Depressed people are not less motivated by personal goals but are more pessimistic about

attaining them

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Abstract

Despite its theoretical importance, personal goal motivation has rarely been examined in clinical depression. Here we investigate whether clinically depressed persons ($n = 23$) differ from never-depressed persons ($n = 26$) on number of freely generated approach and avoidance goals, appraisals of these goals, and reasons why these goals would and would not be achieved. Participants listed approach and avoidance goals separately and generated explanations for why they would (pro) and would not (con) achieve their most important approach and avoidance goals, before rating the importance, likelihood and perceived control of goal outcomes. Counter to hypothesis, depressed persons did not differ from never-depressed controls on number of approach or avoidance goals, or on the perceived importance of these goals. However, compared to never-depressed controls, depressed individuals gave lower likelihood judgements for desirable approach goal outcomes, tended to give higher likelihood judgements for undesirable to-be-avoided goal outcomes, and gave lower ratings of their control over goal outcomes. Furthermore, although controls generated significantly more pro than con reasons for goal achievement, depressed participants did not. These results suggest that depressed persons do not lack valued goals but are more pessimistic about their likelihood, controllability and reasons for successful goal attainment.

Although goal dysregulation has been implicated in affective disorders (Johnson, Carver, & Fulford, 2010) and goal pursuit is considered to be central to human motivation (Klinger, 1977), goal-based perspectives on depression have received little attention. Goals provide meaning, purpose, and direction in life, as well as a framework for interpreting life experience (Schmuck & Sheldon, 2001). It remains unclear whether depression is characterized by a general deficit in goal motivation, or by a profile of decreased approach motivation and increased avoidance motivation. It is also unclear whether depression biases cognitively mediated aspects of goal motivation such as expectancies, perceived controllability, and causal explanations. Here we investigate for the first time whether clinically depressed adults and never-depressed adults differ on these theoretically important aspects of motivation in relation to idiographic personal goals. Greater knowledge of the psychopathology of depression from the perspective of goal motivation should inform more effective cognitive therapies that focus on clients' personally meaningful objectives.

Prominent theoretical models have proposed that dysfunctions of approach- and avoidance-oriented motivational systems underlie mood disorders and emotional susceptibility (e.g., Davidson, Pizzagalli, Nitschke, & Putnam, 2002). Gray (1982) proposed two independent systems: a behavioural activation system (BAS; approach system) and a behavioural inhibition system (BIS; avoidance system). The BAS is thought to be sensitive to signals of reward and escape from punishment and considered to generate feelings of happiness, elation, and hope. The BIS is thought to be sensitive to signals of non-reward, punishment and novelty and considered to generate feelings of sadness, anxiety, and fear in response to aversive and threatening stimuli. Fowles (1994) applied Gray's motivational framework to a range of psychological conditions and proposed that depression is

characterized by a combination of low BAS (approach activity) and high BIS (avoidance activity).

Consistent with the notion that depression is associated with low approach motivation, laboratory experiments show that depressed persons are less responsive to reward than non-depressed controls. For example, depressed persons fail to adopt a more liberal response criterion in difficult discrimination tasks when correct responses are financially rewarded, unlike non-depressed controls (Henriques & Davidson, 2000; Pizzagalli *et al.*, 2009). Furthermore, EEG studies suggest that depression is characterized by decreased activity in left prefrontal regions that regulate approach goal pursuit (Davidson et al., 2002). However, EEG measures of prefrontal asymmetry typically assess relative lateralization of activation and are therefore unsuited to measuring the two orthogonal motivational systems that have been proposed by theorists (e.g., Gray, 1982).

Research using orthogonal measures has found depression to be associated with reduced approach motivation and increased avoidance motivation. A questionnaire study by Kasch, Rottenberg, Arnow, and Gotlib (2002) found that depressed people reported greater BIS activity and lower BAS activity than non-depressed controls. Furthermore, low BAS activity predicted worse outcome among depressed participants. Depressed people also show greater performance decrements and exaggerated electrophysiological response after errors (Holmes & Pizzagalli, 2008), suggesting increased sensitivity to negative outcomes. However, the limited research in this area has yielded mixed results: an earlier study found no group difference in behavioural choices after punishment (Henriques & Davidson, 2000).

One limitation of the aforementioned studies is that they do not examine motivation in terms of personal goals, i.e., idiographic motivational representations that sustain prolonged activity. Although idiographic goals have been productively investigated by personality

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psychologists as personally meaningful motivational units (cf. Schmuck & Sheldon, 2001), little is known about the idiographic goals of depressed persons. Carver and Scheier's (1998) model of self-regulation suggests that human behaviour is structured by approach goals, which involve trying to move toward a desirable end state (e.g., '*Get a promotion*'), and avoidance goals, which involve trying to move away from or inhibit undesirable end states (e.g., '*Don't spoil the children*'; see Elliot & Friedman, 2007). Studies using non-clinical adolescent samples suggest that, consistent with Fowles' (1994) theoretical assumptions, dysphoria is characterized by reports of fewer approach goals and more avoidance goals but not by a general goal deficit (e.g., Dickson & MacLeod, 2004a, 2006). However, no previous research has investigated whether this profile generalizes to adult clinical depression. Our first aim was therefore to investigate whether depressed adults report fewer approach goals and more avoidance goals than non-depressed adults.

Representations of desired future states may not possess motivational impetus unless they are supported by favourable cognitive appraisals relating to expectancies, controllability, and causal explanations of personal goal outcomes. However, these constructs have been hitherto neglected in studies of clinical depression (Rothbaum, Morling, & Rusk, 2009). Research on learned helplessness suggests that perceived uncontrollability is implicated in the etiology and maintenance of depression (Abramson, Seligman, & Teasdale, 1978). Furthermore, both the reformulated learned helplessness theory (Abramson, Seligman, & Teasdale, 1978) and hopelessness theory (Abramson, Metalsky, & Alloy, 1989) posit that individuals' expectancies for future outcomes are implicated in the etiology of emotional disturbance. The hopelessness theory of depression suggests that a diathesis marked by stable and global attributions for negative events interacts with such events to lower expectancies for desired outcomes and increase expectancies for undesired outcomes (Abramson et al.,

1989), producing hopelessness that may develop into depression. Most clinical research has focused on expectancies and controllability of hypothetical events rather than personally meaningful goal outcomes (e.g., MacLeod & Tarbuck, 1994). However, because goal pursuit typically requires sustained activity in order to overcome obstacles, expectancy and controllability beliefs are likely to be especially important in determining how much effort a person mobilizes and how likely they are to be successful (Carver & Scheier, 1998). Although one study revealed that dysphoric adolescents have higher expectancies for to-be-avoided goal outcomes and lower expectancies for approach goal outcomes than non-dysphoric adolescents (Dickson & MacLeod, 2006), no research has examined whether clinically depressed individuals have more negative expectancies and controllability beliefs for goal outcomes than non-depressed controls. This was the second aim of our study.

Expectancies about future outcomes may be biased by the ease with which an individual is able to generate reasons why a particular event may or may not happen (Kahneman & Tversky, 1982). For example, MacLeod and Tarbuck (1994) found that parasuicides' likelihood judgments were consistent with the relative number of reasons that they generated for and against future events. In another study, dysphoric adolescents reported more reasons for goal failure and fewer reasons for goal success than non-dysphoric adolescents (Dickson and MacLeod, 2006). Depressed adults may be less able to motivate themselves to engage in goal-directed activity because they are less able to think of reasons for goal success and more prone to thinking of reasons for goal failure. Our final aim was therefore to investigate whether depressed people demonstrate a more pessimistic explanatory style for approach and avoidance goal outcomes, relative to non-depressed controls.

We hypothesized that depressed individuals would: (a) report fewer approach goals and more avoidance goals; (b) report approach goal outcomes as less likely to occur and

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(aversive) to-be-avoided goal outcomes as more likely to occur; (c) report lower controllability over goal outcomes; and (d) report fewer 'pro' reasons for goal achievement and more 'con' reasons against goal achievement, relative to non-depressed controls.

<div align="center">Method</div>

Participants

Clinical participants were recruited from National Health Service (NHS) Primary Care Teams and Mental Health Trusts in northwest England; non-clinical participants were recruited from the Primary Care Teams and community of the same region. The total sample ($N = 49$) comprised 32 women and 16 men (one unreported gender). Trained researchers administered the Structured Clinical Interview (SCID-I; First, Spitzer, Gibbon, & Williams, 1997) for Axis 1 Disorders to determine the presence or absence of current and past major depressive episodes and lifetime psychiatric diagnoses according to the Diagnostic and Statistical Manual of Mental Disorders criteria (DSM-IV; American Psychiatric Association, 1994). Inter-rater reliabilities of the trained researchers and independent clinical psychologist supported the accuracy of these diagnoses ($\kappa s = 1$). Inclusion criteria were also based on self-reports of depressive symptoms using the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). Consistent with DSM-IV, exclusion criteria included substance abuse, psychotic symptoms, bipolar disorder, head injury, and mood disorder due to a general medical condition. Due to the task requirements, participants were excluded if they had learning disabilities or were not fluent in English. We recruited a depressed group and a control group that did not differ on age, $t < 1$, or gender, $\chi^2 < 1$.

Depressed group. Twenty-three participants (14 women, 8 men, 1 unknown gender; age 19–74 years, $M = 37.1$) met DSM-IV criteria for current major depression. These

participants reported at least one previous episode of major depression in the past five years and secondary comorbid anxiety disorders included generalized anxiety disorder ($n = 2$), panic disorder ($n = 3$), and social phobia ($n = 2$). Inclusion in the depressed group required BDI-II scores in the symptomatic range (> 13) at both Time 1 ($M = 28.6$, $SD = 11.5$; range = 14–51) and Time 2 ($M = 26.5$, $SD = 10.8$, range = 14-52).

Control group. Twenty-six participants (18 women, 8 men; age 18–81 years, $M = 30.5$) never met criteria for major depression (or any psychiatric disorder/Axis I disorder). Inclusion in the control group required BDI-II scores in the asymptomatic range (< 14) at Time 1 ($M = 1.8$, $SD = 2.1$, range = 0–8) and Time 2 ($M = 2.1$, $SD = 2.5$, range = 0–10).

Materials

Goal Task (Dickson & MacLeod, 2004a). Independent measures assessed number of self-generated approach goals and avoidance goals. Instructions ask participants to write down goals that they think would characterize them at some time in the future, regardless of time period (e.g., next week, next month, in a few years), using a separate line for each goal. Goals are described as future experiences that individuals think they will typically be trying to accomplish (e.g., *"build a better relationship with my husband's parents"*) or avoid (e.g., *"not let little things upset me")*. The prompts to elicit approach goals and avoidance goals are '*In the future it will be important for me to*' and '*In the future it will be important for me to try to avoid*'. Participants are given 90 s to write down as many personally relevant and plausible goals that come to mind for each condition (approach and avoidance).[1]

Goal Explanation Task (Dickson & MacLeod, 2006). This task assesses number of self-generated reasons why participants' two most important approach goals and avoidance goals will (and will not) be achieved. Instructions illustrate an example reason for (*pro*) and

against (*con*) goal achievement in each goal condition. In the approach goal condition, participants are prompted for '*reasons why this would be accomplished?*'(*pro*) and '*reasons why this would not be accomplished*?'(*con*). In the avoidance goal condition, participants are prompted for '*reasons why this would be avoided?*' (*pro*) and '*reasons why this would not be avoided? (i.e., even though you do not want this 'bad' thing to happen)*' (*con*). Using a separate line for each reason, participants write down as many causal explanations that come to mind within each pro and con condition for each goal in a 90 s period.[2]

A time limit was imposed for the Goal Task and Goal Explanation Task to help control for variation in effort. Approach and avoidance goal conditions were counterbalanced and causal explanation prompts ('pro' vs. 'con') were counterbalanced within and across goal conditions. All participants completed each of the four conditions. Each group was randomly assigned to an equal balance of the four presentations.

Goal ratings. Participants made three additional ratings for each goal using separate 7-point scales. *Likelihood judgements* for goal outcomes were rated from 1 (*not at all likely to happen*) to 7 (*extremely likely to happen*). In the avoidance goal condition, '*a higher score means that this 'bad' thing is likely to happen, even though you don't want it to happen*' (i.e., a higher score corresponded to greater likelihood of failing to avoid the unwanted outcome). *Perceived control over goal achievement* was rated from 1 (*no control*) to 7 (*complete control*). *Goal importance* was rated from 1 (*not very important*) to 7 (*extremely important*).

Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item measure of depressive symptomatology, with total scores ranging from 0–63. Alpha reliabilities were .91 at Time 1 and .92 at Time 2 (test-retest reliability: $r = .96$).

Procedure

Consent was obtained from each participant individually. Individual SCID interviews were conducted at least one day before individual testing ($M = 11.2$ days, $SD = 8.4$, range = 1-28). The BDI-II was administered at both sessions to ensure participants' scores remained within the relevant range (Kendall, Hollon, Beck, Hammen, & Ingram, 1987).

At the beginning of the testing phase, an abbreviated form of the FAS task (Lezak, 1976) was administered to familiarize participants with the procedure and assess written fluency. This task also gave participants experience of the 90 s time limit for each task condition. Participants wrote down as many words as possible beginning with the letter 'F' within 90 s. There was no significant group difference on number of words generated, $F(2, 69) = 1.11$, $p = .34$, $\eta^2_p = .03$, suggesting that groups were equivalent in fluency.

Participants then completed the Goal Task, the Goal Explanations Task, the importance, likelihood, and control ratings, and the BDI-II, in this order.[3]

Results

Number and importance of goals. Table 1 presents descriptive statistics for the number of goals listed and goal ratings in each condition. A mixed ANOVA with a within-subjects factor of goal (approach vs. avoidance) and a between-subjects factor of group (control vs. depressed) revealed that participants listed significantly more approach goals than avoidance goals, $F(1, 47) = 20.38$, $p < .001$, $\eta^2_p = .30$. However, neither the main effect of group nor the interaction between goal and group was statistically significant, Fs < 1.4. Counter to our hypothesis, depressed participants were characterized neither by a general goal deficit nor by a profile of fewer approach and more avoidance goals than controls.

Furthermore, a mixed ANOVA with factors of goal and group revealed no significant effects on goal importance, all Fs < 1. Thus, there was no evidence that depressed participants differed from controls in the subjective importance of their goal pursuits.

Goal outcome likelihood. A mixed ANOVA with factors of goal and group was conducted on goal likelihood ratings. There was no significant main effect of group, $F < 1$, but there was a main effect of goal, which revealed that participants judged their desired approach goal outcomes to be more likely to occur than their undesired, to-be-avoided goal outcomes, $F(1, 46) = 38.10$, $p < .001$, $\eta^2_p = .45$. The main effect of goal was qualified by a significant goal by group interaction, $F(1, 46) = 6.27$, $p = .02$, $\eta^2_p = .12$.

To decompose the significant goal by group interaction, we conducted tests of simple main effects for group comparisons (Howell, 2001). Depressed participants judged their (desirable) approach goal outcomes as significantly less likely to occur than controls, $F(1, 84.87) = 4.16$, $p = .04$, and showed a marginally significant tendency to judge their (undesired) avoidance goal outcomes as more likely to occur than controls, $F(1, 84.87) = 3.92$, $p = .051$. Thus, depressed participants were more pessimistic than controls about the likelihood of achieving goals, particularly for desirable outcomes.

Goal outcome controllability. A mixed ANOVA with factors of goal and group was conducted on goal outcome controllability ratings. A significant main effect of goal revealed that approach goal outcomes were judged as more controllable than avoidance goal outcomes, $F(1, 46) = 5.94$, $p = .02$, $\eta^2_p = .11$. There was a significant main effect of group, $F(1, 46) = 16.29$, $p < .001$, $\eta^2_p = .26$, indicating that depressed participants rated their goal outcomes as less controllable than controls, as predicted. There was no significant goal by group interaction, $F < 1$.

Reasons for goal outcomes. Table 2 presents descriptive statistics for the number of pro and con reasons listed for approach and avoidance goals in each group. A mixed ANOVA with two within-subjects factors of goal (approach vs. avoidance) and reason (pro vs. con), and a between-subjects factor of group was conducted on the mean number of reasons that participants generated. There was a significant main effect of reason, with participants listing more pro than con reasons overall, $F(1, 47) = 5.24$, $p = .03$, $\eta^2_p = .10$, and there was a marginally significant goal by group interaction, $F(1, 47) = 3.45$, $p = .07$, $\eta^2_p = .07$. The main effect of reason was qualified by the predicted reason by group interaction, $F(1, 47) = 6.43$, $p = .01$, $\eta^2_p = .12$, and there were no other significant effects.

To decompose the significant reason x group interaction, we first conducted tests of simple main effects for group comparisons on number of pro and con reasons individually, but these were not significant, Fs < 1. However, simple main effects of reason for each group revealed that control participants generated significantly more pro than con reasons, $F(1, 25) = 12.92$, $p = .001$, but depressed participants did not, $F < 1$ (see Table 2). Depressed participants therefore generated relatively more pessimistic explanations for goal outcomes than controls.

Discussion

To our knowledge, this study represents the first attempt to compare idiographic goal motivation in a clinically depressed sample and a never-depressed sample. Somewhat surprisingly, we found no evidence that depressed participants generated fewer goals than controls, nor that depressed participants rated their goals as less important than controls, suggesting that depressed participants are not generally deficient in idiographic goal motivation. There was also no evidence that depressed participants showed a pattern of decreased approach goal motivation and increased avoidance goal motivation, counter to

Fowles' (1994) motivational view of depression. In this respect our results also seem to contradict the results of analogue studies using adolescent samples (Dickson and MacLeod, 2004a, 2004b, 2006). It is possible that reduced approach goal sensitivity and heightened avoidance goal sensitivity may be more apparent during adolescence than in adulthood. During adolescence—a developmental stage characterized by identity formation—identification of approach goals may be relatively challenging for dysphoric people whereas uncertainty accompanying life transitions may make avoidance goals relatively salient.

Our findings are however consistent with Johnson et al.'s (2010) suggestion that affective disorder is characterized by intact goal representations but that biased cognitive appraisals of these goals impair adaptive self-regulation. Thus, our depressed participants differed from controls in their ratings of approach and avoidance goals across a range of motivationally relevant constructs. Depressed participants generated a more pessimistic balance of reasons for versus against goal achievement, rated desirable goal outcomes as less likely to occur and tended to rate undesirable goal outcomes as more likely to occur, and perceived less control over their goal outcomes. These results are consistent with Dickson and MacLeod's (2006) research on dysphoric and non-dysphoric adolescents, implicating pessimistic goal appraisals and explanations as a feature of both clinical and nonclinical depression. Consistent results across expectancies and causal explanations also supports the notion that pessimistic likelihood judgments reflect the relative availability of pro versus con reasons for outcomes (MacLeod & Tarbuck, 1994), and extend these findings from judgments about hypothetical events to personally meaningful goal pursuits. Future research could examine whether depressed people's reasons for goal nonattainment are more internal, global, and stable than controls, as predicted by hopelessness theory (Abramson et al., 1989).

Although pessimistic expectancies and perceived uncontrollability relating to events have been implicated in the etiology and maintenance of depression (Abramson et al., 1978, 1989), our results suggest that these perceptions extend to idiographic goal pursuit. This is important because personal goals play a key role in motivating long-term behavior. Perceiving goal attainment as less likely may deepen hopelessness and maintain depression, as reduced expectations that desirable goal experiences will occur diminish motivation and opportunities for reward. Conversely, increased expectancies for aversive outcomes may increase negative affect and dysfunctional avoidance. It is noteworthy that depressed participants rated their goals to be as important as non-depressed participants. As such, depressed people may find it difficult to disengage from their goals despite being pessimistic about them, yielding a state of painful engagement (Carver & Scheier, 1998).

We argue here that goals are conscious representations of desired and undesired outcomes and therefore amenable to self-report, but we also acknowledge that goals may be pursued nonconsciously (Bargh & Barndollar, 1996). The self-report goal generation measures that we used assessed conscious aspects of motivation that are filtered through the self-concept. One limitation of our goal generation task is that it may not tap more implicit motives that are important in directing spontaneous behaviour in unstructured situations. Future studies with depressed samples should explore non-conscious aspects of motivation in addition to self-reported goals.

In conclusion, our study suggests that depressed people do not lack personally valued goals, but that their constellation of goal appraisals is more pessimistic than that of non-depressed people. An implication of these findings is that therapeutic efforts should focus on challenging negative thinking relating to goal pursuit, rather than merely encouraging depressed people to identify possible goals.

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Acknowledgments

Footnotes

[1]All goals were coded for approach and avoidance to confirm that participants followed instructions in each condition. There was complete agreement with an independent rater in coding these categories. Three avoidance goals that were listed in the approach goal condition and one approach goal that was listed in the avoidance goal condition were excluded from the count, but this omission did not affect the results.

[2]All responses were coded as *pro* reasons for or *con* reasons against goal achievement. There was complete agreement with an independent rater in coding these reasons. Although all reasons were listed in the appropriate category, there were four cases (all from the same participant) where a reason was phrased in one direction in one condition and in the opposite direction in the other condition, e.g., *"I watch my weight"* (pro), *"I don't watch my weight"* (con). In these cases, corresponding pro and con reasons were excluded from the count because they were not both original responses. This omission did not affect the results.

[3]One participant failed to complete the goal ratings, two participants each failed to complete one importance rating, and one participant failed to complete the first BDI-II, resulting in slightly differing degrees of freedom across analyses.

Table 1

Means (SDs) for Number of Goals and Goal Ratings by Group and Condition

Group	Number of goals		Importance		Likelihood		Control	
	App	Avd	App	Avd	App	Avd	App	Avd
Control	6.5 (1.9)	4.8 (1.6)	5.8 (0.9)	5.9 (0.7)	5.5 (0.7)	3.4 (0.9)	5.7 (0.8)	5.3 (0.7)
Depressed	6.8 (2.5)	5.7 (2.1)	5.9 (0.7)	5.8 (1.1)	4.9 (1.1)	4.0 (1.4)	4.7 (1.2)	4.5 (1.0)

Note. App = approach goals, Avd = avoidance goals.

Table 2

Means (SDs) for Number of Reasons by Group and Goal Condition

Group	Approach goals		Avoidance goals	
	Pro	Con	Pro	Con
Control	4.5 (1.5)	3.7 (1.9)	4.5 (1.6)	3.7 (1.3)
Depressed	4.3 (1.6)	4.2 (1.8)	3.8 (1.8)	4.0 (1.8)