Unique associations between anxiety, depression, and motives for approach and avoidance goal pursuit

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Abstract

This study investigated the shared and distinct associations between depressive and anxious symptoms and motives for pursuing personal goals. One hundred and thirty six undergraduates generated approach and avoidance goals and rated each on intrinsic, identified, introjected and external motives. Anxious and depressive symptoms showed significant unique associations with distinct motives. Specifically, depressive symptoms predicted significant unique variance in intrinsic motivation for approach goals (but not avoidance goals), whereas anxious symptoms predicted significant unique variance in introjected regulation for approach and avoidance goals. Some of these findings were moderated by gender. The findings broadly support the notion that depression is uniquely characterised by reduced enjoyment of approach goal pursuit whereas anxiety is uniquely characterised by pursuit of goals in order to avoid negative outcomes. We suggest that these findings are compatible with regulatory focus theory and suggest that motives for goal pursuit are important in understanding the relation between goals and specific mood disorder symptoms.

Goals are critical to human motivation and underlie sustained activity towards a desirable outcome or away from an undesirable outcome. The type of personal goals people set for themselves, their motives for pursuing these goals, and their confidence that goals are achievable are important predictors of affect and well-being (Carver & Scheier, 1998). Furthermore, goal dysregulation has been implicated in the maintenance of affective disorders (Johnson, Carver, & Fulford**,** 2010). Anxiety and depression remain among the more pervasive and recurring forms of emotional disturbance, but surprisingly little is known about these psychological conditions from a goal motivation perspective. Here we investigate how anxious and depressive symptoms are associated with particular motives for goal pursuit. Investigating anxious and depressive symptoms concurrently affords an opportunity to identify possible shared and distinct associations with motives (L. A. Clark, Watson, & Mineka, 1994). Different models have been proposed to account for the shared and distinct features of depression and anxiety from both an affective (den Hollander-Gijsman et al., 2012) and cognitive perspective (D. A. Clark, Steer, & Beck, 1994). Theoretically, these shared and distinct associations should also be manifest in motivational constructs including the personal goals that structure people's lives.

Several theoretical models consider anxiety and depression in motivational terms, often describing these conditions with reference to differing sensitivities in approach and avoidance systems. Gray and McNaughton's (2000) reinforcement sensitivity theory postulated three distinct motivational systems that regulate behaviour and emotion: a behavioural approach system (BAS) that is responsive to rewarding stimuli, a fight-flight-freeze avoidance system (FFFS) that is sensitive to cues of punishment, and a behavioural inhibition system (BIS) that governs response to conflicts among the other two systems. The BAS is thought to stimulate action that

moves an individual towards rewarding goals, and is associated with feelings of happiness and elation (Gray, 1990). The FFFS is thought to be responsible for generating fear and escape behaviour in situations that demand immediate avoidance, whereas the BIS is thought to generate feelings of anxiety in situations generating goal conflict (Gray & McNaughton, 2000). Drawing on an earlier articulation of this model, Fowles (1994) proposed that an overactive BIS is a shared feature of anxiety and depression, whereas an underactive BAS is unique to depression.

Many prominent self-regulation theorists agree that human behaviour is structured in terms of approach and avoidance goal pursuit (e.g., Carver & Scheier, 1998). Approach goal motivation is defined as "behaviour that is instigated or directed by a positive or desirable event or possibility" (e.g., "to pass my exams") and avoidance motivation as "behaviour that is instigated or directed by a negative event or possibility" (e.g., "to avoid getting into debt"; Elliot, 1999, p. 170). Approach goal pursuit is thought to generate elation when progress is faster than desired and dejection when progress is slower than desired; avoidance goal pursuit is thought to generate contentment when progress is faster than desired and anxious agitation when progress is slower than desired (Carver & Scheier, 1998). Pursuit of approach and avoidance goals has been implicated in mood disturbance in ways that are consistent with Fowles' (1994) model. For example, in studies using goal fluency paradigms, anxiety has been found to be associated with increased generation of avoidance goals, whereas depression has been associated with reduced generation of approach goals in adolescent samples (Dickson & MacLeod, 2004a, 2004b, Dickson, 2006).

However, approach and avoidance goals may not have such a straightforward relationship with anxious and depressive symptoms. For example, Dickson, Moberly, and Kinderman (2011) failed to find a significant difference in the number of

approach and avoidance goals generated by clinically depressed individuals, compared to non-depressed controls. Moreover, competing motivational theories have proposed that approach and avoidance orientation are secondary to other dimensions when it comes to understanding associations with specific symptoms. In this study, we drew from an alternative theoretical account—regulatory focus theory—to investigate whether anxious and depressive symptoms are uniquely associated with particular *motives* for approach and avoidance goal pursuit.

Higgins' (1996) regulatory focus theory proposes the existence of a promotion system oriented towards rewards and gains (i.e., 'ideals'), and a prevention system oriented towards duties and obligations (i.e., 'oughts'). Importantly, regulatory focus theory suggests that approach and avoidance goals may both serve *either* a promotion *or* a prevention orientation (towards or away from an ideal or an ought respectively). In this view, promotion/prevention orientation determines the affect that is experienced, with an intensity that is proportional to perceived progress. Promotion orientation is suggested to reflect the activity of a promotion system that generates feelings of elation and dejection; prevention orientation reflects the activity of a prevention system that generates feelings of anxiety and relief. Thus, according to regulatory focus theory, approach goal pursuit would be associated with elated or dejected affects (depending on perceived progress) when the person is approaching an ideal, but would be associated with anxious or relieved affects (depending on perceived progress) when the person is approaching an ought. Thus, problematic approach goal pursuit could be associated with either depressive or anxious affect, depending on whether promotion or prevention orientation is salient. The relationship between avoidance goal pursuit and affect may be less ambiguous because goal fluency studies (e.g., Dickson & MacLeod, 2004a, 2004b) indicate that participants

rarely describe avoiding non-gains (e.g., "Avoid missing my salary bonus", i.e., reflecting a promotion orientation) when asked to generate avoidance goals. Instead, these goals tend to be more straightforwardly framed in terms of avoiding a negative occurrence (e.g., 'Avoid causing offence'), and therefore they will be associated with feelings of anxiety and relief. For this reason, it is approach goals for which regulatory focus theory makes particularly distinct predictions, suggesting that these goals may be associated with either depressive or anxious affect depending on whether they reflect activity of the promotion or prevention system respectively.

Drawing on regulatory focus theory, Klenk, Strauman, and Higgins (2011) have conceptualised generalized anxiety disorder as a consequence of chronic failure in the prevention system and depression as a consequence of chronic failure in the promotion system. Whereas chronic promotion failure leads to hypoactivation of the promotion system and eventually depression, chronic prevention failure results in a pattern of vigilant engagement, hyperactivation of the prevention system, and generalized anxiety. According to regulatory focus theory, hypoactivation of the promotion system in depression may therefore be characterised primarily by a reduction in approach goals focused on attaining ideals. Conversely, hyperactivation of the prevention system in anxiety may be characterised both by an increase in 'ought' approach goals focusing on meeting obligations and an increased salience of avoidance goals. Counter to earlier predictions about goal fluency based on Fowles' (1994) model, regulatory focus theory predicts that neither anxiety nor depression are associated with a general *reduction* in approach goal salience, but by a shift in the *quality* of approach motivation. Namely, depression is uniquely associated with fewer ideal goals and anxiety is uniquely associated with more ought goals.

Research in the regulatory focus tradition (e.g., Higgins, 1996) has typically asked participants to generate ideal, ought and actual 'self-guides' before correlating depressive and anxious affects with discrepancies between (i) actual and ideal selves, and (ii) actual and ought selves. In this study, we sought triangulating support for regulatory focus theory by asking participants to generate idiographic approach and avoidance goals directly (Dickson & MacLeod, 2004a, 2004b) and then rating each of four motives for pursing each goal. We reasoned that particular motives for approach goals would differentially reflect the operation of the promotion or prevention system such that individual motives would be uniquely associated with depressive and anxious symptoms respectively. Our assessment of motives borrowed from research on self-determination theory (Ryan & Deci, 2000) and has been used extensively in research on psychological well-being (e.g., Sheldon & Elliot, 1999) but has untapped potential in terms of understanding specific symptoms (but see Dickson & Moberly, 2013, for a study taking this approach). We assessed motives by asking participants to rate each of the following four reasons for goal pursuit, which reflect different regulatory styles along a continuum of internalisation (Ryan & Connell, 1989). In external regulation, the person pursues the goal because of some external contingency (such as reward or praise) that they believe will result from it. In introjected regulation, the person pursues the goal because they would feel shame, guilt or anxiety if they did not. In identified regulation, the person pursues the goal because they personally value it as important even if they may not find it enjoyable. Finally, the most fully self-internalized mode of regulation is intrinsic motivation, in which the person pursues the goal because it is inherently fun and enjoyable.

We made specific predictions linking anxious and depressive symptoms in turn to particular motives that serve as indicators of prevention and promotion system

activity. First, we reasoned that introjected motives uniquely reflect activity in the prevention system, which regulates the pursuit of goals or 'oughts' that are principally motivated by avoiding the negative affect that is perceived to accompany failure. Second, we reasoned that intrinsic motivation uniquely reflects activity in the promotion system, which regulates the pursuit of goals or 'ideals' that are principally motivated by the inherent pleasure associated with goal pursuit.

Our specific hypotheses were as follows. First, we expected that depressive symptoms (but not anxious symptoms) would be uniquely associated with reduced intrinsic motives for approach goals only (avoidance goals are typically not intrinsically motivating; Elliot & Harackiewicz, 1996). This prediction was based on the theoretical notion that depression is uniquely associated with reduced motivation to pursue goals for enjoyment and a hypoactive promotion system. Intrinsic motives for approach goals reflect a motivational style oriented toward the valuing of outcomes (ideals) for their own sake, which regulatory focus theory suggests is uniquely compromised in depression. Second, we expected that anxious symptoms (but not depressive symptoms) would be uniquely associated with introjected regulation for both approach and avoidance goals. This prediction was based on an understanding of introjected regulation as a purely avoidance-based mode of self-regulation (pursuing a goal to avoid unpleasant affective experience) that reflects a hyperactive prevention system. Regulatory focus theory suggests that anxiety would be uniquely associated both with 'ought' approach goals that are pursued for more introjected reasons (see Dickson and Moberly, 2013), and a heightened tendency to perceive aversive consequences during avoidance goal pursuit. We did not expect either anxious or depressive symptoms to predict unique variance in identified or external motives, because these motives are not specific to the operation of either the

promotion or prevention system, although external motives may be associated with poorer psychological well-being (Ryan & Deci, 2000) and therefore with shared variance in anxious and depressive symptoms.

Method

Participants

One hundred and thirty six undergraduates (34 males, 102 females, aged 18–51 years, M = 21.4) at the University of Liverpool completed the study measures online. Our target sample size (N = 133) was determined to provide power of .80 to detect small-to-medium-sized effects (f^2 = .06) for individual regression coefficients with a two-tailed alpha of .05. University ethical approval was obtained prior to the conduct of the study and all participants provided informed consent.

Measures

Goal task (Dickson & MacLeod, 2004a). This task elicits written personal goal statements. Participants were given a description and an example of an approach and an avoidance goal, and were then asked to list four goals representing desirable goal outcomes they would be trying to achieve (e.g., "pass my exams") and four goals representing undesirable outcomes they would be trying to avoid (e.g., "not get into debt"). They were told that their personally relevant and meaningful goals could relate to any time in the future (e.g., next week, next month). Prompts in the approach and avoidance goal conditions were 'It will be important for me to try to…..' and 'It will be important for me to try to avoid….' respectively.

All participants' goals were coded for approach and avoidance to check compliance with instructions. When a 10% random selection of participants' goals was checked by an independent rater, there was complete agreement between raters (κ

= 1). Fourteen avoidance goals (< 0.01% of all goals) were judged inconsistent with the instructions and removed before analysis.

Importance ratings. Participants were asked to rate the importance of each goal to them personally on a Likert-type scale anchored by 1 ("*not at all*") and 7 ("*very*"). This rating allowed us to verify that participants generated personally important goals as instructed.[1]

Goal motives (Ryan & Connell, 1989). To assess motives for goal pursuit, participants rated their reasons for pursuing each of their goals on each of four motives across the continuum of increasing internalization, using 7-point Likert-type scales anchored by 1 ("*not at all for this reason*") and 7 ("*completely for this reason*"). The four motives are external ("You strive for this goal because somebody else wants you to, or because the situation seems to compel it"), introjected ("You strive for this goal because you would feel ashamed, guilty or anxious if you didn't"), identified ("You strive for this goal because you really believe that it is an important goal to have"), and intrinsic ("You strive for this goal because of the enjoyment or stimulation which this goal provides you").

Patient Health Questionnaire (PHQ-9, Kroenke, Spitzer, & Williams, 2001). The PHQ-9 consists of nine items corresponding to DSM-IV criteria for depressive disorders that are summed to a total score ranging from 0–27. Reliability was high in the current study (Cronbach's alpha = .87).

Generalized Anxiety Disorder—7 Questionnaire (GAD-7; Spitzer, Kroenke, Williams, & Löwe, 2006). The GAD-7 is a brief, validated screening tool to assess Generalised Anxiety Disorder that was developed in line with DSM-IV criteria. The measure has seven items and total scores range from 0-21. The measure showed high reliability in this study (Cronbach's alpha = .88).

Analytic strategy. Preliminary analyses examined the correlations among the main study variables. A series of hierarchical multiple regression analyses were then used to assess the unique contributions of anxious and depressive symptoms to each of the motives for approach goals and to each of the motives for avoidance goals in turn. In each hierarchical regression, gender was entered in the first block with age, because studies have shown a significant relationship between gender and depressive symptoms (e.g., Van de Velde, Bracke, & Levecque, 2010). Anxiety and depression measures were entered in the second block to test our hypotheses concerning the unique contributions of each symptom in explaining variance in particular goal motives. Finally, interactions between gender and each of the symptom scores were added in the third block to explore whether relationships differed significantly between males and females.

Results

Descriptive statistics and zero-order correlations for the main study variables are presented in Table 1. As predicted, depressive symptoms were significantly negatively correlated with intrinsic motivation for approach goals only. Broadly as predicted, anxious symptoms were significantly positively correlated with introjected regulation for all goals and with external regulation for avoidance goals. Depressive symptoms were significantly positively correlated with external regulation for all goals and with introjected regulation for approach goals. Unexpectedly, anxious symptoms were also significantly positively correlated with identified regulation for approach (but not avoidance) goals. Furthermore, depressive symptoms were positively correlated with identified regulation for approach goals.

Insert Table 1 about here

Hierarchical multiple regression analyses were used to assess the unique contributions of depressive and anxious symptoms in predicting each goal motive for approach goals and for avoidance goals in turn. Age and gender were entered in the first block, depressive and anxious symptom scores were entered in the second block, and the gender × depression and gender × anxiety interaction terms were entered in the third block. Table 2 summarises the results of regression models conducted for each of the outcome variables in turn.

Insert Table 2 about here

Intrinsic Motives

For approach goals, age and gender did not explain significant variance in intrinsic motivation in step 1. However, the entry of anxious and depressive symptoms explained significant additional variance, although only depressive symptoms predicted significant unique variance, as predicted. The addition of symptom by gender interactions in step 3 significantly improved the model, accounting for a further 4% of the variance. Both interactions were significant predictors of intrinsic motivation for approach goals. Simple slope tests for depressive symptoms found a significant negative relationship with intrinsic motives for women ($\beta = -.50$, $t = 3.60$, $p < .001$) but no significant relationship for men ($\beta = .24$, $t < 1$, $p = .39$). Depressive symptoms were associated with lower levels of intrinsic motivation for women, but no significant relationship emerged for men. Simple slope tests for anxious symptoms revealed a significant positive relationship with intrinsic motives for women ($\beta = .33$, $t = 2.35$, $p = .02$) but no significant relationship emerged for men

(β = –.42, t = 1.63, p = .11). Thus, anxious symptoms were uniquely associated with greater intrinsic motivation for women, but not for men. However, the small proportion of males means that null results for men may reflect low statistical power.

None of the regression models explained significant variance in intrinsic motivation for avoidance goals.

Identified Motives

For approach goals, age and gender did not explain significant variance in identified motives in Step 1. Although the inclusion of anxious and depressive symptoms explained significant additional variance in identified motives in Step 2, neither made a significant unique contribution. Gender interactions did not explain significant additional variance in Step 3.

None of the models explained significant variance in identified regulation for avoidance goals.

Introjected Motives

For approach goals, age and gender did not jointly explain significant variance in introjected motives in step 1, although the gender effect was significant, indicating more introjected motives for men than women. The inclusion of depressive and anxious symptoms in step 2 explained a significant additional 8% of variance with only anxious symptoms (and no longer gender) predicting significant unique variance, as expected. Inclusion of gender interactions accounted for a further 4% of the variance: interactions with both symptoms were significant. For depression, simple slopes analysis revealed a non-significant trend for men (β = –.51, t = 1.90, p = .059) and no significant relationship for women (β = .09, t < 1, p = .49). For anxiety, the gradient of the simple slope was significantly different from zero for men (β = .91, t =

3.63, $p < .001$) but not for women ($\beta = .13$, $t < 1$, $p = .33$). Thus, introjected motives for approach goals were uniquely associated with anxiety symptoms for men only.

For avoidance goals, age and gender did not explain significant variance in introjected motives in step 1. However, the inclusion of anxious and depressive symptoms explained a significant additional 9% of variance in step 2, with only anxious symptoms predicting significant unique variance, as expected. The addition of interactions with gender in step 3 did not significantly improve the model.

External Motives

None of the steps explained significant additional variance in external motives for approach goals, with neither anxious nor depressive symptoms explaining significant unique variance in this motive.

For avoidance goals, the model was significant at step 1, with age but not gender explaining significant unique variance such that older participants reported less external regulation. The inclusion of symptoms in step 2 explained a significant additional 5% of variance in external motives, but neither anxiety nor depression predicted unique variance, although age remained a significant predictor. Entry of interactions involving gender in step 3 did not significantly improve the model.

Discussion

The study was the first to investigate whether anxious and depressive symptoms are uniquely related to specific underlying motives for approach and avoidance goal pursuit. As predicted, results from regression analyses revealed that depressive symptoms were uniquely associated with reduced intrinsic motives for approach goals, although this was true for women only. Conversely, anxious symptoms were uniquely associated with more introjected motives for avoidance goals and with more introjected motives for approach goals for men. Neither anxious

nor depressive symptoms explained significant unique variance in identified motives for approach goals, or external motives for avoidance goals; instead, shared variance among symptoms explained respective significant bivariate correlations with these motives. Neither anxious nor depressive symptoms were associated with intrinsic or identified motives for avoidance goals. Overall, these results suggest that a person's motives for pursuing approach and avoidance goals may be important concomitants of anxious and depressive symptoms.

Consistent with Fowles' (1994) model, depressive symptoms were uniquely associated with less intrinsically-motivated pursuit of approach (but not avoidance) goals, broadly consistent with the notion that anhedonia and disruptions to the reward system distinguish depressive from anxious symptomatology (L. A. Clark et al., 1994). The unique negative association between depression and intrinsic motivation for approach goals is also consistent with theoretical predictions from regulatory focus theory suggesting that chronic promotion failure is associated with depressive symptoms (Klenk et al., 2011). From this perspective, a functioning promotion system generates feelings of joy and elation that we suggest are associated with intrinsically motivated seeking of rewarding positive outcomes (Ryan & Deci, 2000). Depression is associated with hypoactivation of the promotion system, which is manifest here as reduced enjoyment in the pursuit of approach goals and more generally as diminished reward sensitivity (Klenk et al., 2011). However, chronic promotion system hypoactivation will not necessarily result in anxiety, depending on whether the prevention system is able to function effectively. Thus, depressive but not anxious symptoms are uniquely associated with intrinsic motivation for approach goals. These results lend support to the notion that depression is uniquely characterized by a reduced motivation to pursue approach goals for enjoyment, suggesting that this

deficit may be specifically manifested as reduced intrinsic motivation for positively framed outcomes.

Assessing motives for goal pursuit is important given that a previous study failed to find significant differences in the number of approach and avoidance goals generated when comparing clinically depressed and non-depressed participants (Dickson, Moberly, & Kinderman, 2011). The finding that depressive symptoms were not associated with intrinsic motivation for avoidance goals may be due to the fact that avoidance goals tend not to be intrinsically motivating in the general population (Elliot & Harackiewicz, 1996). The finding that depressive symptoms were only associated with intrinsic motivation for women may be due to the relatively low number of males in the sample, which reduced statistical power to detect this association in men. Larger studies with more balanced gender distributions are required to address the question of gender differences in greater detail.

As predicted, anxious symptoms demonstrated a unique association with introjected regulation whereas depressive symptoms did not. Given that introjected regulation is an avoidant-based mode (Dickson & Moberly, 2013; Ryan & Connell, 1989), this is consistent with the notion that anxiety is uniquely characterized by an underlying core of avoidance motivation, even though avoidance motivation has often been considered to be common to both anxiety and depression (Fowles, 1994). The finding that anxious symptoms uniquely predicted introjected motives for approach goals implies that anxious individuals are prone to pursue these goals in order to avoid the shame and negative consequences associated with not doing so. Carver and Scheier (1998) have suggested that ‘ought’ goals provide direction to an underlying avoidance tendency. Therefore, it is possible that anxious participants’ approach goals described duties and obligations (i.e., oughts) that were not being met, in keeping with

Higgins' view of chronic prevention failure and the notion that anxiety is associated with a prevention orientation. Once again, these results are compatible with regulatory focus theory, and suggest that motivational research on mood disorders should consider the underlying motivation behind a goal's superficial approach or avoidance orientation. Again, the unequal gender balance makes us reluctant to interpret the finding that men but not women showed a positive association between anxious symptoms and introjected motives for approach goals until this can be replicated with a larger and more balanced sample. Despite being a relatively inefficient mode of self-regulation, external motivation does not necessarily involve avoidance, and the absence of unique predictors in our study may reflect the negative association between external motivation and psychological well-being rather than specific mood disorder symptoms (Ryan & Deci, 2000).

Although our findings are compatible with regulatory focus theory, our measures were not derived from this theoretical tradition but from self-determination theory, part of which is concerned with the degree of internalization of motives for goal pursuit (Ryan & Deci, 2000). Research informed by self-determination theory has generally focused on subjective well-being rather than on unique associations with specific symptoms. Although early research in this tradition (e.g., Sheldon & Elliot, 1999) has combined motive ratings to reflect the relative balance of autonomous (intrinsic and identified) and controlled (introjected and external) reasons, more recent studies have suggested that autonomous and controlled motives have dissociable consequences (e.g., Koestner, Otis, Powers, Pelletier, & Gagnon, 2008). Our results tentatively suggest that this distinction is relevant in terms of unique relations with depressive and anxious symptoms. Thus, depressive symptoms uniquely predicted one facet of autonomous motives for approach goals, whereas anxious symptoms uniquely

predicted one facet of controlled motives for approach and avoidance goals. One novel finding of our research is therefore that the negative association between internalization of goal pursuit motives and well-being may conceal more specific patterns of associations between individual motives and particular symptoms.

A few methodological limitations deserve comment. First, the use of an undergraduate sample prevents us from generalizing these findings to a clinical population, although it is noteworthy that the sample mean for depressive symptoms was near the recommended cut-off for moderate levels of depression (Kroenke, Spitzer, & Williams, 2001). Second, our self-report measures assumed that participants were reporting their motives accurately. Although self-report is the standard research methodology in this area, social desirability concerns and other reporting biases may have influenced these results. Third, as we have stated, the small number of males means that interactions with gender should be interpreted cautiously until larger samples are collected. Finally, given the cross-sectional design, future research investigating longitudinal associations between symptoms and goal motives or experimental approaches are necessary to provide clues about causality.

To summarise, even though depressive and anxious symptoms were highly correlated in our sample, we found that depressive symptoms uniquely predict reduced intrinsic motivation for approach goals, whereas anxious symptoms uniquely predict introjected goal regulation for avoidance goals. As such, depressive symptoms are particularly associated with diminished pleasure and enjoyment in pursuing approach goal outcomes, consistent with the phenomenology of anhedonia among depressed people. In contrast, anxious symptoms are associated with motivation to pursue goals in order to avoid the negative emotional consequences associated with not doing so. These results are consistent with regulatory focus theory and contribute

to the view that any motivational analysis of anxious and depressive psychopathology must consider the reasons for goal pursuit in addition to the superficial approach/avoidance orientation of goals. Adopting a similarly nuanced perspective on goals and their regulation provides a new lens through which to understand the psychopathology of depression and anxiety, offering potential clues for treatment.

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Footnote

[1] Descriptive statistics for these ratings confirmed that participants generated goals that were relatively high in importance (approach $M = 5.8$, $SD = 0.9$; avoidance $M = 5.9$, $SD = 0.8$). Goal importance was positively correlated with anxious (but not depressive) symptoms, $r = .23$, $p = .007$, but did not explain significant relationships between anxious symptoms and goal motives, so is not discussed further.

Table 1

Descriptive Statistics for Approach and Avoidance Goal Variables and Correlations with Symptom Measures

		M	*SD*	Anx	Dep
Approach	Int	5.29	1.14	–.08	–.21*
	Idt	5.53	1.14	.22**	.18*
	Ijc	4.05	1.32	.30***	.22*
	Ext	3.32	1.38	.14	.18*
Avoidance	Int	4.44	1.44	–.03	–.10
	Idt	5.78	1.01	.11	.02
	Ijc	4.89	1.23	.24**	.16
	Ext	3.52	1.48	.22**	.23*
	Dep	9.63	6.16	—	.74***
	Anx	6.86	5.27		—

Note. Ext = external regulation, Ijc = introjected regulation, Idt = identified regulation, Int = intrinsic motivation, Dep = Depressive symptoms, Anx = Anxious symptoms.

*p < .05. **p < .01. ***p < .001.

Table 2

Summary of Hierarchical Multiple Regression Analyses Predicting Motives for Approach and Avoidance Goals

		Approach goals								Avoidance goals							
	Predictor	β				ΔR^2				β				ΔR^2			
		Int	Idt	Ijc	Ext	Int	Idt	Ijc	Ext	Int	Idt	Ijc	Ext	Int	Idt	Ijc	Ext
Step 1	Age	.04	.15	–.02	–.15					.09	.14	–.12	–.18*				
	Gen	–.05	–.11	–.19*	–.13	.00	.03	.04	.04	.00	–.02	–.16	–.10	.01	.02	.04	.05*
Step 2	Age	.03	.15	–.02	–.15					.09	.14	–.12	–.18*				
	Gen	–.08	–.08	–.15	–.11					–.01	–.01	–.14	–.07				
	Dep	–.35**	.02	–.03	.16					–.17	–.13	–.05	.13				
	Anx	.16	.20	.31*	.01	.06*	.05*	.08**	.03	.09	.21	.26*	.11	.01	.02	.05*	.05*
Step 3	Age	.04	.16	–.03	–.15					.09	.14	–.12	–.18*				
	Gen	–.07	–.10	–.15	–.12					–.01	–.02	–.13	–.08				
	Dep	–.50**	.02	.09	.25					–.21	–.07	–.03	.17				
	Anx	.33*	.24	.13	–.08					.14	.16	.22	.10				
	Gen × Dep	.34*	–.01	–.28*	–.21					.11	–.15	–.03	–.09				
	Gen × Anx	–.37*	–.08	.38**	.20	.05*	.01	.05*	.02	–.11	.12	.07	.05	.00	.01	.00	.00

Note. Int = intrinsic motivation, Idt = identified regulation, Ijc = introjected regulation, Ext = external regulation, Gen = Gender (dummy-coded 0 = male, 1 = female), Dep = Depressive symptoms, Anx = Anxious symptoms.
*p < .05. **p < .01.