarise the findings from quantitative studies that examined the role of personal goals, goal-orientation or goal pursuit on the maintenance and exacerbation of symptoms or recovery in clinically depressed individuals. Thematically, the review sought to examine (i) the characteristics, quality and quantity of personal goals in individuals affected by depression, (ii) whether depressed and non-depressed individuals differ in their pursuit of personal goals and (iii) the role of goal-orientation in depression and whether there is evidence that depressed individuals are more likely to be validation-seeking and to pursue self-worth goals.

## **Method**

### **Search Strategy and Identification of Studies**

Computerized searches were conducted within the following electronic databases from the first available year until April 2015 - Ovid PsycINFO, Ovid PsycINFO Ovid MEDLINE, Ovid EMBASE, Ovid CINAHL, Ovid Global Health, Ovid HMIC, Ovid Social Policy and Practice, ESBCO Psychology and Behavioural Sciences Collection and the Cochrane Library. Appendix A contains a list of search terms employed for the literature searches. In addition, reference lists from existing review articles and key empirical papers in the area were scanned and checked for relevant citations. Abstracts identified through the literature searches were

scanned and selected for inclusion on the basis of relevance and meeting the inclusion and exclusion criteria described below.

**Selection and inclusion criteria.**

Publications in any language that included clinically depressed adults and reported outcome measures relevant to the area of interest were considered for review. Studies were required to report outcome measures for at least one case or group of clinically depressed adults meeting DSM, ICD or equivalent diagnostic criteria appropriate to the year of study. Diagnostic criteria needed to be assessed by a suitably qualified mental health professional (MHP) or trainee MHP supervised by a qualified MHP. Further exclusion criteria were extensive comorbidity or presence of other diagnosable conditions likely to be a primary cause of the presenting difficulties and depressive symptoms, such as head injury, dementia, other neurological disorders, personality disorders, bipolar spectrum disorders, autism spectrum disorders, psychosis, PTSD, substance disorders or complicated grief.

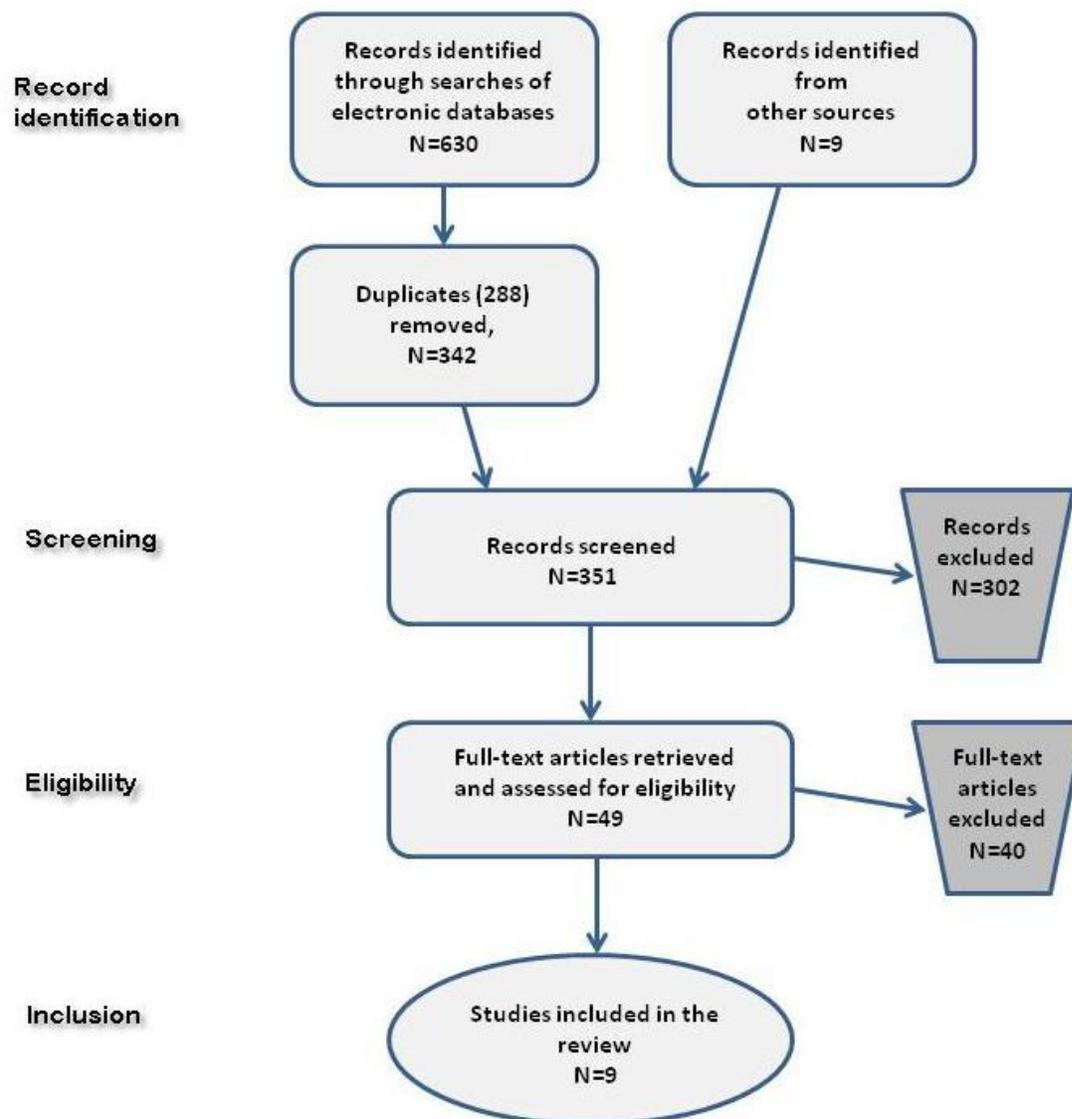
### **Evaluation criteria and quality assessment.**

Full-length articles of potentially eligible studies were obtained and checked against the inclusion criteria described above. For articles that met the inclusion criteria, data were extracted in line with recommendations by the Cochrane Collaboration (Higgins & Green, 2011) and methodological quality was assessed and graded using the Quality Assessment Tool for Quantitative Studies developed by the Effective Public Health Practice Project (EPHPP, 1998; 2010). In the present sample of studies, significant heterogeneity of study design was expected; therefore the EPHPP tool was chosen because it permits assessing a range of different study designs with a single tool, including randomised controlled trials (RCTs), quasi-experimental studies, observational studies and uncontrolled studies. The Tool has been shown to be suitable for the assessment of studies for systematic reviews and has good validity and reliability (Armijo-Olivo, Stiles, Hagen, et al., 2012; Deeks, Dinnes, D'Amico, et al., 2003). It assesses study quality across eight domains (selection bias, study design, confounders, blinding, data collection methods, withdrawals and dropouts) and, based on the component ratings, assigns a global rating of 'strong', 'moderate' or 'weak'.

## Results

Literature searches identified 351 records that were screened for suitability. Of these, 49 full-text articles were retrieved and assessed for eligibility against the inclusion and exclusion criteria, and 9 studies meeting these criteria were included in the review (see Table 1).

Figure1. Study identification and selection process.



## **Reasons for exclusion**

Studies not included in the review and reasons for exclusion are presented in Table B1, Appendix B. Overall, 20 studies were excluded because the study sample did not meet diagnostic criteria for clinical depression or depressive status was not assessed. Eleven studies were not included because of case mix and comorbidity and eight further studies were not included because they did not assess any goal-relevant measures. One study was discarded because it was a theoretical paper.

## **Study Characteristics and Quality Assessment**

As expected, the studies included in the review were heterogeneous with regard to their study design. The final sample included two randomised controlled trials (Eddington et al. 2015; Strauman et al., 2006). The remainder were observational (Wallace et al., 2012) and quasi-experimental case-control designs that compared depressed and non-depressed groups (Belcher & Kangas, 2014; Dickson et al., 2011; Eddington et al., 2009; Sherratt & MacLeod, 2013; Loeb et al., 1971). Based on the quality ratings assigned by the EPHPP Quality Assessment tool, two of the studies were classed as strong (Eddington et al., 2015; Strauman et al., 2006), four as moderate (Belcher & Kangas, 2014; Dickson, Moberly & Kinderman, 2011; Dickson & Moberly, 2013; Loeb, Beck & Diggory, 1971) and the remaining three studies as weak. Most ‘weak’ ratings were assigned for shortcomings in the area of controlling for confounders (4) and for not reporting or establishing the validity and reliability of data collection methods (3). Other ‘weak’ component ratings concerned use and reporting of blinding methods (2) and general design factors (1).

## **Studies Examining Personal Goals and Goal Pursuit in Depression**

Five studies assessed and compared the number of personal goals, task-related goal-setting and perceived likelihood of goal attainment in depressed and non-depressed individuals (Belcher & Kangas, 2014; Dickson et al., 2011; Dickson & Moberly, 2013; Loeb et al., 1971; Sherratt & MacLeod, 2013). Four of these studies used the Goals Task (Dickson & MacLeod, 2004), which requires participants to generate as many approach and avoidance goals as possible and to rate their importance. Two of these studies also assessed participants' reasons for and against the expected accomplishment of their most important approach and avoidance goals. Dickson and colleagues also included ratings of perceived control, and both Dickson & Moberly (2013) and Belcher & Kangas (2014) used independent coders to rate the specificity of their participants' personal goals. In addition, Belcher & Kangas included measures of autobiographical memory and imagined future event specificity and examined their association with goal specificity. Loeb et al. (1971) compared highly vs. mildly depressed psychiatric outpatients on goal-setting, performance self-ratings and the perceived likelihood of goal attainment as well as actual performance over trials of a card-sorting task. Wallace et al. (2012) investigated the relationship between the use of goal disengagement strategies, depression severity and time to remission in relation to health goals within a community sample of older adults.

### **Number of personal goals in depression.**

All studies that looked at the number of personal goals found that depressed individuals generated as many personal goals as non-depressed individuals (Belcher & Kangas, 2014; Dickson et al., 2011; Dickson & Moberly, 2013; Sherratt & MacLeod, 2013). Sherratt &

MacLeod's study did not control the setting or time allowed for completion of the measure as participants completed the measures in their own time and returned them by mail, which potentially reduces the reliability and validity of their results. Loeb et al. found that when presented with a novel task to complete during a lab session, individuals with severe versus minimal depression set goals for themselves (number of cards to be sorted on each trial) that were equally ambitious. Overall, none of the studies provided any evidence to support the idea that depressed individuals have fewer personal goals (e.g. Champions & Power, 1995).

### **Importance of goals.**

There was also no evidence that personal goals mattered less to depressed participants as both studies that reported relevant analyses found no significant differences in ratings of goal importance between Depressed and Non-depressed groups (Dickson et al., 2011; Dickson & Moberly, 2013). Loeb et al. (1971) also reported that highly and minimally depressed outpatients did not differ in their level of aspiration when asked to complete an unfamiliar card-sorting task.

### **Goal specificity.**

Two studies found that depressed individuals generated goals that were less specific than those reported by non-depressed individuals (Dickson & Moberly, 2013; Belcher & Kangas, 2014). This was true for both approach and avoidance goals. Belcher and Kangas (2014) also assessed the specificity of autobiographical memories and imagined future events and found significantly reduced specificity of memories and prospection in depressed participants. However, the findings on goal and memory specificity may have been confounded by age and possibly education. In Kangas & Belcher's study, the mean age in the depressed group was significantly higher than in the Non-depressed group and the authors found that memory

specificity was significantly negatively associated with age and positively with years of education. In Dickson & Moberly's study (2013), the Depressed group was also older than the Non-depressed group, although this difference did not reach significance and information about participants' level of education was not reported.

### **Perceived attainability and control over goal attainment.**

Generally, depressed individuals were more pessimistic about the likelihood of attaining their personal goals (Belcher & Kangas, 2014; Dickson et al., 2011; Dickson & Moberly, 2013). On Loeb et al.'s card-sorting task, depressed patients set the same goals for themselves, but had significantly lower expectations of being able to achieve them. Depressed individuals rated themselves as having significantly fewer personal resources and skills to obtain valued outcomes than non-depressed individuals and believed they had significantly less control over realizing their goals (Belcher & Kangas, 2014; Dickson et al., 2011). At equivalent levels of actual performance, the depressed group also rated themselves as significantly less successful than controls (Loeb et al., 1971). In simplified terms, these results support the notion that depression is not characterised by a paucity of personally meaningful goals or absence of the fundamental desire to attain valued outcomes, but by a lack of belief in the ability to attain them.

Table 1. Selected characteristics of included studies on personal goals, goal pursuit and goal orientation in depressed individuals.

Study	Sample, diagnostic method	Design, measures	Main findings	Overall quality rating	Goal aspect(s) examined
Eddington, Silvia, Foxworth, et al., 2015  U.S.	N=49 (41 women, 8 men)  SST group N=22 (18 women) Age M=37.9  CBT group N=27 (23 women) M=37.9  Significantly more comorbid dysthymia in CBT group (40.7% vs. 13.6%; p=.037)  Diagnostic criteria:  DSM-IV-TR SCID clinical interview BDI-II>14  Exclusion criteria Antidepressant or herbal medication for depression in last 4 months History of mania Substance dependence in last 6 months History of psychosis Personality disorder Active suicidality	Randomised clinical trial comparing self-system therapy (SST) with cognitive behavioural therapy (CBT) investigating whether goal adjustment and self-regulatory focus predict differential benefit from SST vs. CBT for depression.  Treatment: 16 sessions of either SST or CBT  Measures (pre-treatment): Regulatory focus questionnaire (RFQ; Higgins et al., 2001) – assesses individual differences in orientation to promotion and prevention goals.  Goal Adjustment Scale (Wrosch, et al., 2003) – goal disengagement, goal re-engagement  Pre-treatment & session-by-session: BDI depression score BAI anxiety score	Overall, SST and CBT were equally effective at reducing symptoms of depression and anxiety.  Individuals with low promotion goal focus showed greater improvement in depression with SST; individuals with high prevention focus benefited more from CBT.  Individuals low in self-reported use of goal re-engagement strategies at intake showed greater improvement in depression with SST; individuals high in self-reported use of goal re-engagement strategies benefited equally from SST and CBT.  Goal disengagement did not moderate treatment effect (depression score).  For anxiety symptoms, SST and CBT were overall equally effective at reducing symptoms.  Individuals with low promotion goal focus and individuals with low prevention goal focus showed greater improvement in anxiety symptoms when treated with SST.  There were no significant effects of goal engagement on anxiety scores.	1  (strong)	Goal adjustment and self-regulatory focus, promotion goal orientation, prevention goal orientation; goal re-engagement, goal disengagement,  Treatment – self-system therapy vs. cognitive behavioural therapy

<p>Belcher &amp; Kangas, 2014</p> <p>Australia</p>	<p>N=60</p> <p>Adults with major depressive disorder (MDD; N=30; 21 women) and never-depressed controls (ND; N=30; 25 women)</p> <p>Community sample</p> <p>Age <math>M=38.1</math> (MDD); <math>30.7</math> (ND); age difference MDD vs. ND significant (<math>p=.026</math>)</p> <p>Diagnosis:</p> <p>DSM-IV criteria SCID clinical interview BDI</p>	<p>Autobiographical memory test – memory specificity</p> <p>Future Imagining Test (FIT) – future event specificity (Kangas, Henry &amp; Bryant, 2005)</p> <p>Goals task (Dickson &amp; MacLeod, 2004); participants list specific approach and avoidance goals and rate extent to which one has the skills and resources required to obtain them (self-efficacy rating, 9-point scale)</p> <p>Specificity of goals coded into 3 categories ‘general’, ‘moderate’ and ‘specific’; Interrater agreement - approach goals, <math>\kappa = .95</math>; avoidance goals, <math>\kappa = .89</math></p> <p>MDD and ND groups complete AMT, FIT and Goals task</p> <p>Intercorrelations, ANOVA</p> <p>Number of approach and avoidance goals</p>	<p>No difference in the overall number of approach and avoidance goals generated by MDD and ND groups (approach – MDD <math>M=5.1</math>; ND <math>M=5.6</math>; avoidance – MDD <math>M=4.0</math>; ND <math>M=4.5</math>). Both groups set more approach than avoidance goals.</p> <p>MDD and ND groups differed significantly in rating their ability to achieve their goals (approach goals – MDD <math>M=6.3</math>, ND <math>M=6.7</math>, <math>p&lt;.05</math>; avoidance goals - MDD <math>M=5.5</math>, ND <math>M=7.0</math>, <math>p&lt;.01</math>).</p> <p>MDD vs. ND groups also differed significantly in</p> <ul style="list-style-type: none"> <li>- Proportion of specific memories (0.76 vs. 0.93) <math>p&lt;.01</math></li> <li>- Proportion of specific future imaginations (0.67 vs. 0.84) <math>p&lt;.01</math></li> <li>- Proportion of <i>specific</i> approach goals (0.46 vs. 0.65) <math>p&lt;.05</math></li> <li>- Proportion of <i>specific</i> avoidance goals (0.24 vs. 0.43) <math>p&lt;.05</math></li> <li>- Proportion of <i>general</i> avoidance goals (0.27 vs. 0.11) <math>p&lt;.05</math></li> </ul> <p>Correlations.</p> <p>In the MDD group, study found significant associations between</p> <ul style="list-style-type: none"> <li>- Memory specificity and approach goal specificity (<math>r=.47</math>, <math>p=.01</math>)</li> <li>- Memory specificity and approach goal specificity (<math>r=.40</math>, <math>p=.027</math>)</li> </ul> <p>There were no significant associations between these measures in the ND group.</p> <p>There was no significant association between future event specificity and avoidance or approach goal specificity in either of the groups.</p> <p>No significant differences in word count were found between MDD and ND groups on any of the tasks, suggesting differences in goal specificity were not due simply to reduced verbal fluency in the MDD group.</p> <p>Confounders</p> <p>In ND group, memory specificity was significantly negatively associated with age (<math>r= -.50</math>, <math>p=.005</math>) and positively correlated with years of education (<math>r= -.50</math>, <math>p=.005</math>).</p>	<p>2</p> <p>(moderate)</p>	<p>Personal goals, number of goals; goal characteristics - goal specificity</p>
<p>Dickson &amp; Moberly, 2013</p> <p>U.K.</p>	<p>N=45</p> <p>Depressed – N=21 (13 women, 8 men); Age <math>M=37.9</math>, range 19-74 years; 6 with comorbid anxiety disorder</p> <p>Never-depressed – N=24 (17 women, 7 men); Age <math>M=31.2</math>, range 18-81 years</p> <p>Diagnosis:</p> <p>DSM-IV SCID clinical interview</p>	<p>Goals task (Dickson &amp; MacLeod, 2004) participants generate specific approach and avoidance goals; each participant selected 1 avoidance and 1 approach goal that was most important to them</p> <p>Goal explanation task (Dickson &amp; MacLeod, 2006) Participants generate reasons why their most important avoidance and approach goal would or would not be accomplished in 90s period.</p> <p>Specificity ratings for goals and pro and con reasons for goals; ‘specific’ or</p>	<p>Overall, the Depressed group listed as many approach and avoidance goals as the Never-depressed group (<math>p&gt;.05</math>).</p> <p>Goals of Depressed individuals were rated less specific than those of never-depressed controls (<math>p=.002</math>); this was true for both approach (<math>p=.009</math>) and avoidance goals (<math>p=.004</math>).</p> <p>Significantly fewer specific reasons for attainment of approach goals in Depressed group (<math>p&lt;.001</math>); but no difference in the number of specific reasons for successful avoidance of avoidance goal outcomes between Depressed and Never-depressed groups (<math>p=.15</math>).</p> <p>Depressed group reported significantly fewer specific reasons for non-attainment of approach goals and why feared outcomes of avoidance goals would occur (<math>p=.02</math>).</p>	<p>2</p> <p>(moderate)</p>	<p>Approach and avoidance goals, goal specificity</p>

	(independent rater, $\kappa = 1$ ) BDI>13 (depressed) BDI<14 (never-depressed)	'general' (both $\kappa > .82$ )  -importance of goals (7-point scale)  BDI depression score  Assessment of verbal fluency (FAS task; Lezak, 1976)			
Sherratt & MacLeod, 2013  U.K.	N=59 (20 men)  Depressed group (D; N=26; 10 men); Age M=43, range 20-60; Adults referred by GP and treated for depression by MH professional; 15 receiving medication  Non-clinical group (NC; N=33, 10 men) Age M=37.5, range 19-82; recruited from community; not currently diagnosed with or seeking treatment for any MH difficulties; PHQ9<10  Diagnosis: Clinical interview (by treating clinician) PHQ $\geq$ 10  N=20 in Depressed group met PHQ-9 criteria for major depression  Exclusion criteria: Learning disability Not fluent in English	Goals task (Dickson & MacLeod, 2004) participants generate approach and avoidance goals; each participant selected 1 avoidance and 1 approach goal that was most important to them  Underlying motivation task (Dickson & MacLeod, 2004) Participants generate reasons for choosing their most important avoidance and approach goal. Reasons were rated for approach or avoidance motivation; second rater coded random sample (20%) of all responses; Interrater agreement - $\kappa = .82$  GAD-7 anxiety scale PHQ-9 depression scale  21 assessments completed in presence of investigator; 38 participants completed measures in their own time and returned them by post or e-mail; study reported no sig difference in completion mode between experimental group (p=.34)	Depressed and non-depressed groups did not differ in the overall number of approach and avoidance goals generated (p=.80). All participants reported more approach than avoidance goals (p<.001).  Depressed group (D) – approach goals M=7.4 (SD 3.2); avoidance goals M=5.3 (SD 3.3)  Non-clinical group (NC) – approach goals M=7.3 (SD 3.2); avoidance goals M=5.0 (SD 3.3)  Rater-coded reasons for top 2 goals (Underlying motivation task):  Overall, participants gave significantly more reasons for approach vs. avoidance goals (p<.001) and more avoidance reasons for avoidance goals (p<.001).  Depression group generated significantly more avoidance reasons (p<.001) and significantly fewer approach reasons (p=.01).  Approach reasons for approach goals – D: M=6.1; NC: M=8.2  Avoidance reasons for approach goals – D: M=4.0; NC: M=1.1  Avoidance reasons for avoidance goals – D: M=6.0; NC: M=4.6  Approach reasons for avoidance goals – D: M=2.2; NC: M=2.4	3  (weak)	Approach and avoidance goals, underlying motivation
Wallace, Dombrowski, Morse et al., 2012  U.S.	N=271 (200 Women)  Age median=69.6; range 64.6-76.8  Older adults >59yrs enrolled in PROSPECT primary care trial  Diagnosis:	Use of engagement for attainable and disengagement from unattainable health goals. Self-report measure.  Tree-structured survival analysis; identifying subgroups at risk for non-remission  Health-oriented engagement and disengagement control strategies	Disengagement was a significant predictor of time to depression remission (p=.03). Engagement - n.s.  Disengagement from unattainable health goals using goal disengagement strategies, avoid self-blame for unmet goals and refocusing significantly predicted time to remission – over and above disease burden (greater disengagement associated with earlier remission ), particularly in subgroup with higher levels of depression at baseline.	3  (weak)	Engagement/ disengagement ; unattainable health goals

	<p>DSM-IV Major (N=202) or Minor Depression criteria (4 symptoms for minor depression), present for at least 1 month</p> <p>HRSD <math>\geq 10</math> SCID clinical interview</p>	<p>measured with 8-item Health Engagement (E) and Disengagement (D) Control Strategies Scale from the Optimization in Primary and Secondary Control Survey (Schulz &amp; Heckhausen, 1998); E - Cronbach's <math>\alpha = .51</math>; D - Cronbach's <math>\alpha = .67</math></p> <p>Depression severity, time to first remission.</p>			
<p>Dickson, Moberly &amp; Kinderman, 2011</p> <p>U.K.</p>	<p>N=49 (32 women, 16 men, 1 missing datum)</p> <p>Depressed – N=23 (14 women, 8 men, 1 missing datum); Age M=37.1, range 19-74 years; 6 with comorbid anxiety disorder</p> <p>Never-depressed – N=26 (18 women, 8 men); Age M=30.5, range 18-81 years</p> <p>Diagnosis: DSM-IV SCID clinical interview (independent rater, <math>\kappa = 1</math>) BDI &gt; 13 (depressed) BDI &lt; 14 (never-depressed)</p> <p>Exclusion criteria for both groups: Learning disability Not fluent in English</p>	<p>Goals task (Dickson &amp; MacLeod, 2004) participants generate specific approach and avoidance goals; each participant selected 1 avoidance and 1 approach goal that was most important to them</p> <p>Goal explanation task (Dickson &amp; MacLeod, 2006) Participants generate reasons why their two most important avoidance and approach goal would or would not be accomplished (response time limit: 90s).</p> <p>Goal ratings: -likelihood of being able to achieve goals (7-point scale) -perceived control over goal achievement (7-point scale) -importance of goals (7-point scale)</p> <p>BDI depression score</p> <p>Assessment of verbal fluency (FAS task; Lezak, 1976)</p>	<p>Overall, participants listed more approach than avoidance goals (<math>p &lt; .001</math>). The Depressed group listed as many approach and avoidance goals as the Never-depressed group.</p> <p>Depressed and Never-depressed groups did not differ significantly in their rating of goal importance (all <math>F_s &lt; 1</math>).</p> <p>Overall, participants judged their approach goals to be more likely to occur than their avoidance goals (<math>p &lt; .001</math>).</p> <p>Depressed group rated the likelihood that their approach goals would be achieved significantly lower than Never-depressed controls (<math>p = .04</math>).</p> <p>Depressed group also showed a n.s. tendency to rate undesirable, avoided outcomes as more likely to occur than Never-depressed participants (<math>p = .051</math>).</p> <p>Overall, participants reported greater perceived control over approach than avoidance goals (<math>p = .02</math>). Depressed participants reported having significantly less control over goal achievement than Never-depressed participants (<math>p &lt; .001</math>).</p> <p>Never-depressed participants generated a greater number of reasons for vs. against goal achievement (<math>p = .001</math>), whereas Depressed participants reported just as much reasons against as for goal achievement (<math>p &gt; .05</math>).</p> <p>Reasons for approach goal attainment: Depressed – pro M=4.3; con M=4.2 Never-depressed – pro M= 4.5; con M=3.7</p> <p>Reasons for avoidance goal attainment: Depressed – pro M=3.8; con M=4.0 Never-depressed – pro M= 4.5; con M=3.7</p>	<p>2 (moderate)</p>	<p>Approach and avoidance goals, attainability, goal importance</p>

<p>Eddington, Dolcos, McLean, et al., 2009</p> <p>U.S.</p>	<p>N=22 depressed adults Age M=36</p> <p>N= 14 never-depressed controls Age M=35.6</p> <p>Diagnosis: DSM-IV SCID clinical interview HRSD&gt;19</p> <p>Other criteria; -right-handed -no history of neurological disorder or head trauma -no cognitive impairment -not taking antidepressant medication -not pregnant -no implanted medical devices or other contraindications for fMRI -no history of mania -absence of personality disorder</p>	<p>Neuroimaging study using functional magnetic resonance imaging (fMRI) to compare cortical activation in response to stimuli representing personal goals in depressed and non-depressed individuals.</p> <p>Selves Questionnaire (Higgins et al., 1986) – to generate promotion and prevention goal cues for Goal Priming Task</p> <p>fMRI &amp; Goal Priming task -rating 8 prevention/promotion goal cues and 8 control cues across four different domains (describes self; describes celebrity; extent to which socially desirable; nr of syllables)</p>	<p>Both groups showed similar patterns of task-related activation.</p> <p>Promotion goal activation (vs. prevention): Depressed group showed significantly decreased activation of left orbitofrontal cortex compared to Never-depressed controls when exposed to their promotion goal cues.</p> <p>Prevention goal activation (vs. promotion): Depressed group showed increased right orbitofrontal activation compared to Never-depressed controls when exposed to prevention goal cues.</p> <p>HRSD depression score was significantly correlated with peak activation in right orbitofrontal cortex activation (prevention goal cue activation), but not with left orbitofrontal cortex activation (promotion goal cue activation).</p>	<p>3  (weak)</p>	<p>Promotion goals, promotion goal priming, fMRI</p>
<p>Strauman, Vieth, Merrill, et al., 2006</p> <p>U.S.</p>	<p>N=39 (29 women, 10 men) treatment completers Age M=39.4, range 19-72</p> <p>Depressed adults recruited from community and local health/mental health and counselling services</p> <p>SST group (38% comorbid anxiety) CT group (11% comorbid anxiety)</p> <p>Diagnosis: DSM-IV SCID clinical interview HRSD ≥16 BDI ≥16 - 6 individuals with above-threshold BDI and HRSD but missing 1 DSM-IV criterion were included</p>	<p>Randomised clinical trial evaluating whether self-system therapy (SST; therapy focused on enhancing promotion goal pursuit) will be more effective for individuals with poor promotion goal socialization history than cognitive therapy (CT).</p> <p>SST – M=21.7 session</p> <p>Pre-treatment: Regulatory focus questionnaire (RFQ; Higgins et al., 2001) – assesses individual differences in orientation to promotion and prevention goals.</p> <p>Goal interview (interview version of Selves Questionnaire; Higgins et al., 1986)</p> <p>Promotion goal priming/childhood memory task (Strauman, 1992) -5 promotion goals from individual's</p>	<p>Both groups showed a significant decrease in depression scores (BDI, HRSD).</p> <p>12 out of 21 in the SST group and 9 out of 18 in the CT group showed a &gt;50% decrease in depression symptoms. 9 (SST) vs. 6 (CT) met recovery from depression criterion (BDI ≤6; Elkin et al., 1994).</p> <p>Promotion goal history x Treatment interaction was a significant predictor of post-treatment HRSD scores (p&lt; .05). Patients with a poor promotion goal history were significantly more likely to show an improvement in symptoms when receiving SST rather than CT.</p> <p>SST led to a significant post-treatment decrease in the dysphoric content of patients' responses to their promotion goal cues in the Promotion goal priming/childhood memory task (p&lt;.05), whereas no significant change was found in the CT group (p&gt; .5).</p>	<p>1  (strong)</p>	<p>Promotion goals; promotion goal history and effectiveness of self-system therapy vs. cognitive behavioural therapy</p>

		<p>responses to Goal interview ('ideal self' domain)</p> <p>-5 control cues (unrelated promotion goals from other, yoked participant)</p> <p>-responses/memory content generated with LIWC text analysis programme (Pennebaker et al., 2001) to measure dysphoric content of responses to promotion goal cues</p> <p>BDI depression score HRSD depression score</p> <p>Post-treatment: Promotion goal priming/childhood memory task (Strauman, 1992) BDI depression score HRSD depression score</p>			
<p>Loeb, Beck &amp; Diggory, 1971</p> <p>U.S.</p>	<p>N=40 (males only) Age <math>M = 31</math></p> <p>Depressed psychiatric outpatients</p> <p>Sample divided into Highly depressed (BDI <math>\geq 22</math>, psychiatrist rating at least 4/7) and Low-depressed (<math>\leq 13</math>; psychiatrist rating no more than 3/7) groups</p> <p>Diagnosis: Clinical interview BDI score (BDI <math>\geq 22</math>) 7-point, psychiatrist-rated depression scale</p>	<p>High vs. Minimally depressed individuals randomly allocated to 'Success' and 'Failure' conditions</p> <p>Card-sorting task. Patients set their personal goals for no. of cards to sort on each trial (20s); also: investigator-set goal to aim to reach criterion of sorting 20 cards or more on one of the 7 trials; 'Success' and 'Failure' conditions on task 1(experimental manipulation ensures 'Success' vs. 'Failure' groups reach investigator's criterion over 7 trials vs. not); followed by card-sorting task 2 (same task, new deck/suits to sort)</p> <p>Outcome measures: Probability of success rating Goal (aspire to sort <math>N</math> items) Sorting speed (s/card) Self-rated performance (11-point scale)</p>	<p>Level of aspiration (card sorting goals) did not differ in depressed vs. control groups (<math>p &lt; .05</math>).</p> <p>Depressed individuals had significantly higher levels of aspirations for task 2 after experiencing success vs. failure (<math>p &lt; .001</math>); controls did not differ in their level of aspiration following success or failure experience on task 1.</p> <p>Depressed groups had overall sig. lower expectations of success than controls (<math>p &lt; .001</math>). Depressed individuals set up to fail task 1('Failure' condition) had significantly lower expectations of their likelihood to succeed on task 2 (42.5%) vs. depressed individuals in 'Success' condition (57.7%). No effect of prior success or failure was seen in controls – 'Success' condition (66.5%) vs. 'Failure' condition (63.4%).</p> <p>Degree of depression did not affect speed on task1.</p> <p>Depressed 'success' patients performed sig. faster on task2 compared to depressed 'failure' patients; opposite was true for controls – failure group performed faster than success group (overall interaction n.s. – 2.97, <math>p = .10</math>) – effect most marked on first trial.</p> <p>Post-task1 ratings of own performance were sig. poorer in Depressed vs. control groups, despite equivalent performance. No sig. differences after task2.</p>	<p>2</p> <p>(moderate)</p>	<p>Goal setting, perceived attainability, actual performance</p>

ANOVA = analysis of variance; BAI – Beck Anxiety Inventory; BDI, BDI-II = Beck Depression Inventory; DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition; fMRI = functional magnetic resonance imaging; GAD7 – Generalized Anxiety Disorder 7 questionnaire; HRSD = Hamilton Rating Scale for Depression; MDD = major depressive disorder; M = mean; N = number; PHQ9 – Patient Health Questionnaire 9; SCID – Structured Clinical Interview for DSM-IV; SD = standard deviation.

### **Approach and avoidance motivation.**

Three studies found that both Depressed and Non-depressed participants reported a significantly greater number of approach than avoidance goals (Belcher & Kangas, 2014; Dickson et al., 2011; Sherratt & MacLeod, 2013), so there was no evidence to support the idea that depressed individuals had fewer approach goals or more avoidance goals than non-depressed individuals. Taken together, these findings lend further support to the notion that depressed and non-depressed groups differed primarily in their underlying motivation and their subjective beliefs in relation to the attainment of their personal goals rather than in their overall investment in valued outcomes.

Three studies also examined the quantity and type of participants' reasons for attainment of their two most important personal approach and avoidance goals (Dickson et al., 2011, Dickson & Moberly, 2013; Sherratt & MacLeod, 2013). Sherratt & MacLeod found that depressed and non-depressed groups did not differ in the overall number of reasons generated and that both groups provided more reasons for approach than avoidance goals and more avoidance reasons for avoidance goals. Compared to controls, however, the depressed group generated more avoidance reasons for approach goals and fewer approach reasons for approach goals.

Dickson and colleagues also reported no significant difference between Depressed and non-depressed groups in the total number of reasons generated. Dickson et al. (2011) also examined the specificity of their participants' 'pro' and 'con' reasons, which were coded into 'specific' and 'general' categories. They found that compared to controls, depressed individuals generated significantly fewer specific 'con' reasons for both goal types as well as fewer specific 'pro' reasons for the attainment of approach goals. Depressed and Control groups did not differ in

the number of specific reasons for why they would successfully avoid the undesirable outcomes of their avoidance goals.

### **Goal pursuit and disengagement.**

Wallace et al. (2012) examined self-reported engagement and disengagement strategies with regard to attainable and unattainable health goals in a sample of depressed older adults. The authors reported that at baseline, lower use of engagement strategies was associated with greater depression severity. No information about the type and nature of participants' individual goals or engagement strategies was reported. Other significant predictors of baseline depression severity were younger age, greater hopelessness and higher anxiety scores. In line with predictions, greater use of disengagement strategies, such as shifting focus to other important domains and avoiding self-blame for unmet health goals was associated with earlier remission from depression. Although this study only assessed the use of disengagement strategies at the outset of the study with a self-report measure, these findings suggest that awareness and self-reported readiness to disengage from unattainable health goals are associated with greater well-being and speedier recovery.

### **Promotion Goals and Predictors of Treatment Response**

Two studies in the present sample addressed how the assessment of individual differences in goal dysregulation may inform treatment considerations for depressed patients (Strauman et al. 2006; Eddington et al., 2015). Both report the findings from clinical trials comparing cognitive and cognitive behavioural therapy (CT, CBT; Beck et al., 1979) with Self-system therapy (SST) for depression. SST is based on Regulatory Focus Theory (Higgins, 1987, 1989) a model of self-regulation, which distinguishes between promotion and prevention goals.

SST is a form of therapy that focuses on reducing the negative affect associated with unmet promotion and prevention goals (Higgins et al., 1997; Vieth et al., 2003). Strauman et al. (2006) assessed whether depressed patients with a background of poor promotion goal socialization would benefit more from the emphasis on understanding and facilitating change in maladaptive patterns of goal pursuit that SST provides compared to CT. The authors reported that both treatments led to a significant improvement in symptoms, with at least half the patients in each group showing a 50% reduction in their depression scores. Moreover, 42% in the SST group and 33% in the CT group were considered remitted (Elkin et al., 1994) by the end of the study. In line with predictions, Strauman and colleagues found that individuals with a poor promotion goal history were significantly more likely to improve with SST vs. CT.

They also used a priming task to assess patients' affective responses to cues that were associated with their personal promotion goals and found a significant reduction in negative affect after therapy in the SST, but not the CT group, suggesting that SST addressed and led to significant positive change in depression maintenance factors related to promotion goal pursuit.

The same goal priming paradigm was used in a neuroimaging study by Eddington et al. (2009). Consistent with the assumption that depression involves the dysregulation in the processing and pursuit of promotion and prevention goals, the results indicated that in the depressed group, promotion goal activation was associated with decreased activation in left orbitofrontal cortex (OFC) and priming of prevention goals with increased right OFC activation.

More recently, Eddington et al. (2015) compared SST and CBT and replicated the main finding by Strauman et al. that depressed individuals with a low promotion goal focus showed greater improvement following SST vs. CBT, although both treatments were shown to be effective overall. In this study, treatment duration was controlled and set to 16 sessions for both groups. The authors also included pre-treatment measures of prevention focus and goal

adjustment. Their findings suggested that patients with a higher prevention focus benefited more from CBT vs. SST. Moreover, patients with low levels of self-reported use of goal-reengagement strategies showed greater improvement with SST, whereas patients with high levels of self-reported use of goal-reengagement strategies showed greater recovery when treated with CBT. Interestingly, use of goal disengagement strategies did not moderate the treatment effect in either group. Taken together, these findings suggest that SST was potentially more effective in targeting reduced promotion goal striving and promoting re-engagement with promotion goals, whereas CBT was more effective in addressing problems related to maladaptive cognitive biases towards focusing on negative outcomes.

### **Discussion**

The objective of the present review was to identify and synthesize the evidence on the role of personal goals, goal-setting, goal pursuit and goal orientation in the aetiology, maintenance and recovery from symptoms in clinically depressed individuals. There was a notable paucity of eligible studies in the area, mostly because studies did not include participants who met criteria for a current episode of unipolar depression or because the sample included individuals with a range of different mental health conditions and significant comorbidity in the absence of or precluding subgroup analysis. Only nine studies that met the inclusion criteria were identified. These studies varied widely in study design, quality, sample size, methodology and research question addressed, which made it difficult to compare and evaluate the findings. In addition, the reliability of the quality assessment in the present review was limited by the absence of a second, independent rater. Nonetheless, the results reported here provided some insights about personal goals and engagement processes and highlighted some promising areas for future research.

**Personal Goals**

None of the studies under review found that depressed and non-depressed individuals differed in the total number of self-reported personal goals, performance goals set in the context of a laboratory task, goal importance or in the relative balance of approach vs. avoidance goals. What is not clear from the present results, however, is whether personal goals of depressed and non-depressed individuals differed in their goal investment or in the extent to which their personal goals were distributed across different domains (Champion & Powers, 1995), over- or under-invested, conflicting or conditional on other goals or external circumstances (Street, 2002). Lecci et al. (1994), for instance, proposed that depressed individuals were likely to generate more achievement than interpersonal goals. Furthermore, work by Bieling and Allen (1998, 2001) has shown that depressed individuals were more often rejected in interpersonal interactions and rated as less likable by non-depressed others. Following an interaction, depressed individuals expressed little interest in a future interaction. This indicates that goal investments in different domains by depressed and non-depressed individuals may be a function of actual differences in how rewarding their day-to-day life experiences are, for instance with regard to the reactions and perceptions of others, which may then lead to greater investment in domains associated with more rewarding – or less aversive – outcomes.

**Belief in Goal Attainability**

Depressed individuals' day-to-day experiences may therefore not only shape their goal-directed behaviour, but also beliefs about their ability to attain valued personal goals. If depressed individuals are more likely to be rejected and have more aversive interpersonal experiences than non-depressed individuals (e.g. Bieling and Allen, 1998; 2001), they may realistically be more

pessimistic about the ease, difficulty or likelihood of attaining valued goal related to social connection and intimacy (Lecci et al., 1994) or fulfil any other aspirations in the interpersonal domain while being depressed. The findings of the present sample of studies, which suggested that depressed individuals are more pessimistic about their chances and ability to achieve their goals may be based on such experiences either prior to or since becoming depressed. The present results do not provide further information to address the question to what extent beliefs in the perceived unattainability of goals may be based on learning from specific current or previous life experiences, (over-) generalisation from such learning experiences across different domains or on an underlying dysregulation in reward sensitivity or appraisal of reward contingencies (Henriques & Davidson, 2000; Holmes & Pizzagalli, 2008).

### **Avoidance**

Although the findings on avoidance goals reported here do not suggest important differences between depressed and non-depressed individuals in the quantity of self-reported avoidance goals, it is well known in the context of clinical practice that avoidance processes, withdrawal and avoidance motivation play an important part in the maintenance and development of both depression and anxiety and are frequently key targets for treatment (e.g. Grosse Holtforth et al., 2005; Hayes et al., 1996). Manifest avoidant behaviours, such as withdrawal from previously enjoyed activities in depression, may, however, elude detection in a research context if the measurement of avoidance motivation is solely based on a mere (quantitative) listing of personal avoidance goals and self-report rather than clinical interview, because many avoidance behaviours might not be considered ‘personal goals’ by the individuals concerned and thus remain unreported (Gilbert, 2000; Rachmann et al., 2008).

Clearly, this indicates a need to develop valid and reliable measures that can tap those types of information as well as patterns of goal investment and the cognitive and motivational processes involved in day-to-day goal engagement and pursuit. Promising candidates for future research in this context might be experience sampling methods (Csikszentmihalyi & Larson, 1987; Watkins & Moberly, 2008), refining measures based on diary sheets and developing diary-based and other ways of recording goals, goal progress and strategies for goal engagement and pursuit in depressed individuals during therapy.

### **Linking Goal Characteristics and Goal Pursuit**

The discussion so far has also highlighted the importance of linking personal goal characteristics with the processes of goal pursuit, engagement and disengagement. Two studies suggested that personal goals in depression may be less specific than those of non-depressed individuals (Dickson & Moberly, 2013; Belcher & Kangas, 2014). The value of supporting therapy clients to set specific goals has long been recognised and implemented in clinical practice (e.g. Mooney & Padesky, 2000). Like abstract goals (Carver & Scheier, 1990; Dickson & MacLeod, 2004), over-general goals may be harder to pursue and attain. This could be an important factor in maintaining depressive symptoms as lack of progress towards valued goals has been shown to lead to an increase in negative affect and depressive rumination (Martin & Tesser, 1996; Moberly & Watkins, 2010). Similarly, goal discrepancy and goal conflict could be related to or a consequence of avoidance goals or processes, which may be greater for depressed or depression-prone individuals, but this would also not be detected by a purely quantitative assessment of personal goals.

### **Implications for therapy.**

The present results highlight the importance of further research into understanding the links between goal characteristics and their facilitative or obstructive effects on goal engagement and goal pursuit in depression. Self-reported use of disengagement strategies from unattainable goals was shown to be associated with earlier remission from depression and therapy targeting goal re-engagement in patients who reported low use of engagement strategies was significantly more effective than applying a standard treatment model (Eddington et al., 2015; Strauman et al., 2006). These findings underline the importance of developing valid and reliable ways of assessing individual patients' cognitive, behavioural and motivational patterns in relation to goal engagement and pursuit and matching treatments and therapy goals to the specific areas of difficulty (Norcross, 2001).

### **Conclusions**

In conclusion, despite the small sample of studies included in the review and methodological limitations, the results confirmed the need for more high quality research on goal dysregulation in clinically depressed samples to understand the mechanisms involved in the interactions between goal characteristics, goal engagement and goal-related cognitions in depression.

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## Appendix A

Table 1. Search strategy for OVID.

#	Searches
1	goal*.ab,ti.
2	depress*.ab.
3	striv*.ab.
4	goal-orientation.mp. [mp=ti, ab, tx, ct, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, px, rx, an, ui, tc, id, tm]
5	self-worth goal.ab.
6	self-worth goal.mp. [mp=ti, ab, tx, ct, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, px, rx, an, ui, tc, id, tm]
7	learning goal.mp. [mp=ti, ab, tx, ct, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, px, rx, an, ui, tc, id, tm]
8	performance goal.mp. [mp=ti, ab, tx, ct, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, px, rx, an, ui, tc, id, tm]
9	goal attain*.mp. [mp=ti, ab, tx, ct, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, px, rx, an, ui, tc, id, tm]
10	goal pursu*.mp. [mp=ti, ab, tx, ct, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, px, rx, an, ui, tc, id, tm]
11	ego-involved.mp. [mp=ti, ab, tx, ct, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, px, rx, an, ui, tc, id, tm]
12	goal-directed.ab.
13	validation seeking.mp. [mp=ti, ab, tx, ct, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, px, rx, an, ui, tc, id, tm]
14	growth seeking.mp. [mp=ti, ab, tx, ct, sh, hw, tn, ot, dm, mf, dv, kw, nm, kf, px, rx, an, ui, tc, id, tm]
15	dysphor*.ab.
16	negative affect.ab.
17	helpless*.ab,ti.
18	depress*.ab,ti.
19	2 or 15 or 16 or 17 or 18
20	mastery.ab,ti.
21	disengag*.ab,ti.
22	3 or 11 or 13 or 14 or 20 or 21
23	1 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 12
24	22 and 23
25	19 and 24
26	remove duplicates from 25
27	remove duplicates from 25

## Appendix B

Table B1. Excluded studies with reasons for exclusion.

Study	Design, brief description	Reason for exclusion
Barton et al., 2008 U.K.	Case series, treatment for first/second episode of depression, cognitive model, self-regulation theory	No goal-related measures
Berking, Grosse Holtforth & Jacobi, 2003 Germany/Switzerland	Treatment, inpatient sample; CBT, pre- and post measures; incongruence between perceptions and goals measured by Incongruence Questionnaire (Grosse Holtforth & Grave, 2003)	Case mix; sample includes individuals with depressive disorders, anxiety disorders, substance dependence, psychogenic fugue, somatoform disorders and adjustment disorders
Bieling & Alden, 1998 Canada	Experimental; Questionnaire measures, Personal Style Inventory; sociotropy and autonomy traits; interpersonal ratings; interpersonal task	Non-depressed (dysphoric) students
Bieling & Alden, 2001 Canada	Experimental; Questionnaire measures, autonomy, sociotropy; interpersonal relatedness, interpersonal task	Case mix; sample includes depression, dysthymia, depression comorbid with dysthymia; additional diagnoses – GAD, OCD, panic disorder, social anxiety.
Boelen, 2011 Netherlands	Observational; goal specificity and severity of Prolonged Grief Disorder (PDG) symptoms; recently bereaved study volunteers complete questionnaire measures. PDG scale, HADS anxiety and depression scores, Goals Questionnaire (generate and rate 7 personal goals for perceived controllability and probability)	Prolonged Grief Disorder, not clinical depression, no diagnostic assessment of depression status (scores on PDG and HADS scales only)

Brauer, 2012 U.S.	Dissertation; experimental; goal generation, impact of depressive symptoms on perceived goal attainment and perceived control in problem-solving skills; Inventory to Diagnose Depression (IDD, IDD-L), Problem-Solving Inventory, Positive and Negative Affect Schedule, Goal generation task (pre), Goal attainment ratings (post; 4-6wk later); female university students; IDD score and presence/absence of current and past episode determined allocation to Depressed vs. Non-depressed groups	No diagnostic assessment of depression status (score on IDD only)
Clarke et al., 2012 Australia	Observational, time-series; individuals with various mental health conditions in recovery; Personal goals, goal content, approach and avoidance goals at different stages in recovery; recovery, recovery model	Case mix; comorbidity; not focused on depression; sample includes individuals with various MH conditions – schizophrenia (69%), bipolar disorder (13%), schizoaffective disorder (12%), Major Depressive Disorder with psychotic features (6%); no diagnostic assessment or criteria reported
Danchin et al., 2010 U.K.	Observational, case-control; Conditional goal-setting in deliberate self-harm (DSH), perceived attainment of future personal goals; Goal generation; goal likelihood, necessity and sufficiency ratings. 3 groups: Attending hospital for self-harm vs. minor injuries vs. non-suicidal controls with mental health problems.	Not focused on depression; case mix (no details of presenting difficulties reported beyond DSH); no diagnostic assessment or criteria reported
Dunne et al., 2011 Canada	Observational, longitudinal; Goal disengagement, goal re-engagement; Goal adjustment, functional disability, depressive symptoms; older adults; Centre for Epidemiological Studies Depression Scale (CES-D10)	No diagnostic assessment of depression status; Non-depressed; assessed depressive symptoms only (score on CES-D10)
Elliott & Church, 2002 U.S.	Treatment; pursuit of avoidance vs. approach goals in therapy and relation to change in self-reported well-being; 12-session psychodynamically oriented therapy; students presenting to university counselling service	No diagnostic assessment of depression status; case mix (no details of presenting issues or current diagnoses provided)
Erickson & Abelson, 2012 U.S.	Quasi-experimental, no control group; pre-post questionnaire measures; Moral elevation, compassionate goals; effects of moral elevation on social and emotional functioning; individuals seeking treatment for depression and anxiety disorders at university outpatient psychiatry clinic; various intervention including psychotherapy, medication review, supportive follow-up consultation and ECT	Case mix; No diagnostic assessment of depression status or assessment/diagnostic criteria reported; disease status of sample described as MDD (N=18), Depression Not Otherwise Specified (N=10), panic disorder (N=6), GAD (N=5), OCD (N=4), adjustment disorder (N=3), social phobia (N=1)

<p>Fiske et al., 2013 U.S.</p>	<p>Observational, cross-sectional; questionnaire measures; failure to adapt to limitations in control, suicidality, depressive symptoms; older adults (N=50) with functional impairments, primary care sample; Geriatric Suicide Ideation Scale (GSIS); Centre for Epidemiological Studies Depression Scale Revised (CESD-R); Optimization of Primary and Secondary Control scale (OPS)</p>	<p>No diagnostic assessment of depression/MH status; assessed only depressive symptoms and suicidality (score on CESD-R; GSIS); reported 16% of sample scoring in clinical range for depression on CESD-R</p>
<p>Ford et al., 2014 U.S.</p>	<p>Observational; study 1 no control group, study 2 remitted MDD vs. never-depressed healthy controls; examined whether highly valuing happiness predisposes to depression; community sample of individuals remitted from MDD, not currently depressed</p>	<p>Non-depressed; sample of individuals currently remitted from depression</p>
<p>Förster et al., 2001 Germany/U.S.</p>	<p>Experimental; approach and avoidance motivational strength; self-regulation theory; promotion and prevention focus; questionnaire measures and arm flexion pressure vs. arm extension pressure during anagram task as measures of approach vs. avoidance motivational strength</p>	<p>Non-depressed students</p>
<p>Garnefski &amp; Kraaij, 2012 Netherlands</p>	<p>Observational; Cross-sectional; cognitive strategies and goal adjustment in acquired hearing loss</p>	<p>Non-depressed sample</p>
<p>Giesler et al., 1996 U.S.</p>	<p>Experimental; clinically depressed vs. non-depressed and high self-esteem, non-depressed and low self-esteem; questionnaire measures; then given summaries of mostly positive vs. mostly negative spoof personality assessment before given choice to read further in-depth report expanding on either negative or positive summary; perceived accuracy ratings and positive vs. negative feedback choice</p>	<p>No goal-related measures</p>
<p>Gilbert &amp; Gruber, 2014 U.S.</p>	<p>Experimental; examined effects of ruminative or mindful emotion regulation strategies in remitted bipolar disorder, remitted MDD, never-depressed controls. Questionnaire measures, heart rate, respiratory sinus arrhythmia; identify, generate and visualize future goal followed by mindfulness vs. rumination induction and goal expectancy ratings</p>	<p>Non-depressed; sample of individuals currently remitted from depression</p>
<p>Grant, 2007</p>	<p>Goal-striving, well-being, flourishing; model of mental health for coaching interventions</p>	<p>Theory paper; not focused on depression, no goal-related measures</p>

Grosse Holtforth et al., 2005 Switzerland	Treatment; avoidance motivation, intensity of avoidance goals; pre-post therapy questionnaire measures; individuals attending university outpatient clinic	Case mix; sample includes individuals with 'depressive disorders (33%), anxiety disorders (32%), other disorders (35%)
Grosse Holtforth et al., 2006 Switzerland	Treatment; cognitive behavioural therapy (CBT); interpersonal problems, interpersonal distress; avoidance motivation, avoidance goals, approach goals, goal satisfaction ratings; pre-post therapy questionnaire measures; inpatients in psychotherapy clinic	Case mix; comorbidity; sample includes individuals with anxiety disorders (N=123), eating disorders (N=71), affective disorders (N=58), alcohol dependence (N=11), other disorders (N=210)
Hadley & MacLeod, 2010 U.K.	Observational; survey; questionnaire measures, generating future goals and rating perceived likelihood of achieving them; conditional goal setting; BDI; members of charitable MH organisation (Depression society)	Non-depressed; No diagnostic assessment of depression status
Hankin, Wetter & Flory, 2012 U.S.	Experimental; appetitive motivation and emotional reactivity in response to achievement failure; reward striving task, facial expression coding	Non-adult sample (Age range 9-15yrs), non-depressed, remitted depression; comorbidity, ADHD
Hayes et al., 2005 U.S.	Treatment; no comparison group; 24 sessions of therapy with weekly therapeutic essay-writing; essay coding for themes of avoidance, processing, positive and negative hope, positive and negative view of self; depressed individuals seeking treatment in a university-based community mental health centre; Modified Hamilton Rating Scale for Depression	No goal-related measures
Hewitt & Flett, 1991 Canada	Observational; case-control comparison; Self-oriented, other-oriented and socially prescribed perfectionism personality trait); Multidimensional Perfectionism scale; patients admitted to acute-care psychiatric unit, Depressed vs. Anxiety vs. Control group (no treatment for MH condition in previous 2 years)	No goal-related measures
Lam et al., 1994 U.K.	Treatment, RCT, Desipramine vs. Placebo for MDD; role of social cognitive variables in recovery; investment in roles, social support, ideal emotional support, adverse life events; individuals recruited from hospital emergency clinic and GP surgeries	No goal-related measures

Lam et al., 1996 U.K.	Treatment; RCT; 1-yr follow-up of previous study (Lam et al., 1994), effects of socio-cognitive variables on relapse (adverse life events, ideal emotional support, role investment, dysfunctional attitudes)	No goal-related measures
Laxer, 1964 Canada	Treatment; pre-post self-report measures; self-concept, real vs. ideal self, change in self-ideal congruence, self-esteem. Psychiatric inpatients, 5 groups: 'neurotic depressed'; 'paranoid schizophrenic'; 'anxiety, obsessive and mixed neurotic'; 'hysterics, character disorders and pathological personalities', 'non-paranoid schizophrenics' and 'normal' controls (university students).	No details about diagnostic assessment of depression status; no goal-related measures
O'Connor et al., 2009 U.K.	Observational; two time points – within 24h of suicide attempt in hospital and 2.5 months after discharge; goal disengagement, goal re-engagement and relation to suicidal ideation in suicide attempters; questionnaire measures; Goal Adjustment Scale; Suicide Probability Scale; BDI item 9; HADS anxiety and depression scores	Case mix; no information about participants' mental health problems or diagnoses; sample includes teenagers and adults
O'Connor et al., 2012 U.K.	Observational; two time points - within 24h of suicide attempt in hospital and 2 years afterwards; unattainable goals, goal adjustment - goal disengagement, goal re-engagement and relation to re-admission and self-harm in suicide attempters; Goal Adjustment Scale; Suicide Probability Scale; Beck Hopelessness Scale; HADS anxiety and depression scores; social deprivation	Case mix; no information about participants' mental health problems or diagnoses; sample includes teenagers and adults
Ottenbreit, Dobson & Quigley, 2014 Canada	Observational; MDD and Social Anxiety Disorder (SAD); Comparing 3 clinical groups and controls – MDD-only, MDD+SAD and SAD-only on self-report measures; Cognitive Behavioural Avoidance scale (CBAS; Ottenbreit & Dobson, 2004); Positive Problem Orientation (PPO) and Negative Problem Orientation (NPO), D'Zurilla et al., 2002); Social Problem-solving Inventory Revised (SPSI-R; D'Zurilla, Nezu & Maydeu-Olivares, 2002); Sociotropy-Autonomy Scale Revised (SAS-R; Clark & Beck, 1991); Ruminative Responses Scale (RRS; Nolen-Hoeksema & Morrow, 1991)	No goal-related measures
Pluck et al., 2008 U.K.	Observational; homeless individuals and age- and gender matched controls (community adults); examined future outlook and time-perspective, depressive symptoms, estimated IQ; questionnaire measures and reading test; Zimbardo Time Perspective Inventory, Wechsler Test of Adult Reading, Zung Self-Rating Depression Scale	Non-depressed; no diagnostic assessment for depression (and/or comorbidity); no goal-related measures

Pueschel et al., 2011 Germany	Observational; questionnaire measures; implicit motives, goal congruence, current goal progress; individuals treated for various mental health problems in university outpatient clinic	Case mix, comorbidity; not focused on depression; samples includes anxiety disorders (58%; in 8 diagnostic categories), affective disorders (20% , in 3 diagnostic categories), other disorders (21.7% , in 5 diagnostic categories, including substance dependence, sexual and gender identity disorder and personality disorders)
Scott & O’Hara, 1993	Observational; questionnaire measure, comparing Depressed, Anxious, Depressed & Anxious and Never Depressed or Anxious groups of students; self-discrepancy; Selves Questionnaire	Case mix; depressed group includes MDD, dysthymia and MDD comorbid with dysthymia; secondary diagnoses (e.g. PD) not assessed; no goal-related measures
Sideridis, 2007 Greece	Observational; Achievement failure, depressive symptoms, goal orientation, avoidance goals; questionnaire measures; maths activity; sample of students with learning disability, Children’s Depression Inventory (CDI); depressive symptoms; goal-orientation model	High school students; No diagnostic assessment of depression status (score on CDI only)
Stangier et al., 2007 Germany	Observational; Questionnaire measures, case-control; Cognitive inconsistencies in goals and values; Intrapersonal Conflicts test; Problem-solving Inventory, Inventory of Interpersonal Problems, Dysfunctional Attitude scale, BDI; Psychiatric hospital inpatients vs. control patients from surgical and internal medicine hospital wards without current mental health problems	Case mix, comorbidity; sample includes individuals with depression, depression and dysthymia, depression and/or other diagnoses (agoraphobia with panic, opioid abuse, alcohol abuse, adjustment disorder, specific phobia, PTSD, personality disorders: narcissistic, avoidant, schizoid, histrionic).
Strauman et al., 2001 U.S.	Treatment; study 1 – CBT, high vs. low within-self discrepancy and therapeutic change; study 2 –CBT vs. IPT vs. medication (SSRI); pre-post; symptom measures, HRSD depression score, BDI depression score; interview version of Selves Questionnaire to assess actual vs. ideal self discrepancy score; Self-guide priming procedure, responses (associated childhood memories, emotion) to cues priming self-standards; time to memory retrieval	No goal measures
Tull & Gratz, 2007 U.S.	Observational; comparison groups: Depression, Anxiety and Stress Scale (DASS) >20 (depressed), DASS<10 (non-depressed); university students; questionnaire measures; experiential avoidance; difficulties in engaging in goal-directed behaviour; Depression, Anxiety and Stress Scale (DASS); Anxiety Sensitivity Index; Acceptance and Action Questionnaire; Difficulties in Emotion Regulation Scale	No diagnostic assessment of depression status (score on DASS only)

<p>Vergara &amp; Roberts, 2011 U.S.</p>	<p>Experimental; comparing Non-depressed, remitted (with past episode) vs. Never-depressed students; Goal orientation task, self-report measures; PHQ-9 depression score; BDI depression score; Sensitivity to Punishment and Sensitivity to Reward questionnaire; approach and avoidance goals; Goal orientation task (Dickson &amp; MacLeod, 2004); Revised Goal Commitment scale; Spontaneous Implementation Intention scale</p>	<p>Non-depressed; university students meeting criteria for past episode currently remitted from depression</p>
<p>Weinberger et al., 2009</p>	<p>Observational; self-report measure (PHQ-9 depression scale), interview about treatment goals and perceived barriers to treatment; Community-dwelling older adults who applied for home-delivered meals; depressive symptoms, goal-setting, barriers to health care and treatment goals</p>	<p>No diagnostic assessment of depression status; Non-depressed; assessed depressive symptoms only (PHQ-9 depression score)</p>
<p>Williams et al., 2009 U.K.</p>	<p>Observational; questionnaire measures; striving to avoid inferiority; Goal Orientation Inventory; Self-harm Inventory; Depression, Anxiety and Stress Scale (DASS); Self-ideals Scale; Striving to Avoid Inferiority Scale; Social Comparison Scale</p>	<p>Non-depressed students</p>

ADHD = attention deficit hyperactivity disorder; BAI – Beck Anxiety Inventory; BDI, BDI-II = Beck Depression Inventory; CBT = cognitive behavioural therapy; CT = cognitive therapy; ECT = electroconvulsive therapy; HADS = Hospital Anxiety and Depression Scale; HRSD = Hamilton Rating Scale for Depression; IPT = Interpersonal therapy; GAD = generalized anxiety disorder; GAD7 – Generalized Anxiety Disorder 7 questionnaire; GP = general practitioner; MDD = major depressive disorder; OCD= obsessive-compulsive disorder; PHQ9 – Patient Health Questionnaire 9; PTSD = post-traumatic stress disorder; RCT = randomised controlled trial.

## **Appendix C**

### **Journal of Consulting and Clinical Psychology (APA Manual)**

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th ed). Washington, DC: Author.

### **Journal of Consulting and Clinical Psychology (APA Manual)**

#### **Masked Review**

This journal uses a masked reviewing system for all submissions. The first page of the manuscript should omit the authors' names and affiliations but should include the title of the manuscript and the date it is submitted.

Footnotes containing information pertaining to the authors' identities or affiliations should not be included in the manuscript, but may be provided after a manuscript is accepted.

Make every effort to see that the manuscript itself contains no clues to the authors' identities.

Please ensure that the final version for production includes a byline and full author note for typesetting.

Keep a copy of the manuscript to guard against loss.

#### **Cover Letter**

The cover letter accompanying the manuscript submission must include all authors' names and affiliations to avoid potential conflicts of interest in the review process. Addresses and phone numbers, as well as electronic mail addresses and fax numbers, if available, should be provided for all authors for possible use by the editorial office and later by the production office.

### **Length and Style of Manuscripts**

Full-length manuscripts should not exceed 35 pages total (including cover page, abstract, text, references, tables, and figures), with margins of at least 1 inch on all sides and a standard font (e.g., Times New Roman) of 12 points (no smaller). The entire paper (text, references, tables, etc.) must be double spaced.

Instructions on preparing tables, figures, references, metrics, and abstracts appear in the [\*Publication Manual of the American Psychological Association\*](#) (6th edition).

Authors submitting manuscripts that report new data collection, especially randomized clinical trials (RCTs), should comply with the newly developed [APA Journal Article Reporting Standards \(PDF, 98KB\)](#) (JARS; see *American Psychologist*, 2008, 63, 839–851 or Appendix in the *APA Publication Manual*).

For papers that exceed 35 pages, authors must justify the extended length in their cover letter (e.g., reporting of multiple studies), and in no case should the paper exceed 45 pages total. Papers that do not conform to these guidelines may be returned without review.

The References section should immediately follow a page break.

### **Brief Reports**

In addition to full-length manuscripts, the *JCCP* will consider Brief Reports of research studies in clinical psychology. The Brief Report format may be appropriate for empirically sound studies that are limited in scope, contain novel or provocative findings that need further replication, or represent replications and extensions of prior published work.

Brief Reports are intended to permit the publication of soundly designed studies of specialized interest that cannot be accepted as regular articles because of lack of space.

Brief Reports must be prepared according to the following specifications: Use 12-point Times New Roman type and 1-inch (2.54-cm) margins, and do not exceed 265 lines of text including references. These limits do not include the title page, abstract, author note, footnotes, tables, or figures.

An author who submits a Brief Report must agree not to submit the full report to another journal of general circulation. The Brief Report should give a clear, condensed summary of the procedure of the study and as full an account of the results as space permits.

## **Commentaries**

*JCCP* now publishes papers that are commentaries of previously published articles in this journal. Two types of commentaries will be considered:

### **Brief Comment**

A Brief Comment would be written in response to a single article previously published in *JCCP*. The primary purpose would be to provide a meaningful insight, concern, alternative interpretation, clarification, or critical analysis. It is not intended to be pedestrian in nature (e.g., simply highlighting that a given study is statistically underpowered). Rather, its publication would provide for a richer and more comprehensive understanding of a methodological, conceptual, or professional issue that significantly adds to the literature.

Similar to a Brief Report, Brief Comments should not exceed 265 lines of text including references. This limit does not include the title page, abstract, or author notes. The title of a Brief Comment should include a subtitle reflecting the actual title and year of publication of the article that engendered the comment. For example — "The Importance of Focusing on External Validity: A Brief Comment on *Testing the Efficacy of Two Differing Types of Stress Management Interventions for the Treatment of Essential Hypertension* (Jones & Smith, 2012)."

Brief Comments should be submitted in a timely manner, no later than 9 months after publication of the original article. Upon acceptance of a Brief Comment, the author(s) of the original paper would be invited to submit a response, whereupon, if acceptable, both the Brief Comment and Response would be published together. Such Responses to a Brief Comment should also not exceed 265 lines of text including references.

### **Extended Comment**

The purpose of this type of article is essentially similar to that of a Brief Comment (i.e., to provide a meaningful insight, concern, alternative interpretation, clarification, or critical analysis), but would be written in response to a series of articles previously published in *JCCP* or that involves a more extensive and far-reaching conceptual or methodological issue. An example might include describing and analyzing the limitations of a particular statistical or methodological procedure used in several studies previously published in *JCCP*, provided along with meaningful recommendations.

This type of article should not exceed approximately one half the length of the original paper (note that 1 journal page equals approximately 3–3.5 manuscript pages). Unless permission from the editor is received, no Extended Comment should exceed 20 manuscript pages inclusive of all references, tables, and figures.

Similar to a Brief Comment, where and when appropriate, if such a paper is accepted, the author(s) of the original article(s) will be contacted to write a response, whereupon, if acceptable, both the Extended Comment and Response would be published together. This Invited Response should not exceed approximately one half the length of the Extended Comment.

The title of this type of article need not include a subtitle representing the original article(s). One important review criteria involves the timeliness of the topic and its potential contribution to the scientific literature base relevant to the scope of *JCCP* content.

### **Conceptual/Theoretical Papers**

Whereas the majority of papers published in *JCCP* will involve descriptions of quantitatively-based investigations, this journal also considers conceptual articles on topics of broad theoretical, methodological, or practical interest that advance the field of clinical psychology. Examples might include describing a new methodological or statistical procedure, delineating methods of enhancing dissemination of research findings from the lab to real-world settings, or advocating the need to increase the profession's research efforts regarding a traditionally underserved population.

Similar formatting guidelines for submitting a full length research article would apply for these types of papers.

### **Title of Manuscript**

The title of a manuscript should be accurate, fully explanatory, and preferably no longer than 12 words. The title should reflect the content and population studied (e.g., "treatment of generalized anxiety disorders in adults").

If the paper reports a randomized clinical trial (RCT), this should be indicated in the title. Note that JARS criteria must be used for reporting purposes.

### **Abstract**

All manuscripts must include an abstract containing a maximum of 250 words typed on a separate page. After the abstract, please supply up to five keywords or brief phrases.

Manuscripts published in the *Journal of Consulting and Clinical Psychology* will include a structured abstract of up to 250 words.

For studies that report randomized clinical trials or meta-analyses, the abstract also must be consistent with the guidelines set forth by JARS or MARS (Meta-Analysis Reporting Standards) guidelines, respectively. Thus, in preparing a manuscript, please ensure that it is consistent with the guidelines stated below.

Please include an Abstract of up to 250 words, presented in paragraph form. The Abstract should be typed on a separate page (page 2 of the manuscript), and must include each of the following sections:

- **Objective:** A brief statement of the purpose of the study
- **Method:** A detailed summary of the participants (N, age, gender, ethnicity) as well as descriptions of the study design, measures (including names of measures), and procedures
- **Results:** A detailed summary of the primary findings that clearly articulate comparison groups (if relevant), and that indicate significance or confidence intervals for the main findings
- **Conclusions:** A description of the research and clinical implications of the findings

### **Public Health Significance Statements**

Authors submitting manuscripts to the *Journal of Consulting and Clinical Psychology* are required to provide 2–3 brief sentences regarding the public health significance of the study or meta-analysis described in their paper. It should be written in language that is easily understood by both professionals and members of the lay public.

Examples are included below. This description should be included within the manuscript on the abstract/keywords page.

When an accepted paper is published, these sentences will be boxed beneath the abstract for easy accessibility. All such descriptions will also be published in the back of each issue, as well as on the journal's web page. This new policy is in keeping with efforts to increase dissemination and usage by larger and diverse audiences.

Examples of these 2–3 sentences include the following:

"This study strongly suggests that (description of a given psychosocial treatment) is an effective treatment for anxiety, but only if it is of mild to moderate severity. For persons with severe anxiety, additional treatments may be necessary."

"When treating individuals of (name of a particular ethnic minority group) who are experiencing PTSD, this study demonstrated the importance of taking into account cultural factors, especially those that involve one's spiritual beliefs."

"This study highlights the importance of directly including one's family in treatment when helping adults diagnosed with cancer overcome their depression."

### **Keywords**

Please supply up to five keywords or short phrases.

### **Participants: Description and Informed Consent**

The Method section of each empirical report must contain a detailed description of the study participants, including (but not limited to) the following: age, gender, ethnicity, SES, clinical diagnoses and comorbidities (as appropriate), and any other relevant demographics.

In the Discussion section of the manuscript, authors should discuss the diversity of their study samples and the generalizability of their findings.

The Method section also must include a statement describing how informed consent was obtained from the participants (or their parents/guardians) and indicate that the study was conducted in compliance with an appropriate Internal Review Board.

### **Measures**

The Method section of empirical reports must contain a sufficiently detailed description of the measures used so that the reader understands the item content, scoring procedures, and total scores or subscales. Evidence of reliability and validity with similar populations should be provided.

### **Statistical Reporting of Clinical Significance**

*JCCP* requires the statistical reporting of measures that convey clinical significance. Authors should report means and standard deviations for all continuous study variables and the effect sizes for the primary study findings. (If effect sizes are not available for a particular test, authors should convey this in their cover letter at the time of submission.)

*JCCP* also requires authors to report confidence intervals for any effect sizes involving principal outcomes (see Fidler et al., *Journal of Consulting and Clinical Psychology*, 2005, pp. 136–143 and Odgaard & Fowler, *Journal of Consulting and Clinical Psychology*, 2010, pp.287–297).

In addition, when reporting the results of interventions, authors should include indicators of clinically significant change. Authors may use one of several approaches that have been recommended for capturing clinical significance, including (but not limited to) the reliable change index (i.e., whether the amount of change displayed by a treated individual is large enough to be meaningful; see Jacobson et al., *Journal of Consulting and Clinical Psychology*, 1999), the extent to which dysfunctional individuals show movement into the functional distribution (see Jacobson & Truax, *Journal of Consulting and Clinical Psychology*, 1991), or other normative comparisons (see Kendall et al., *Journal of Consulting and Clinical Psychology*, 1999).

The special section of *JCCP* on "Clinical Significance" (*Journal of Consulting and Clinical Psychology*, 1999, pp. 283–339) contains detailed discussions of clinical significance and its measurement and should be a useful resource (see also Atkins et al., *Journal of Consulting and Clinical Psychology*, 2005, pp. 982–989).

### **Discussion of Clinical Implications**

Articles must include a discussion of the clinical implications of the study findings or analytic review. The Discussion section should contain a clear statement of the extent of clinical application of the current assessment, prevention, or treatment methods. The extent of application to clinical practice may range from suggestions that the data are too preliminary to support widespread dissemination to descriptions of existing manuals available from the authors or archived materials that would allow full implementation at present.

### **Randomized Clinical Trials: Use of JARS Guidelines**

*JCCP* requires the use of JARS guidelines for randomized clinical trials, consistent with the recommendations and policies established by the Publications and Communications Board of the American Psychological Association. JARS offers a standard way to improve the quality of such reports, and to ensure that readers have the information necessary to evaluate the quality of a clinical trial.

Manuscripts that report randomized clinical trials are required to include a flow diagram of the progress through the phases of the trial. When a study is not fully consistent with JARS guidelines, the limitations should be acknowledged and discussed in the text of the manuscript.

For follow-up studies of previously published clinical trials, authors should submit a flow diagram of the progress through the phases of the trial and follow-up. The above checklist information should be completed to the extent possible, especially for the Results and Discussion sections of the manuscript.

Authors of RCTs should also describe procedures to assess for treatment fidelity (also known as treatment integrity), including both therapist adherence and competence. Where possible, results should be reported regarding the relationship between fidelity and outcome found in the investigation.

- [View the JARS guidelines \(PDF, 98KB\)](#)

### **Meta-Analyses of Randomized Clinical Trials: Use of MARS Guidelines**

*JCCP* requires the use of the APA MARS guidelines for meta-analyses of randomized clinical trials. MARS offers a standard way to improve the quality of such reports, and to ensure that readers have the information necessary to evaluate the quality of a meta-analysis.

Manuscripts that report meta-analyses of randomized clinical trials are required to include a flow diagram of the progress through the stages of the meta-analysis. When a study is not fully consistent with MARS, the limitations should be acknowledged and discussed in the text of the manuscript.

MARS guidelines are included in the [JARS guidelines \(PDF, 98KB\)](#)

### **Nonrandomized Trials**

For nonrandomized designs that often are used in public health and mental-health interventions, *JCCP* requires compliance with JARS.

Failure to comply with JARS or MARS can result in the return of manuscripts without review.

### **Manuscript Preparation**

Prepare manuscripts according to the [Publication Manual of the American Psychological Association \(6<sup>th</sup> edition\)](#). Manuscripts may be copyedited for bias-free language (see Chapter 3 of the *Publication Manual*).

Review APA's [Checklist for Manuscript Submission](#) before submitting your article.

Double-space all copy. Other formatting instructions, as well as instructions on preparing tables, figures, references, metrics, and abstracts, appear in the *Manual*.

Below are additional instructions regarding the preparation of display equations, computer code, and tables.

### **Display Equations**

We strongly encourage you to use MathType (third-party software) or Equation Editor 3.0 (built into pre-2007 versions of Word) to construct your equations, rather than the equation support that is built into Word 2007 and Word 2010. Equations composed with the built-in Word 2007/Word 2010 equation support are converted to low-resolution graphics when they enter the production process and must be rekeyed by the typesetter, which may introduce errors.

To construct your equations with MathType or Equation Editor 3.0:

- Go to the Text section of the Insert tab and select Object.
- Select MathType or Equation Editor 3.0 in the drop-down menu.

If you have an equation that has already been produced using Microsoft Word 2007 or 2010 and you have access to the full version of MathType 6.5 or later, you can convert this equation to MathType by clicking on MathType Insert Equation. Copy the equation from Microsoft Word and paste it into the MathType box. Verify that your equation is correct, click File, and then click Update. Your equation has now been inserted into your Word file as a MathType Equation.

Use Equation Editor 3.0 or MathType only for equations or for formulas that cannot be produced as Word text using the Times or Symbol font.

### **Computer Code**

Because altering computer code in any way (e.g., indents, line spacing, line breaks, page breaks) during the typesetting process could alter its meaning, we treat computer code differently from the rest of your article in our production process. To that end, we request separate files for computer code.

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We request that runnable source code be included as supplemental material to the article. For more information, visit [Supplementing Your Article With Online Material](#).

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If you would like to include code in the text of your published manuscript, please submit a separate file with your code exactly as you want it to appear, using Courier New font with a type size of 8 points. We will make an image of each segment of code in your article that exceeds 40 characters in length. (Shorter snippets of code that appear in text will be typeset in Courier New and run in with the rest of the text.) If an appendix contains a mix of code and explanatory text, please submit a file that contains the entire appendix, with the code keyed in 8-point Courier New.

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Use Word's Insert Table function when you create tables. Using spaces or tabs in your table will create problems when the table is typeset and may result in errors.

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APA can place supplemental materials online, available via the published article in the PsycARTICLES® database. Please see [Supplementing Your Article With Online Material](#) for more details.

## References

List references in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References section.

Examples of basic reference formats:

- **Journal Article:**  
Hughes, G., Desantis, A., & Waszak, F. (2013). Mechanisms of intentional binding and sensory attenuation: The role of temporal prediction, temporal control, identity prediction, and motor prediction. *Psychological Bulletin*, *139*, 133–151.  
<http://dx.doi.org/10.1037/a0028566>
- **Authored Book:**  
Rogers, T. T., & McClelland, J. L. (2004). *Semantic cognition: A parallel distributed processing approach*. Cambridge, MA: MIT Press.
- **Chapter in an Edited Book:**  
Gill, M. J., & Sypher, B. D. (2009). Workplace incivility and organizational trust. In P. Lutgen-Sandvik & B. D. Sypher (Eds.), *Destructive organizational communication: Processes, consequences, and constructive ways of organizing* (pp. 53–73). New York, NY: Taylor & Francis.

## Figures

Graphics files are welcome if supplied as Tiff or EPS files. Multipanel figures (i.e., figures with parts labeled a, b, c, d, etc.) should be assembled into one file.

The minimum line weight for line art is 0.5 point for optimal printing.

For more information about acceptable resolutions, fonts, sizing, and other figure issues, [please see the general guidelines](#).

When possible, please place symbol legends below the figure instead of to the side.

APA offers authors the option to publish their figures online in color without the costs associated with print publication of color figures.

The same caption will appear on both the online (color) and print (black and white) versions. To ensure that the figure can be understood in both formats, authors should add alternative wording (e.g., "the red (dark gray) bars represent") as needed.

For authors who prefer their figures to be published in color both in print and online, original color figures can be printed in color at the editor's and publisher's discretion provided the author agrees to pay:

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- An additional \$600 for the second figure
- An additional \$450 for each subsequent figure

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It is a violation of APA Ethical Principles to publish "as original data, data that have been previously published" (Standard 8.13).

In addition, APA Ethical Principles specify that "after research results are published, psychologists do not withhold the data on which their conclusions are based from other competent professionals who seek to verify the substantive claims through reanalysis and who intend to use such data only for that purpose, provided that the confidentiality of the participants can be protected and unless legal rights concerning proprietary data preclude their release" (Standard 8.14).

APA expects authors to adhere to these standards. Specifically, APA expects authors to have their data available throughout the editorial review process and for at least 5 years after the date of publication.

Authors are required to state in writing that they have complied with APA ethical standards in the treatment of their sample, human or animal, or to describe the details of treatment.

- [Download Certification of Compliance With APA Ethical Principles Form \(PDF, 26KB\)](#)

The APA Ethics Office provides the full [Ethical Principles of Psychologists and Code of Conduct](#) electronically on its website in HTML, PDF, and Word format. You may also request a copy by [emailing](#) or calling the APA Ethics Office (202-336-5930). You may also read "Ethical Principles," December 1992, *American Psychologist*, Vol. 47, pp. 1597–1611.



**SCHOOL OF PSYCHOLOGY**  
**DOCTORATE IN CLINICAL PSYCHOLOGY**

**EMPIRICAL PAPER**

**Striving for Self-validation versus Growth – the Role of Goal Orientation as a  
Predisposing Factor for Depression**

Trainee Name: **Ulrike Klossek**

Primary Research Supervisor: **Dr Nick Moberly**  
Senior Lecturer, Psychology, University of Exeter

Target Journal: Journal of Abnormal Psychology

Word Count: 7931 words (excluding abstract, table of contents, list of figures,  
references, footnotes, appendices)

**Submitted in partial fulfilment of requirements for the Doctorate Degree in Clinical  
Psychology, University of Exeter**

## **Abstract**

Goal orientation theory suggests that adopting a self-worth goal orientation (seeking self-validation and avoiding proof of worthlessness) may make individuals more vulnerable to depression, whereas pursuing learning goals (seeking personal growth and improving one's abilities) might represent a protective factor. This study examined whether adopting different goal orientations following negative performance feedback and unfavourable social comparison affected mood and performance on a subsequent performance task. Trait goal orientation was assessed in a sample of 86 U.K. university students who were allocated to three experimental groups receiving self-worth goal, learning goal and no instructions after receiving negative feedback on the first performance task. The findings provided some support for the original predictions of goal orientation theory (Dykman, 1998). Validation-seeking was associated with greater anticipatory anxiety following a negative event as well as reduced confidence when faced with a performance challenge. However, the results provided no substantial evidence to suggest that adopting a 'state' learning goal orientation vs. self-worth goal orientation mitigates the experience of negative affect or helplessness responses. Potential implications of the findings regarding the utility of the goal orientation construct as a predictor of depression vulnerability are discussed in the light of methodological limitations of the present study.

## **Introduction**

Depression is a common mental health condition with a significant and debilitating impact on social and occupational functioning, physical health and mortality (WHO, 2008). To understand the complex aetiology and wide variation in individual presentation, course and outcomes of depression, various theories have been put forward, implicating a range of factors and processes from biological (e.g. Caspi, Sugden & Moffitt, 2003; Malhi, Parker & Greenwood, 2005; Price & Drevets, 2012), social (e.g. Mikulincer & Shaver, 2007; Fava & Kendler, 2000; Hammen, Henry & Daley, 2000) and psychological domains (e.g. Granö, Keltikangas-Järvinen, Kouvonen, *et al.*, 2007; Nolen-Hoeksema, 2000; Spasojevic & Alloy, 2001).

Cognitive theories have traditionally focused on the role of thought processes, maladaptive beliefs, negative distortions and self-defeating interpretations of events as the key factors that lead individuals into and maintain depression (Beck, 1967, 1987, 1991). Similarly, rational-emotive approaches (Ellis, 1962; Ellis & Whiteley, 1970) or the Learned Helplessness account of depression (Abramson, Seligman & Teasdale, 1978) have emphasized the role of unhelpful or irrational beliefs, overgeneralizations and cognitive attributions in causing depression and reinforcing a negative view of the self as ineffectual and incapable of coping with external circumstances. Having located the main source of dysregulation in depression in the cognitive domain, cognitive theorists have given less attention to the possible mechanisms by which underlying motivational processes may contribute or interface with cognitive processes to make individuals vulnerable to developing symptoms and relapse.

More recently, there has been a resurgence of interest in examining and integrating the role of motivational factors and personal goals as factors in causing and maintaining depression (Dickson & MacLeod, 2004a, 2004b; Vergara & Roberts, 2011; Trew, 2011; Street, 2002). Research on personal goals in depression has shown, for instance, that abstract goals, goal

conflict, conditional goal-setting, dysregulation in goal engagement processes and lack of progress towards valued goals tend to be associated with increased negative affect and depressive symptoms (Brunstein, 1993; Carver & Scheier, 1990; Dunne, Wrosch & Miller, 2011; Duval & Silvia, 2002; Haase, Heckhausen & Silbereisen, 2012; MacIntosh et al., 1995; Street, 1999; 2002). Apart from increases in negative affect, a number of studies have shown that failure to attain or make progress towards valued personal goals increases rumination, which in turn prolongs dysphoric mood and vulnerability to depression (Lyubomirsky & Tkach, 2003; Moberly & Watkins, 2010; Nolen-Hoeksema, 2000). These findings illustrate a possible mechanism by which motivational factors may work in concert with cognitive factors in causing and maintaining depressive symptoms.

### **Goal Orientation Theory and Response to Task Failure**

Another emerging line of investigation has linked research on depression with work in the area of social cognition on achievement motivation (Ames, 1984; Dweck, 1986; Elliott, 1999), personal strivings and self-actualization (Emmons, 1989; Cantor & Zirkel, 1999; Maslow, 1968, 1987) and goal orientation theory (Dweck, 1999; Dykman, 1998; Rothbaum, Morling & Tusk, 2009). Goal orientation theory is rooted in research on achievement goal theory, which examined the motivational processes underlying performance and achievement in educational and other settings (Ames, 1984; Dweck & Leggett, 1988).

Dweck and her colleagues were struck by the strikingly different reactions children of equal academic ability would show when faced with a difficult task or task failure. While some children rapidly attributed their failure to a lack of ability, displayed negative affect, gave up or showed a marked deterioration in performance, others showed positive affect, did not focus on

failure but might engage in solution-oriented self-talk and sustained or increased their effort and performance (e.g. Dweck, 1975; Diener & Dweck, 1978, 1980).

This led Dweck et al. to propose that children pursued different types of motivational goals in achievement situations: performance goals and learning goals. According to this account, individuals with performance goal seek to prove, validate or document the adequacy of a particular ability and strive to maintain positive and avoid negative judgements about their ability (competence judgement). Individuals with learning goals, on the other hand, strive to improve their skills, master new tasks and increase their competency (competence enhancement). Further work confirmed that a focus on performance goals was associated with a helpless response pattern following task failure, whereas learning goals tended to promote mastery-oriented responses in the same situation and could thus help protect individuals against helplessness in challenging achievement situations (Dweck & Leggett, 1988; Elliott & Dweck, 1988). The central idea of goal orientation theory derived from these findings is that adopting a performance goal versus mastery orientation will create a different cognitive framework for approaching situations that is characterised by different focal concerns, which lead individuals to seek different types of information, ask different question and interpret events, such as task failure and feedback, in the light of these focal concerns (Dweck & Leggett, 1988; Dykman, 1998).

### **A goal orientation approach to depression.**

Dykman (1998) later extended Dweck & Leggett's account to propose a goal orientation model of depression. He criticised existing cognitive models of depression for neglecting to integrate motivational and cognitive factors and ignoring personality characteristics that were

known to co-occur in individuals with depression, such as low self-esteem, rumination, perfectionism, and concerns over social comparison or self-consciousness (Dykman, 1998).

He proposed a revised goal orientation framework based on the motivational concept of 'personal strivings' (Emmons, 1989; Cantor & Zirkel, 1990), suggesting that particular types of goal striving could make an individual vulnerable or resistant to depression.

Specifically, he suggested that a fundamental goal striving common in those vulnerable to depression was the need to prove one's basic worth, competence and likeability, which led to constant seeking of external validation (Dykman, 1998). As long as a validation-seeking individual was successful in attaining external symbols of achievement and acceptance by others, his self-worth would remain intact and he might be high-functioning. However, in response to failure or rejection, he might experience a drop in self-esteem and slide into depression. By contrast, resilience to depression was conferred by another fundamental goal striving characterised by the need to learn, grow and improve.

Dykman's account emphasized that validation-seeking (VS) individuals appraised challenging tasks or situations as measures or tests of their intrinsic self-worth. In consequence, task failure was perceived as calling these core traits into question and proving the individual's worthlessness or incompetence as a person. By contrast, individuals with a growth-seeking (GS) goal orientation viewed challenging situations or task failure not in terms of a threat to their basic self-worth, but as opportunities for self-improvement and personal growth.

In line with his predictions, Dykman (1998) showed that in response to stressful life events, individuals with a validation-seeking goal orientation reported more anticipatory anxiety than those with a growth-seeking orientation. High-VS individuals were also more likely than high-GS individuals to use coping strategies that involved giving up and disengaging from difficult tasks and to show depressive symptoms after failure experiences. These findings were

confirmed by subsequent studies that showed that a self-worth or validation-seeking goal orientation was associated with adjustment problems, increased negative affect and depressive symptoms, whereas a learning goal or growth-seeking goal orientation was associated with greater well-being (Cron et al., 2005; Dweck et al., 1995; Lindsay & Scott, 2005; Sideridis, 2005, 2007; Tuominen-Soini, 2008).

In a recent review on the role of goal orientation in depression, Rothbaum, Morling and Tusk (2009) similarly argued that a goal orientation that maintains the pursuit of self-worth goals might make individuals vulnerable to depression (see also Graham & Golan, 1991; Steele-Johnson, et al., 2000; Turner, et al. 1998). By the same token, the authors also endorsed the view that a learning goal orientation could protect individuals from depression, because such individuals do not base their self-worth on having specific skills or abilities, tend to view the self as malleable and adaptable and respond to challenging tasks or failure experiences with problem-solving rather than helplessness and avoidance (Dweck & Leggett, 1988; Niiya et al., 2004; Rothbaum et al., 2009).

### **Potential implications for therapy.**

The question whether goal orientation mediates the relationship between cognitive vulnerabilities and depression has potentially important implications for therapy. As Rothbaum et al. (2009) have pointed out, interventions that work on improving the client's self-esteem or their social contacts may be reinforcing or exacerbating an underlying problem if they are re-focusing the client on the pursuit of proving self-worth and thus potentially enhancing an existing validation-seeking goal orientation. To alleviate depression, it might therefore be more beneficial to help clients identify and change an existing maladaptive goal orientation in the first place.

**Aims of the Present Study**

Although these ideas are compelling, there is currently not much evidence on whether promoting the adoption of a learning goal orientation in general or as a self-regulation strategy following failure experiences may protect validation-seeking individuals from developing depressive symptoms, avoidance and helplessness responses. Cianci et al. (2010) reported that students instructed to adopt a learning goal during a reading comprehension and analogies task showed better performance after negative performance feedback than a second group of students told to adopt a performance goal. However, this study focused on performance measures and did not assess participants' affective responses or goal orientation.

The aims of the present study were therefore (i) to replicate the original findings by Dykman supporting goal orientation (GO) as a predictor of increased anticipatory anxiety, loss of confidence and greater tendency to disengage after failure experiences; (ii) to investigate whether inviting individuals to adopt a 'state' learning goal versus self-worth goal orientation following a stressor in the form of unexpected task failure and unfavourable social comparison would have an effect on their affective responses and task performance in line with the predictions of goal orientation theory and (iii) whether trait goal orientation would moderate the effects of such an intervention.

Participants completed an unfamiliar, computerized performance task that involved solving two sets of spatial and verbal reasoning problems. After completing the first set of problems (task 1), participants received negative feedback about their performance. Thereafter, different groups of participants were invited to adopt learning versus self-worth goal orientations. To help participants maintain their learning goal or self-worth goal focus, they were asked to generate a short reminder phrase they then had the option of viewing in each inter-trial interval while completing the second task. A third group of participants did not receive any goal

orientation instructions after receiving the negative feedback. This group will be referred to as the ‘No Instructions’ Group (NI).

All participants rated their current level of anxiety, interest and confidence before and after completing each set of problems as well their own performance and also completed the Goal Orientation Inventory (GOI; Dykman, 1998) prior to completing the computerized task. After completing the second set of problems (task 2), participants were asked about their experiences, perceptions and use of strategies during the task and debriefed.

Participants’ mood and performance ratings were thus assessed in anticipation of a challenging, unfamiliar performance task, first in the absence of any additional, explicit threat to self-worth and goal instructions and also following a threat to self-esteem in the form of the negative evaluation of their task 1 performance.

### **Predictions.**

Based on Dykman’s account, it was expected that participants’ trait goal orientation should predict anxiety and confidence ratings as high validation-seeking should be associated with greater anticipatory anxiety when faced with a challenging achievement task or potential performance evaluation as well as with a greater loss of confidence following a negative event (Dykman, 1998). Given that individuals high in trait growth-seeking should view a challenging achievement task or negative feedback as an opportunity for learning and self-improvement, it was also predicted that a growth-seeking goal-orientation should be associated with expressing higher levels of interest and confidence before completing the tasks. Because individuals with a validation-seeking goal-orientation should be more likely to give up and disengage from challenging tasks following a negative event, it was expected that if they received instructions compatible with their trait goal orientation to focus on proving their self-worth and competence

as a person, they should also be more likely to show a performance decrement, higher anticipatory anxiety and less confidence than following trait-incompatible (learning goal) instructions prior to task 2. Moreover, if adopting a growth-seeking or learning goal orientation following a negative event is generally helpful in reducing negative affect, then all participants, and particularly high trait validation-seeking individuals, should show less anticipatory anxiety and an attenuated decrease in confidence after receiving learning goal instructions.

These general assumptions led to the following specific predictions to be tested in the present study:

#### Task 1

- High trait validation-seeking was expected to be associated with high anxiety and low confidence scores prior to task 1
- Prior to task 1, high trait growth-seeking was expected to be associated with greater self-reported confidence and interest in completing the task
- After completing task 1, high trait validation-seeking was expected to be associated with lower confidence and performance satisfaction ratings

#### Task 2

- Following negative feedback, high trait validation-seeking should again be associated with high anticipatory pre- and post-task anxiety, low confidence and lower performance self-ratings. This effect was predicted to be moderated by experimental condition (type of goal orientation instructions received), so this should only occur in the Self-worth Goal (SWG) and No Instruction (NI) conditions but not in the Learning Goal (LG) instruction condition
- Following negative feedback, high trait growth-seeking should be associated with

lower anxiety and higher confidence, interest and performance ratings after receiving trait-compatible goal orientation instructions, but not after receiving trait-incompatible self-worth goal instructions, which were expected to raise anxiety levels and lower confidence and performance ratings

- Following negative feedback, validation-seekers receiving trait-compatible self-worth goal instructions or no instructions were expected to have the greatest tendency to disengage and give up, so these groups were expected to be likely to show a performance decrement on task 2 relative to high growth-seeking individuals in the learning goal instruction group
- Based on previous findings (Dykman, 1998; Smiley & Dweck, 1989; Cianci et al., 2010), asking participants to adopt a learning goal following negative feedback was expected to lead to lower anxiety ratings, greater interest, confidence, higher performance satisfaction ratings and possibly better performance compared to receiving self-worth goal or no instructions
- For the No Instructions (NI) group, in the absence of a goal orientation brief before task 2, mood and performance measures were expected to reflect the unmoderated effects of trait goal orientation and negative feedback

## Method

### Participants

Participants were 86 students (13 men), recruited from the University of Exeter ( $M = 19.7$  years old,  $SD 4.3$ ). Seven further participants scheduled to take part could not be tested due to a technical problem. The majority of students participated in order to obtain mandatory course credits. In addition, all participants were entered into a guaranteed-win raffle and received a

surprise gift after debriefing. Prizes included sweets, stationary and retail vouchers worth £5 to £20.

To estimate the required sample size, a statistical power analysis was performed based on the results of Cianci et al. (2010), who reported a medium-to-large effect size of .63 for the mean difference scores between groups receiving learning goal versus performance goal instructions following negative performance feedback. The sample size needed to detect a similar effect size in the present study with a two-tailed alpha = .05 and a probability of .80 was approximately 31 participants per group. The projected total sample size aimed for in the present study was therefore  $N= 93$ .

## Measures

### **Trait measures.**

*Goal Orientation Inventory* (GOI; Dykman, 1998).

The GOI is a 36-item self-report measure of goal orientation and incorporates *Growth-seeking* (GS) and *Validation-seeking* (VS) subscales. Items are rated on a 7-point scale from ‘strongly disagree’ to ‘strongly agree’. For the total or combined score, GS is subtracted from VS score, yielding a maximum range of -108 to 108 with higher scores reflecting greater validation-seeking. In our sample, reliability was high for both GS and VS subscales (*Growth-seeking/Learning Goal Orientation*, Cronbach’s  $\alpha = .96$ ; *Validation-seeking/Self-worth Goal Orientation*, Cronbach’s  $\alpha = .96$ ). The two subscales have been shown to have independent predictive power; however, Dykman (1998) reported that the total GOI score has higher predictive validity.

*Ruminative Responses Scale* (RRS; Treynor, Gonzalez & Nolen-Hoeksema, 2003).

The RRS is a 22-item self-report measure of the tendency to engage in perseverative,

repetitive negative thinking about the self, the world and the future, including one's own depressive symptoms, their perceived causes and anticipated aversive consequences in response to stressful life events. Each item is rated on a 4-point scale ('almost never', 'sometimes', 'often', 'almost always'), with higher scores reflecting higher levels of rumination and a maximum score of 88. In our sample, the internal consistency of this scale was high (Cronbach's  $\alpha = .91$ ).

*Rosenberg Self-Esteem Scale* (Rosenberg, 1965). The *Rosenberg Self-Esteem Scale* is a unidimensional, 10-item self-report measure of self-esteem. Each item is rated on a 4-point scale ('strongly agree', 'agree', 'disagree', 'strongly disagree') with individual items scored from 0 to 3. Higher total scores on this scale indicate higher self-esteem up to a maximum score of 30.

The internal consistency of this scale in our sample of university students was good (Cronbach's  $\alpha = .84$ ).

### **Depression and anxiety measures.**

Current depressive and anxiety symptoms were assessed using the 9-item Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer, Williams, 2001) and the GAD-7 anxiety scale (Spitzer, Kroenke, Williams & Löwe, 2006; 7 items), respectively. The PHQ-9 is a self-report measure that assesses cognitive, somatic and emotional components of depressive symptoms, including suicidal ideation, and is based on DSM-IV criteria for Major Depressive Disorder (MDD). Each symptom is scored for frequency of occurrence to gauge severity on a 0-3 scale ('not at all', 'several days', 'more than half the days', 'nearly every day'), yielding a maximum score of 27. In the present, non-clinical sample, the scale showed adequate internal consistency (Cronbach's  $\alpha = .73$ ).

The GAD7 is a 7-item self-report measure assessing the frequency and severity of anxiety symptoms associated with generalised anxiety disorder, which also uses a 0-3 scale ('not at all',

‘several days’, ‘more than half the days’, ‘nearly every day’) and thus yields a score between 0 and 21. Reliability testing of participants’ responses revealed that the GAD7 had good internal consistency in the present study (Cronbach’s  $\alpha = .84$ ).

***Exclusion criteria – anxiety and depression.***

Participants were asked not to participate in the study if their scores on one or both of the measures indicated a potentially clinically significant level of anxiety (GAD-7 score > 5) or depression (4 or more responses in the shaded area) and further discussion with the participant revealed that any current difficulties had a significant impact on day-to-day activities, quality of life and relationships with others. In this case, the departmental risk protocol was followed if necessary and the rationale for not including individuals with a current significant level of anxiety or depressive symptoms was explained to the person concerned along with a full debriefing about the aims of the study. Seven potential participants were screened out in this way due to current mental health problems and signposted to relevant sources of support. All received a raffle prize and credits for completing the questionnaires and attending the session.

**Pre- and post-task mood and performance ratings.**

Before and after completing the set of 14 test items for each task, participants provided on-screen self-ratings for three current feeling/mood states (*interested, anxious, confident*) using a 0-100% scale. Following completion of each of the two tasks, participants also rated how satisfied they felt with their own performance on a 0-100% scale.

**Post-task participant feedback.**

After each task and during debriefing, participants were asked to explore and report their strategies, goals, thoughts and feelings during and in response to the tasks, in part to assess

whether they were focusing on the goal orientation instructions SWG and LG groups were given prior to task 2.

### **Performance Task**

Participants completed two computer-based sets of 14 verbal and spatial reasoning problems, task 1 and task 2, that were created and compiled using E-Prime 2.0 Professional (Psychology Software Tools, Inc.). The 14 items in each case consisted of pattern matching (N=5), spatial rotation (N=5) and reasoning problems (N=4) taken from different subtests of a national medical student entrance examination (TMS, 2008a, 2008b; see Appendix A, Figures A1-A4 for examples of test items used in the present task). Based on the original timings, the time limits for completion of individual test items were 60s for pattern matching problems, 40s for spatial rotation problems and 150s for reasoning problems. All items required participants to provide answers using a multiple choice format. Test items were presented in an intermixed, random sequence that was the same for all participants. To match task demands and difficulty across tasks, the same items were used in task 1 and task 2, although the order and format of test items were varied to create the impression that task 1 and task 2 were two parts of the same test in line with the cover story (see below). All task 1 items were presented on a light blue background, whereas task 2 items were shown in a different order on a pale yellow background. In addition, task 2 pattern matching items were task 1 items rotated by 180° and task 1 reasoning problems were reframed and relevant data represented in a different format to create the corresponding items for task 2 (e.g. a line graph in task 1 as a bar chart in task 2; see Figures A3 and A4, Appendix A).

Participants were told that they would be presented with items from different subtest in a random order rather than in blocks as in the standard administration of the tests, and that this was

one of the variables of interest in the present study. They were then shown examples of each of the three problem types they would be shown in the task and received a full explanation about task instructions, time limits and how to register their answers by pressing number or letter keys on the keyboard. Thereafter, they completed task 1.

### **Negative Feedback.**

Following completion of task 1, participants were asked to take a seat at the other table again and to provide some feedback to the investigator how they got on with the task and how satisfied they were with their own performance. They were also asked about their experiences while completing the task, whether they recalled any thoughts or self-talk and whether they focused on their own performance, learning or on trying out different strategies. The investigator then moved over to the computer and told the participant that she would have a quick look at the participant's data file from task 1 and get the second task ready for them.

All participants were then told by the investigator that somewhat unexpectedly, their scores on the first task were slightly below-average compared to those obtained by their peers that had been tested so far. The investigator then reminded them that their data from the two tasks would be combined into a single file, and that most people improved on the second task, so that their lower scores on the first task would probably not be a major problem, but that it would therefore be important that they should try to obtain a higher score in task 2.

### **Pre-task 2 brief.**

Participants in the No Instructions (NI) group received no goal orientation brief following negative feedback. Participants in the *Learning goal* (LG) and *Self-worth goal instruction* (SWG) groups were given instructions intended to induce a learning goal or self-worth goal orientation,

respectively. Both groups were first told about the fictitious results of another study run by collaborators on the same project that focused on what helped people improve their performance on this type of task.

***Learning goal instructions.***

In Group LG, participants were told that the study showed that people found it really helpful to focus on seeing this simply as an opportunity for learning and improving their problem-solving skills, playing with different strategies to approach the tasks, being curious and approaching the tasks in the same way as they would when solving a series of puzzles. They were told that students from their discipline were known to be particularly good at coming up and playing around with new strategies and ways of approaching problems.

Participants in the LG group were invited to do the same on task 2 and were also told that in the study by the collaborator, participants had found it very helpful to use a reminder they could access and view during the task to help them focus on learning, trying out different strategies and being curious. They were asked to try this as well, because the software used to run the test still contained the relevant snippet of code and their message could therefore quickly be added. Participants then generated a short message to help them focus on seeing the task as an opportunity for problem-solving, learning and improving their ability. Reminder messages chosen by participants in the LG group included ‘Thinking outside the box!’, ‘Be curious!’, ‘See this as a learning opportunity’ and ‘Look at it from a different angle’.

***Self-worth goal instructions.***

In Group SWG, participants were told that the study found that people found it really helpful to focus on proving themselves as a person, their ability and intelligence. They were told

that students from their discipline had been found to outperform medical students on several subtests including the ones completed today and to remind themselves that they were competent and good analytical thinkers and good at exams. Reminder messages chosen by participants in the SWG group included “I’m intelligent!”, “I can do this!”, “I’m a good thinker”, “I have the ability” and “I always try hard.”

To match the interval between completing task 1 and task 2 across groups, participants in all groups were asked to complete a demographics form. In the Learning Goal and Self-worth Goal conditions, the investigator added the individual reminder message to the programme while the participant completed the form. In task 2, the individual reminder could then be called up from the break screen that appeared in the interval between test items in the form of a message box.

### **Debriefing.**

Following completion of task 2, participants were again asked about their experiences, thoughts, feelings and any conscious self-talk or strategies they used during the task and how they found it compared to task 1. Participants were also asked whether they had managed to focus on either learning or proving themselves and whether they had found the message helpful in that respect. Another question concerned their reaction to the negative feedback following task 1; the effect it had on their thoughts and feelings and motivation with regard to task 2 and whether they believed it to be true or whether they suspected that they might have been deceived.

The investigator then explained that the negative feedback had been untrue, part of the experimental manipulation, did not reflect their actual performance and apologised for having deceived the participants. Participants received a thorough debrief about the aims of the study, the concept of goal orientation and had the opportunity to ask further questions. At the end of the

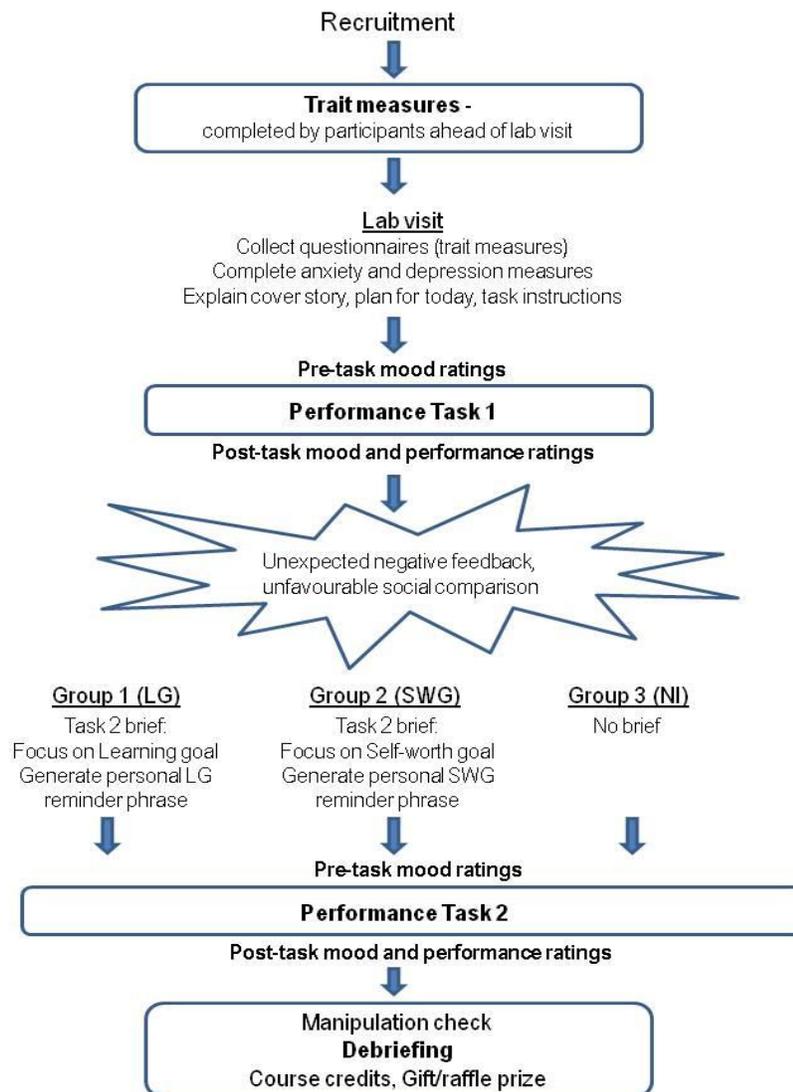
session, the investigator thanked them again for taking part and they were presented with their raffle prize.

## **Procedure**

Figure 1 provides a graphical illustration of the experimental procedure. Participants in all three groups were told the objective of the study was to examine individual differences and compare performance on medical entrance examinations by students from medical and non-medical disciplines. All participants completed the GOI, GAD-7, PHQ-9, Rumination and Self-esteem measures prior to the computer-based performance tasks. Participants completed both tasks in a single session in a private testing room in the psychology department. Before task 1, participants sat at a separate table and completed depression and anxiety measures and consent forms with the investigator. After explaining the overall procedure and nature of the task, the investigator showed the participant examples of each of the three problem types. Thereafter, they completed task 1 as well as pre- and post-task mood and performance ratings. Following completion of task 1, participants received negative feedback about their performance, which included unfavourable comparison with their peers. All three groups were asked to try to improve their performance on the second task, but only participants in Group LG and Group SWG received specific instructions to adopt a learning goal vs. self-worth goal orientation and were given the option to use a personal learning goal vs. self-worth goal reminder phrase during the task. Following completion of task 2 and all associated mood and performance ratings, participants were briefly interviewed about their experiences during the tasks, ability to focus on adopting a learning goal vs. self-worth goal, use of their reminder message and any suspicions about the use of deception in the study. The manipulation check interview was then followed by a

thorough debriefing about the true aims of the study and the opportunity to ask further questions. All participants received a small prize as a thank you for their participation and course credits as appropriate.

Figure 1. Flow chart illustrating the experimental procedure.



## Results

To test the predictions that asking participants to adopt a learning goal following negative feedback was expected to lead to lower anxiety ratings, greater interest, confidence, higher performance satisfaction ratings and possibly better performance compared to receiving self-worth goal or no instructions, participants' mood ratings and performance scores were analysed using 3 x 4 (Group: LG, SWG, NI; Timepoint: time 1-4) Mixed ANOVAs with planned analyses of simple main effects and pairwise comparisons with Bonferroni adjustment for multiple comparisons to explore potential differences between pre- and post-task ratings within each experimental group.

Table 1 shows the means and standard deviations for all trait measures, age, anxiety and depression scores for the three experimental groups (LG, SWG, NI). In this sample of university students, the distribution of goal orientation scores had an overall mean of -16.8 (*SD* 35.5), with individual scores ranging between 66 and -102. Ranges for the VS (*M*=67.1 *SD* 23) and GS subscales (*M*=84.0, *SD* 20.4) were 25-120 and 18-111, respectively. The groups did not differ significantly in any of the trait measures, age, depression or anxiety scores.

Table 1. Means and standard deviations by experimental group.

Measure	Mean (SD)		
	Learning Goal (N=31)	Self-worth Goal (N=31)	No Instructions (N=24)
Goal orientation inventory			
Growth-seeking	83.3 (21.3)	87.6 (20.8)	80.1 (18.9)
Validation-seeking	65.8 (22.2)	67.3 (23.9)	68.7 (23.8)
Total Goal orientation score	-17.5 (36.1)	-20.3 (36.1)	-11.4 (34.7)
Rosenberg Self-esteem scale	20.3 (5.3)	19.5 (3.5)	18.5 (3.6)
Ruminative Responses scale	47.3 (10.5)	45.1 (12.0)	45.2 (14.0)
PHQ-9 depression scale	5.3 (3.6)	3.5 (2.7)	4.4 (3.3)
GAD-7 anxiety scale	4.3 (3.9)	3.1 (2.5)	4.0 (2.7)
Age	20.5 (5.7)	19.6 (2.4)	18.9 (0.9)

N = number (group size/participants); SD = standard deviation.

## **Mood Ratings**

Table 2 shows the means and standard deviations for participants' pre- and post-task mood self-ratings. Participants' mood ratings for the four time points were analysed using 3 x 4 (Group: LG, SWG, NI; Timepoint: time 1 (pre-task1), 2 (post-task1), 3 (pre-task2), 4 (post-task2)) Mixed ANOVA and planned analyses of simple main effects and pairwise comparisons with Bonferroni adjustment for multiple comparisons.

### **Anxiety.**

As inspection of the data in Table 2 suggests, compared to task 1, participants' pre-task anticipatory anxiety levels were significantly higher before task 2 following the negative feedback. This observation was confirmed by the significant main effect of Timepoint,  $F(3, 249)=10.5, p<.001$ , in the context of a non-significant main effect of Group,  $F<1$ , and Group x Timepoint interaction,  $F<1$ . There was no evidence, however that instructions to adopt a learning goal orientation led to lower anxiety levels in the LG group either before,  $F<1$ , or after completion of task 2,  $F<1$ .

### **Confidence.**

In line with predictions, following the negative feedback after completion of the first performance task, participants' pre-task2 confidence ratings showed a significant decrease. Compared to the start of the session, confidence ratings declined significantly in all groups,  $F(2.51; 208.1)=54.3, p<.001$ . The main effect of Group,  $F<1$  and Group x Timepoint interaction,  $F<1$ , were not significant. Mauchly's test indicated violation of the sphericity assumption, therefore degrees of freedom were corrected using Greenhouse-Geisser estimates ( $\epsilon=.84$ ). Again, there was no support for the prediction that adopting a learning goal orientation led to higher

confidence ratings either before,  $F < 1$ , or after completion of task 2,  $F < 1$ .

### **Interested.**

Overall, participant's pre-task 1 ratings reflected positive anticipation of the performance task in all three groups, with mean ratings of 65-66% for feeling interested immediately before completing the first task (see Table 2). Thereafter, and following negative feedback after completing task 1 participants' interest in completing the task declined. This decline was confirmed by a significant main effect of Timepoint,  $F(2.68, 222.6) = 26.3$ ,  $p < .001$ . The degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ( $\epsilon = .89$ ), because Mauchly's test had indicated that the assumption of sphericity had been violated. The main effect of Group,  $F < 1$  and Group x Timepoint interaction,  $F < 1$ , were not significant. Again, learning goal orientation instructions did not lead to greater level of self-reported interest either before,  $F < 1$ , or after completion of task 2,  $F < 1$ .

Table 2. Means and standard deviations for pre- and post-task mood and performance ratings (scale 0-100%). Negative feedback was provided prior to pre-task 2 ratings.

		Learning Goal	Self-worth Goal	No Instructions
N		31	31	24
		M (SD)	M (SD)	M (SD)
Anxiety	pre-task1	30.7 (19.2)	24.8 (19.0)	33.7 (22.7)
	post-task1	35.4 (21.9)	33.5 (24.6)	36.9 (19.0)
	pre-task2	40.7 (17.9)	36.1 (23.3)	41.5 (19.3)
	post-task2	35.9 (19.5)	34.2 (22.6)	39.1 (20.9)
Confidence	pre-task1	59.5 (12.8)	61.1 (13.5)	56.7 (13.0)
	post-task1	47.0 (15.6)	49.0 (17.1)	48.6 (15.5)
	pre-task2	46.2 (17.4)	45.5 (19.2)	41.4 (16.0)
	post-task2	48.7 (17.2)	47.9 (17.3)	44.3 (17.1)
Interested	pre-task1	65.8 (11.5)	65.6 (15.1)	65.1 (9.9)
	post-task1	58.7 (15.2)	56.1 (21.4)	57.2 (12.8)
	pre-task2	56.9 (15.5)	55.7 (17.6)	53.4 (13.6)
	post-task2	52.8 (15.9)	52.1 (19.5)	53.8 (12.5)

M= mean; N = number (group size/participants); SD = standard deviation.

### Task Performance

Table 3 shows the mean number of correct responses and participants' self-ratings of their own performance for each of the two tasks. Overall, performance scores on task 2 were significantly higher than in task 1,  $F(1,83) = 13.4$ ,  $p < .001$ . However, planned analyses of simple main effects revealed that this was only true for the groups that received either learning or self-worth goal instructions and the opportunity to view a GS or VS reminder, respectively,

$F_{LG}(1,83)= 6.50, p=.013, r = .27$ ;  $F_{SWG}(1,83)= 7.37, p=.008, r = .29$ . In the group that received negative feedback in the absence of goal orientation instructions, participants' performance showed no significant improvement on task 2,  $F(1,83)=1.48, p=.23, r= .13$ . There was no evidence to suggest that the type of goal orientation instruction had a differential effect on participants' performance score and that self-worth goal instructions led to poorer task 2 performance compared to learning goal instructions. If anything, these results suggest that both LG and SWG groups showed a significant improvement in task performance relative to the NI group, whose mean performance score showed only a minimal and non-significant numerical increase on the second task.

#### **Satisfaction with performance self-ratings.**

Although inspection of the means in the bottom rows of Table 3 indicates that participants rated their performance on task 2 as more satisfactory than their task 1 performance, this impression was not confirmed by statistical analyses as the main effects of Group,  $F<1$ , Timepoint,  $F(1,83)=2.54, p=.12$ , or Group x Timepoint interaction,  $F(2,83)=1.52, p=.22$ , all failed to reach significance. Planned analyses of simple main effects however revealed a significant increase in task 2 performance self-ratings in the LG condition,  $F(1,83)=5.63, p=.020, r= .25$ . By contrast, the difference in post-task1 and post-task2 ratings did not reach statistical significance in SWG,  $F<1$ , and NI conditions,  $F<1$ . This suggests that in line with predictions, participants who received learning goal instructions and the option to view a learning goal reminder were potentially more satisfied with their task 2 performance compared to task 1, whereas groups receiving either self-worth goal instructions and a VS reminder or negative feedback only did not experience increased satisfaction with their performance on task 2.

Table 3. Mean number of correct responses and performance satisfaction ratings.

	Learning Goal	Self-worth Goal	No Instructions
	M (SD)	M (SD)	M (SD)
Task 1 score	5.6 (1.7)	5.3 (1.8)	6.0 (1.8)
Range	1 - 9	2 - 8	2 - 10
Task 2 score	6.6 (1.8)	6.4 (1.7)	6.6 (1.9)
Range	4 – 11	2 – 9	2 – 10
% Satisfied with performance			
Task 1	46.6 (11.2)	43.9 (19.3)	47.5 (17.0)
Task 2	52.1 (16.3)	45.5 (18.4)	47.8 (18.3)

M= mean; SD = standard deviation.

### Manipulation check.

Post-task debriefing provided no evidence that participants focused exclusively on implementing their respective GO instructions during the performance task. Indeed, most participants in both LG and SWG conditions reported general positive effects of using their reminder, which included the sense of getting a short break and welcome distraction from the performance task and viewing the reminder preventing them from dwelling on the previous item. Generally, and regardless of condition, participants reported focusing on ‘getting it right’, solving the problems correctly within the time limit, being more focused and doing better than in the first task. There was no difference in the extent to which participants in LG vs. SWG groups viewed the message during task 2 ( $F < 1$ ;  $M_{LG} = 7.0$ , SD 3.99, range 0-13;  $M_{SWG} = 7.48$ , SD 4.12; range 0-13).

Table 4. Correlations between main measures.

	2	3	4	5	6	7	8	9	10	11	12	13	
1. PHQ-9 depression score	-	.63***	-.29**	.53***	-.21*	.38***	.37**	.06	-.12	-.11	.34**	-.06	-.19
2. GAD-7 anxiety score		-	-.30**	.37***	-.30**	.36**	.40***	-.06	-.09	-.04	.27**	.09	-.18
3. Rosenberg Self-esteem scale			-	-.44***	.60***	-.56***	-.71***	-.06	.13	.14	-.34**	.09	.39***
4. Ruminative Responses scale				-	-.41**	.43***	.52***	.02	-.12	-.10	.35**	-.07	-.28
5. GOI – Growth-seeking					-	-.33**	-.80***	.10	-.04	.15	-.35**	.18	.29**
6. GOI – Validation-seeking						-	.84***	.09	-.11	.04	.15	.01	-.09
7. GOI – Total score							-	.05	-.05	-.06	.30**	-.10	-.23*
8. Task 1 score								-	.26*	.10	.02	.23*	.09
9. Task 2 score									-	.31**	-.15	.33**	.21
10. Performance rating, task 2										-	-.20	.35**	.65***
11. Anxiety self-rating, task 2											-	-.04	-.41***
12. Interested self-rating, task 2												-	.37***
13. Confident self-rating, task 2													-

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$

GAD7 – Generalized Anxiety Disorder 7 questionnaire; GOI = Goal Orientation Inventory; PHQ9 – Patient Health Questionnaire 9.

## Correlations

Table 4 shows Pearson's product-moment correlation coefficients for the main measures. The goal orientation measure significantly correlated both with established measures of anxiety ( $r = .40, p < .001$ ), depression ( $r = .37, p < .01$ ), self-esteem ( $r = -.71, p < .001$ ) and rumination ( $r = .52, p < .001$ ) as well as participants' affect ratings for anticipatory anxiety ( $r = .3, p < .01$ ) and confidence ( $r = -.23, p < .05$ ) following negative performance feedback. The VS and GS goal orientation subscales were significantly negatively correlated ( $r = -.33, p < .01$ ), which confirmed previous findings that these measures are not independent (Dykman, 1998). Dykman (1998) also reported that the total GOI score had higher predictive validity. The total GOI score was therefore used for all regression analyses. High GOI scores represent greater trait validation-seeking goal orientation.

## Goal Orientation as a Predictor of Affect and Performance Ratings

To replicate previous findings, I examined whether participants' trait goal orientation predicted their affect ratings in the absence of the experimental feedback and GO instruction manipulation. Simple linear regression analyses of pre-task anxiety, confidence and interest ratings and post-task confidence and performance satisfaction ratings were conducted to examine the predictions that high trait validation-seeking individuals would show higher levels of anticipatory anxiety, lower confidence and less interest than high trait growth-seeking individuals in anticipation of a challenging performance task even in the absence of a negative event. Post-task confidence and performance ratings were also examined to assess the prediction that high validation-seeking was associated with reduced confidence and satisfaction with performance.

**Task 1 - anticipatory anxiety, confidence, interest and performance ratings.**

Consistent with previous findings, high trait validation-seeking predicted anticipatory anxiety before the first performance task ( $R^2 = .084$ ,  $F(1,84)=7.75$ ;  $\beta = .29$ ,  $p = .007$ ). It did not, however predict post-task confidence ( $R^2 = .021$ ,  $F(1,84)=2.16$ ;  $\beta = -.16$ ,  $p = .15$ ) or performance satisfaction ( $R^2 = .016$ ,  $F(1,84)=1.37$ ;  $\beta = -.13$ ,  $p = .25$ ). In support of predictions, high growth-seeking significantly predicted higher pre-task confidence ( $R^2 = .042$ ,  $F(1,84)=4.76$ ;  $\beta = -.15$ ,  $p = .032$ ), but the hypothesis that high trait growth-seeking would predict pre-task Interest ratings was not confirmed ( $R^2 = .021$ ,  $F(1,84)=1.80$ ;  $\beta = -.15$ ,  $p = .18$ ).

**Effects of Trait GO and Interactions with GO Instructions Following Failure**

To test the predictions that high trait validation-seeking would predict greater anxiety, lower confidence, performance and performance satisfaction after a failure experience and that these effects would be moderated by experimental condition, hierarchical multiple regression analyses were conducted. The GOI variable was centered before it was entered into the analyses and the Experimental Group variable (LG, SWG, NI) was dummy coded into D1 and D2 variables with NI as the reference category. D1 and D2 were entered in the first step, followed by GOI and finally the interactions between GOI and Experimental Group (D1, D1). Separate hierarchical regressions were computed for pre-task 2 anxiety, interest and confidence ratings and for post-task 2 anxiety, confidence and performance satisfaction.

**Task 2 – Anticipatory anxiety.**

The first step, which assessed the effect of Experimental Group, was not significant ( $R^2 = .014$ ,  $F(2,83) = .60$ ,  $p = .55$ ). In the next step, adding trait GO score predicted a significant, if modest amount (9%) of the variance in participants' anxiety ratings,  $F(3,82) = 3.0$ ,  $p = .035$ , and in support of the prediction, a validation-seeking goal orientation thus emerged as a significant predictor of anticipatory anxiety,  $\beta = .29$ ,  $p = .007$ . In the final step, adding the GO x Group interactions did not account for a significant amount of additional variance ( $p = .33$ ). Thus, the prediction that trait-compatible goal orientation instructions would lead to higher anxiety in high trait validation-seekers relative to trait-opposite instructions was disconfirmed by the analyses.

**Task 2 – Confidence.**

For pre-task confidence ratings, only high growth-seeking was found to be a significant predictor of higher confidence following the failure experience after task 1,  $\beta = -.22$ ,  $p = .047$ , but none of the steps nor the final model was significant,  $F(5,80) = 1.31$ ,  $p = .27$ .

**Task 2 – Interest.**

Contrary to predictions, high growth-seeking goal orientation was not a significant predictor of higher Interest ratings,  $\beta = -.09$ ,  $p = .40$ , and none of the other terms predicted a significant amount of variance in Interest ratings, all  $F_s < 1$ ,  $p_s > .05$ .

**Task 2 – Performance.**

Analyses did not confirm the hypothesis that high validation-seeking goal orientation might predict poorer task 2 performance due to a greater tendency to disengage and give up following failure. High trait validation-seeking was not a significant predictor of performance

scores, none of the other terms explained a significant amount of the variance, all  $p$ s > .10 and none of the steps were significant, all  $F$ s < 1, all  $p$ s > .05.

### **Post-task 2 Anxiety.**

In line with predictions, within step 2 of the regression, high validation-seeking was a significant predictor of higher anxiety following completion of the second task in anticipation of the investigator's verdict on their success in improving their task 1 score,  $\beta = .32$ ,  $p = .003$ , and the final model accounted for a significant amount of the overall variance in anxiety scores,  $F(5, 80) = 2.51$ ,  $p = .037$ , but none of the other predictors made a significant contribution or predicted a significant amount of variance in Interest ratings, all  $p$ s > .05.

### **Post-task 2 Confidence and performance ratings.**

Contrary to predictions, a high validation-seeking goal orientation did not significantly predict low confidence after completion of task 2. None of the predictors explained a significant amount of the variance, all  $p$ s > .10 and none of the steps were significant, all  $F$ s < 1, all  $p$ s > .05. The same was true for participants' post-task 2 performance ratings, all  $F$ s < 1, all  $p$ s > .05.

## **Discussion**

This study set out to test several predictions. Based on goal orientation theory (Dykman, 1998), individuals high in trait validation-seeking were expected to show greater anxiety and lower confidence in anticipation of a potential ego threat posed by a challenging, novel task, whereas high growth-seeking individuals were expected to show the opposite effect, report greater interest and view the task as an opportunity for learning and self-improvement. High

validation-seeking individuals should also feel less confident and satisfied with their own performance *after* completing a novel performance task.

Following a failure experience, the same pattern was expected to occur and likely be exaggerated for high validation-seekers. In addition, those with high levels of trait validation-seeking were expected to show a greater tendency to disengage from difficult items or give up in the face of item completion time running out in order to avoid proof of worthlessness. It was therefore hypothesised that following failure feedback, high trait validation-seeking might be associated with poorer performance on task 2 compared to high trait growth-seeking.

A second set of predictions concerned whether the predicted effects of trait validation-seeking on affect could be mitigated by asking participants to adopt a learning goal or growth-seeking orientation following the failure experience. It was expected that following negative feedback on task 1 performance, adopting a ‘state’ growth-seeking versus validation-seeking goal orientation would exert an effect on participants’ mood and performance in the direction of the pattern predicted for the respective trait goal orientation. It was further hypothesized that type of instruction would interact with participants’ trait goal orientation, so that the predicted effect of trait goal orientation on outcome measures would be buffered (high trait validation-seeking + growth-seeking brief), exaggerated (high trait validation-seeking + validation-seeking brief; high trait growth-seeking + growth-seeking brief) or compromised (high trait growth-seeking and validation-seeking brief). In the absence of any goal orientation instructions, affect and performance in the ‘No Instructions’ group was expected to reflect the unmitigated effects of trait goal orientation plus failure experience.

Prior to experiencing failure, results for task 1 replicated the original predictions of goal orientation theory that high trait validation-seeking was associated with greater anticipatory anxiety when faced with a self-worth challenge in the form of a novel performance task, whereas high trait growth-seeking predicted higher confidence in the same situation. There was no evidence that high trait validation-seeking was associated with lower confidence or performance satisfaction following the task and high trait growth-seeking did not predict higher levels of interest before completing the novel performance task.

Following the experimental manipulation, there was no evidence at Group level that adopting a ‘state’ growth-seeking orientation led to better performance, reduced anxiety, greater confidence or interest in completing the task. Planned comparisons provided tentative evidence that the group that received growth-seeking instructions showed an increase in performance satisfaction relative to task 1, whereas task 1 vs. task 2 ratings did not differ in the groups that received a validation-seeking brief or no brief. In the absence of a significant main effect of Group or a Group x Timepoint interaction, however, this finding is difficult to interpret.

The predictions regarding the interaction of trait goal orientation with type of instruction to predict mood ratings on task 2 were also disconfirmed as there was no evidence that any effects of trait goal orientation were moderated by the type of brief participants received. High trait validation-seeking was associated with higher anticipatory anxiety following negative feedback regardless of experimental condition.

The results therefore replicated previous findings that high trait validation-seeking individuals show greater anxiety when faced with a performance challenge or following failure (e.g. Dykman, 1998; Lindsay & Scott, 2005), but, in contrast to previous findings (e.g. Cianci et

al., 2010; Smiley & Dweck, 1994), did not provide any support for the hypothesis that adopting a learning goal following negative feedback led to better performance compared to adopting another type of performance goal. Although this could indicate a fundamental dominance and non-malleability of trait goal orientation or that adopting a learning goal or growth-seeking orientation may need to be practised in order to yield any measurable effects, the explanation for the absence of a learning goal effect is equally likely to lie in some of the methodological differences and limitations of the present study. It also needs to be noted that although the study was sufficiently powered to detect group differences in the main outcome measures, with regard to the more complex hierarchical regression analyses, the sample size may not have provided sufficient statistical power to detect any moderating effects of the experimental manipulation (type of goal orientation brief) on the expression of participants' trait goal orientation.

Critically, however, there was no evidence that the participants in the present study were successfully and consistently able to implement their respective brief during completion of task 2. Participants in all groups generally reported focusing on task requirements, speed and doing better than in the previous task. Although the vast majority of participants (58 out of 62) in learning goal and self-worth goal groups viewed their reminder message throughout the task and there were no differences in frequency of use between learning goal and self-worth goal groups, participants' debriefing comments indicated that the opportunity to view the reminder may have actually diluted any specific effects of the brief received. Regardless of experimental condition (learning goal vs. self-worth goal brief), participants reported experiencing mostly positive, non-specific effects of using the reminder during the task. This included getting a break from solving the problems, feeling reassured and/or amused by it, providing oneself with a general motivational boost to focus on the task and being prevented from dwelling on a previous problem

or suspected error. Taken together, this suggests that the attempted ‘state’ goal orientation induction was largely unsuccessful in the present study.

In addition, although the experimental manipulation appeared to lead to the expected increase in anxiety, the overall level of anxiety was moderate, with mean anxiety ratings never exceeding 50%, even at peak level prior to task 2. The predicted differences between high validation-seeking and high growth-seeking individuals were previously mostly observed in response to real-life stressors, such as important university exams (Lindsay & Scott, 2005; Dykman, 1998), which produced high levels of stress. Dykman (1998) also noted that the moderating effect of trait goal orientation was generally greater in more stressful situations. The present study may thus not have provided a potent enough stressor for most participants to revert to their trait goal orientation. Anecdotal evidence from participants’ debriefing comments lends some support to this idea as a number of students explained that they did not feel too upset about the negative feedback in the context of this study, because they knew that their results did not impact on their lives or career choices, but felt that this would have been very different had the task been an actual admissions test or course exam.

Apart from highlighting the methodological shortcomings of the present study, the results also raise questions about the utility and validity of the goal orientation construct in predicting individuals’ vulnerability to depression. Dykman conceptualised goal orientation as a relatively enduring trait (Dykman, 1998) and therefore expected it to operate across different contexts rather than being confined to, say, the achievement domain. In consequence, unlike Dweck’s model (Grant & Dweck, 1999, 2003), Dykman’s concept of goal orientation has largely ignored the issue of goal orientation variability across domains (Lindsay & Scott, 2005) and it remains unclear to what extent an individual may adopt different goal orientations across or even within

domains. Until this issue is resolved, other constructs, such as self-esteem, rumination, autonomy (Robins et al., 1994; Bieling & Alden, 1998, 2001) or the combination of different cognitive and personality factors (Cervone et al., 2001) may allow more accurate and reliable assessments of depression vulnerability.

Moreover, a recent extension and reconceptualisation of Dweck's basic achievement goal model has been proposed by Elliot and colleagues (Elliot & Church, 1997; Elliot & McGregor, 2001; Harackiewicz et al., 2002). This model extends the original performance-mastery dimension to include competence and valence (approach-avoidance) dimensions that may also have some utility in the clinical context (Elliot & Church, 2002). Within this framework, Dykman's self-worth goal may be recast as a performance-avoidance goal with incompetence as a focal point of regulatory attention. The inclusion of competence and valence dimensions resolves the issue of variability of goal-related focal concerns across domains, but not necessarily measurement issues, so it remains to be seen whether this model is a more potent and clinically useful predictor of depression vulnerability or goal dysregulation than goal orientation or other constructs.

In conclusion, the present study found some support for the original predictions of goal orientation theory (Dykman, 1998) with regard to the association between high validation-seeking and anticipatory anxiety following a negative event as well as reduced confidence when faced with a performance challenge. However, methodological limitations of the present study precluded any firm conclusions about the potential benefits of adopting a learning goal orientation. Whether pursuing learning goals or adopting a 'state' growth-seeking orientation can truly mitigate the experience of negative affect and helplessness responses that previous work has

shown to be associated with the adoption of avoidant self-worth goals therefore remains a question to be addressed by future research.

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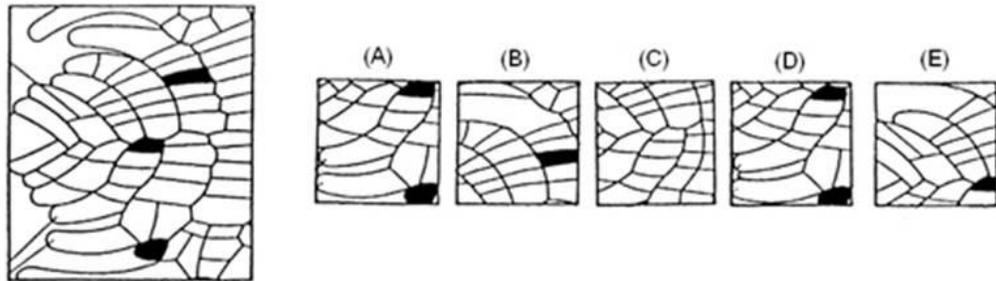
## Appendix A

Figure A1. Example of ‘pattern’ problem used in the experimental tasks (example shown to participants prior to completing the task).

In this test, your task is to decide which of the tiles A-E on the right shows a section of the larger image on the left. In other words, you need to work out which of the tiles A-E would provide an exact match if superimposed on the relevant area of the master pattern on the left.

Please note that the image sections shown on tiles A-E have not been enlarged, shrunk, rotated or skewed, so the correct tile should provide a straightforward, complete one-to-one match with the master pattern on the left.

Example:



In the example above, only tile A provides an exact match with the pattern shown on the large image on the left. By contrast, in each of the tiles B, C, D and E, there is some detail that does not match the pattern in the corresponding area of the master image on the left. Therefore, the correct solution is (A).

Once you have selected your final answer, please press the relevant letter on the keyboard – “a”, “b”, “c”, “d” or “e”. This action will be final – it will remove the current test item and move you on to the next one. Once you have pressed one of the answer keys (a,b,c,d,e), this will be taken as your final answer and you will not be able to change it again or go back.

Figure A2. Example of ‘twisted cable’ problem used in the experimental tasks (example shown to participants prior to completing the task).

In this task, you will be presented with two images of a transparent cube with a length of cable or rope inside.

The image on the left always shows the transparent cube viewed from the front; the picture on the right will show the same cube seen from a different viewpoint and it is your task to decide whether the cube is seen from the right (R), from the left (L), from underneath (U), from the top (T) or from the back (B).

**Example:**



**Cube seen from the front.**



**Cube seen from...?**

- (1) Right
- (2) Left
- (3) Underneath
- (4) Top
- (5) Back

In the example above, the picture on the left shows the cube containing the cable seen from the front. In the picture on the right, the cube is seen from the top.

The correct answer is therefore **(4)**, because the cube is seen from the top.

Figure A3. Sample test item - ‘reasoning’ problem used in task 1.

The graph below shows the results of a clinical trial where a large sample of patients was treated with an antifungal drug for a period of 12 months. The effectiveness of the treatment was determined by measuring the presence of fungal organisms in expectorate and faecal matter.

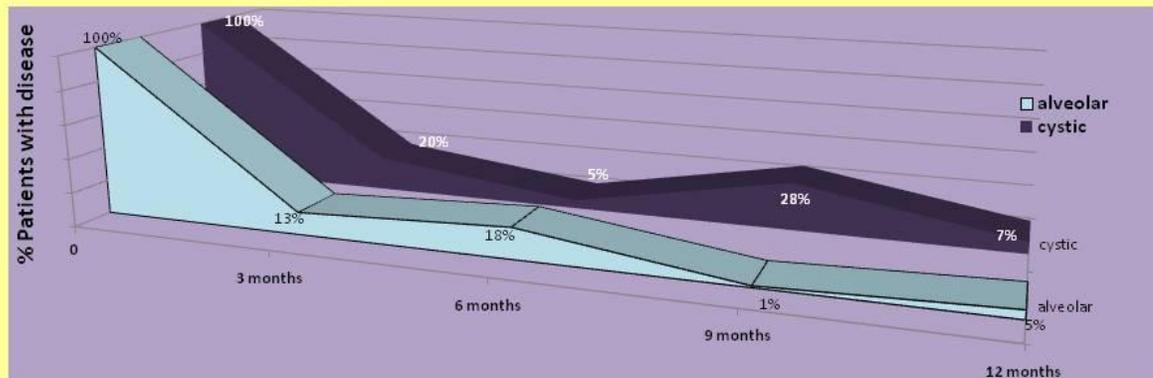


Which of the following statements does not follow from the results shown above?

- (A) Treatment with the antifungal drug reduced the amount of fungal organisms present in faecal matter and expectorate relative to the amount present before the start of treatment.
- (B) Overall, the observed reduction in fungal infection was more pronounced in faecal matter than expectorate.
- (C) Based on the measures used in the study, no detectable fungal infection was present in at least two thirds of patients after 3 months of treatment.
- (D) At least every fifth patient showed an improvement followed by renewed presence of fungal infection in the expectorate.
- (E) Treatment success was greater the longer the duration of the treatment.

Figure A4. Sample test item – ‘reasoning’ problem used in task 2.

Echinococcosis is a parasitic disease caused by tapeworms. In humans, there are two main types of the disease, alveolar and cystic. The alveolar form of the disease normally starts in the liver and can later spread to other organs, commonly the lungs or the brain. Albendazole and mebendazole are drugs that are used to treat a variety of parasitic infections. The figure below presents the results of a clinical trial where both drugs were used in combination to treat cystic and alveolar forms of the disease in a large group of patients.



Based on the information provided above, which of the following statements is incorrect?

- (A) Overall, improvement was more pronounced for alveolar disease.
- (B) The longer patients were treated with albendazole and mebendazole, the more successful was the outcome.
- (C) Compared to pre-treatment levels of disease, the combination of albendazole and mebendazole reduced the number of cases for both alveolar and cystic variants of the disease.
- (D) At least every fifth patient showed an improvement followed by relapse at some point during the study period.
- (E) After three months of treatment, at least two thirds of patients were classified as disease-free.

## Appendix B – Measures

### PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

Over the last 2 weeks, how often have you been bothered by any of the following problems?

(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

add columns  +  +

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL:

10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not difficult at all	_____
	Somewhat difficult	_____
	Very difficult	_____
	Extremely difficult	_____

### GAD-7 Anxiety

Over the <u>last two weeks</u> , how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to sleep or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid, as if something awful might happen	0	1	2	3

Column totals    \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ =  
 Total score    \_\_\_\_\_

If you checked any problems, how difficult have they made it for you to do your work, take care of things at home, or get along with other people?			
Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source: Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD-PHQ). The PHQ was developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke, and colleagues. For research information, contact Dr. Spitzer at [ris8@columbia.edu](mailto:ris8@columbia.edu). PRIME-MD® is a trademark of Pfizer Inc. Copyright© 1999 Pfizer Inc. All rights reserved. Reproduced with permission

### Scoring GAD-7 Anxiety Severity

This is calculated by assigning scores of 0, 1, 2, and 3 to the response categories, respectively, of "not at all," "several days," "more than half the days," and "nearly every day." GAD-7 total score for the seven items ranges from 0 to 21.

0–4: minimal anxiety

5–9: mild anxiety

10–14: moderate anxiety

15–21: severe anxiety

**Rosenberg Self-Esteem Scale (Rosenberg, 1965)**

The scale is a ten item Likert scale with items answered on a four point scale - from strongly agree to strongly disagree. The original sample for which the scale was developed consisted of 5,024 High School Juniors and Seniors from 10 randomly selected schools in New York State.

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

1.	On the whole, I am satisfied with myself.	SA	A	D	SD
2.*	At times, I think I am no good at all.	SA	A	D	SD
3.	I feel that I have a number of good qualities.	SA	A	D	SD
4.	I am able to do things as well as most other people.	SA	A	D	SD
5.*	I feel I do not have much to be proud of.	SA	A	D	SD
6.*	I certainly feel useless at times.	SA	A	D	SD
7.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8.*	I wish I could have more respect for myself.	SA	A	D	SD
9.*	All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10.	I take a positive attitude toward myself.	SA	A	D	SD

Scoring: SA=3, A=2, D=1, SD=0. Items with an asterisk are reverse scored, that is, SA=0, A=1, D=2, SD=3. Sum the scores for the 10 items. The higher the score, the higher the self esteem.

The scale may be used without explicit permission. The author's family, however, would like to be kept informed of its use:

The Morris Rosenberg Foundation  
 c/o Department of Sociology  
 University of Maryland  
 2112 Art/Soc Building  
 College Park, MD 20742-1315

**References**

References with further characteristics of the scale:

Crandal, R. (1973). The measurement of self-esteem and related constructs, Pp. 80-82 in J.P. Robinson & P.R. Shaver (Eds), *Measures of social psychological attitudes*. Revised edition. Ann Arbor: ISR.

### **Rumination Scale**

People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you *generally* do, not what you think you should do.

1 almost never   2 sometimes   3 often   4 almost always

1. think about how alone you feel
2. think “I won’t be able to do my job if I don’t snap out of this”
3. think about your feelings of fatigue and achiness
4. think about how hard it is to concentrate
5. think “What am I doing to deserve this?”
6. think about how passive and unmotivated you feel.
7. analyze recent events to try to understand why you are depressed
8. think about how you don’t seem to feel anything anymore
9. think “Why can’t I get going?”
10. think “Why do I always react this way?”
11. go away by yourself and think about why you feel this way
12. write down what you are thinking about and analyze it
13. think about a recent situation, wishing it had gone better
14. think “I won’t be able to concentrate if I keep feeling this way.”
15. think “Why do I have problems other people don’t have?”
16. think “Why can’t I handle things better?”
17. think about how sad you feel.
18. think about all your shortcomings, failings, faults, mistakes
19. think about how you don’t feel up to doing anything
20. analyze your personality to try to understand why you are depressed
21. go someplace alone to think about your feelings

22. think about how angry you are with yourself

**Goal Orientation Inventory (GOI, Dykman, 1998)**

1. Instead of just enjoying activities and social interactions, most situations to me feel like a major test of my basic worth, competence, or likeability.
2. I look upon potential problems in life as opportunities for growth rather than as threats to my self-esteem.
3. I have a knack for viewing difficult or stressful situations as opportunities to learn and grow.
4. Relative to other people, I tend to approach stressful situations as if my basic self-worth, competence, or likeability was "at stake."
5. Personal growth is more important to me than protecting myself from my fears.
6. Whether it be in sports, social interactions, or job/school activities, I feel like I'm still trying to prove that I'm a worthwhile, competent, or likeable person.
7. My interactions with people often feel like a test of whether or not I'm a likeable person.
8. When I'm faced with a difficult or stressful life situation, I'm likely to view it as an opportunity to learn and grow.
9. I feel like I'm constantly trying to prove that I'm as competent as the people around me.
10. When I approach new or difficult situations, I'm less concerned with the possibility of failure than with how I can grow from the experience.
11. I look upon possible setbacks and rejection as part of life since I know that such experiences will help me grow as a person in the long run.
12. My approach to situations is one of always needing to prove my basic worth, competence, or likeability.
13. I'm the type who is willing to risk the possibility of failure or rejection in order to reach my fullest potential as a person.
14. My attitude toward possible failure or rejection is that such experiences will turn out to be opportunities for growth and self-improvement.

15. One of the main things I know I'm striving for is to prove that I'm really "good enough."
16. How well I perform in social and achievement situations is a direct measure of my basic self-worth, competence, or likeability as a person.
17. In situations that could end in failure or rejection, it's natural for me to focus on how I can grow or what I can learn from the experience.
18. I feel as though my basic worth, competence, and likeability are "on the line" in many situations I find myself in.
19. The attitude I take toward possible setbacks and disappointments is that they'll end up being good learning experiences.
20. As I see it, the rewards of personal growth and learning something new outweigh the disappointment of failure or rejection.
21. It seems like I'm constantly trying to prove that I'm "okay" as a person.
22. So much of what I do feels to me like a major test of my basic worth, competence, and likeability as a person.
23. My natural tendency is to view problem situations as providing opportunities for growth and self-improvement.
24. I feel like my worth, competence, and likeability are things I'm constantly struggling to prove to myself and others.
25. I approach difficult life situations welcoming the opportunity to learn from my mistakes.
26. Relative to other people, there are a lot of things I do just to prove my basic adequacy as a person.
27. My approach to challenging life situations is that I'd rather make a mistake and learn from the experience than sit back and never try.
28. I approach stressful situations knowing that the important thing is for me to learn and grow from these experiences.
29. Whereas other people see themselves as competent in the things they do, that's something I'm still trying to prove to myself.
30. I feel like I'm always testing out whether or not I really "measure up."
31. I look upon potential disappointments in life as opportunities to improve and grow as a person.

32. In many things I do, I'm trying to find out whether or not I'm a competent, worthy, or likeable person.

33. I approach difficult life situations knowing that I can accept failure or rejection as long as I learn and grow from the experience.

34. I tend to view difficult or stressful situations as all-or-none tests of my basic worth as a person.

35. Realizing my fullest potential in life is more important to me than protecting myself from the possibility of failure.

36. My main motive for doing many of the things I do is to prove my basic self-worth, competence, or likeability.

**Appendix C – Ethics Approval**



Psychology Research  
Ethics Committee

Psychology, College of  
Life & Environmental  
Sciences

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Perry Road  
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EX4 4QG

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**To: Ulrike Klosek**  
**From: Tim Kurz**  
**CC:**  
**Re: Application 2013/553 Ethics Committee**  
**Date: September 29, 2015**

The School of Psychology Ethics Committee has now discussed your application, **2013/553 – Striving for self-validation versus growth – the role of goal-orientation as a predisposing factor for depression**. The project has been approved in principle for the duration of your study.

The agreement of the Committee is subject to your compliance with the British Psychological Society Code of Conduct and the University of Exeter procedures for data protection (<http://www.ex.ac.uk/admin/academic/datapro/>). In any correspondence with the Ethics Committee about this application, please quote the reference number above.

I wish you every success with your research.

A handwritten signature in black ink, appearing to read 'TK', with a long horizontal stroke extending to the right.

Dr Tim Kurz  
Chair of Psychology Research Ethics Committee

## **Appendix D**

Journal of Abnormal Psychology JoAP

APA journals submissions guidelines

<http://www.apa.org/pubs/authors/forms.aspx>

*[Publication Manual of the American Psychological Association](#)* (6th edition).

Authors submitting manuscripts that report new data collection, especially randomized clinical trials (RCTs), should comply with the newly developed [APA Journal Article Reporting Standards \(PDF, 98KB\)](#) (JARS; see *American Psychologist*, 2008, 63, 839–851 or Appendix in the *APA Publication Manual*).

## **Appendix E**

### **Dissemination statement**

The results of this study will be disseminated to interested parties through feedback, presentation and possibly journal publication.

#### **Dissemination to participants.**

As stated on the participant information sheet, participants who documented their interest on the study consent form will be informed of the results of the study. Participants will be provided with details of who to contact, should they require further information.

#### **Journal Publication**

The study may be submitted for publication to the Journal of Abnormal Psychology.

#### **Presentation**

On 8th June 2015, my research findings were presented to an academic audience, for peer review, as part of the Doctorate in Clinical Psychology at the University of Exeter.