Goal Motivation in Adolescents: Relationships to, Anxiety, Depression and Well-Being

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Abstract

It has been suggested that depression and anxiety may not be distinct, but may represent one '*Internalizing*' disorder (Waikar & Craske, 1997). Based on neuropsychological models, Fowles (1994) and others have suggested that depression is uniquely associated with high avoidance and low approach motivation, whereas anxiety is characterised by high avoidance motivation. To test this theory studies have examined whether depressed individuals pursue fewer approach and more avoidance goals than those who are not depressed, however results have been equivocal (Dickson & MacLeod, 2006; Vergara & Roberts, 2011). These inconsistencies may have been because participants' *underlying* goal-motivations were not extrapolated. Sherratt and MacLeod (2013) compared depressed and non-depressed groups and found that the expected patterns were only apparent when individuals' underlying *reasons* for adopting goals were examined. The present study replicated and extended Sherratt and MacLeod's study with adolescents and examined how underlying goal-motivation and self-concordance correlated with measures of Psychological Well-Being (PWB).

A school sample of 240 adolescents between 16-18 years was recruited. Participants generated as many idiographic approach and avoidance goals that they could think of. They were then asked to describe the reasons they had for adopting these goals, which were independently classified as approach, maintenance or avoidance. Self-report measures of depression, anxiety, PWB and self-concordance were also administered.

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As predicted, anxiety was positively correlated with more avoidance goals and underlying avoidance reasons (for avoidance goals). However, depression was not associated with distinct approach and avoidance motivational response patterns at either the level of stated goals or underlying reason. Self-Acceptance was significantly negatively correlated with avoidance motivation (for avoidance goals), and positively correlated with the number of 'most important' approach reasons. There was a significant positive relationship between PWB and self-concordance and a negative correlation between anxiety and self-concordance. The findings further reinforce the importance of avoidance motivation in anxiety, but fail to support the link between low approach motivation and depression that has been reported in adults.

Chapter 1- Introduction

Depression and anxiety are the most prolific mental health conditions, affecting one in five people in the United Kingdom (BPS, 2013). It is estimated that almost three billion pounds a year are spent on therapeutic services for anxiety and depression (King's Fund, 2008). Yet, a lot remains to be discovered about the underlying cause of these disorders and how to treat them. Psychological and pharmaceutical therapies have only been effective to a certain point and relapse rates remain high (NICE Guidelines 2016; Hollon, et al., 2005). Whilst several studies have illustrated the distinct cognitive and affective variations in these disorders, few investigations have examined the motivational systems underlying them. This is surprising as motivational factors play a central role in behaviour, thinking and well-being. According to Gray's (1982) biopsychological model of motivation, two systems control activity: the Behavioural Activation System (BAS) and the Behavioural Inhibition System (BIS). Gray hypothesised that the BAS relates to reward and approach motivation, whereas the BIS relates to punishment and avoidance motivation. Based on this, Fowles (1984) predicted that depression may be linked to both high avoidant and low approach motivation, whereas anxiety may be related to avoidant motivational systems.

In more recent years, goal theorists have become increasingly interested in the importance of the approach-avoidance distinction in the study of individuals' idiographic goals (Elliot & Thrash, 2002). Approach and avoidance goals have been defined in similar

terms to Gray's (1982) early description of the BAS and BIS. Approach goals focus on moving towards desired outcomes and avoidance goals focus on preventing future negative outcomes (Elliot, Sheldon, & Church, 1997). Although theory would suggest that individuals who habitually pursue approach goals would show greater emotional well-being, compared with those who typically pursue avoidance goals, studies examining this relationship have been equivocal. Sherratt and MacLeod (2013) have suggested that this is because the research methods previously used have not addressed individuals' *underlying* goal motivations. When the authors examined depressed participant's surface level-goals they appeared comparable to the control group's goals. However, when participant's reasons for adopting these goals were examined, depression was significantly associated with reduced approach and increased avoidance motivation.

In order to replicate and extend Sherratt and MacLeod's (2013) study using a different population, the present research examined adolescents aged between 16-18 years. Consistent with cognitive and affective research, the present study postulated that anxiety and depression would be associated with distinct approach and avoidance motivational response patterns. Furthermore, it was hypothesised that approach motivation would be positively correlated with well-being and that there would be a significant relationship between intrinsically meaningful goals and self-reported well-being.

To examine the existing literature more closely, this chapter will first define how we understand goals based on conceptualisations in the literature. The chapter will then explain how goal-setting deficits can lead to dysphoria and how pursuing approach-oriented goals have a positive impact on functioning. Following this it will critically analyse the findings of previous studies examining approach and avoidance goals in depressed and anxious individuals. The chapter will then highlight methodological flaws and gaps in the existing literature which the proposed study hopes to address. To conclude the hypotheses of the study will be discussed.

Defining Goals

Goals have been defined as "internal representations of desired states, where states are broadly construed as outcomes, events, or processes" (Austin & Vancouver, 1996, p. 338). However, this description is extremely broad and can relate to a wide variety of events in both time and place (Locke & Latham, 2002). A more comprehensive and specific definition of a goal has been proposed by Cochran and Tesser (1996), they suggest a goal is: "a cognitive image of an ideal stored in memory for comparison to an actual state; a representation of the future that influences the present; a desire […] a source of motivation, an incentive to action" (Cochran & Tesser, 1996, p. 100). This definition incorporates the notion that goals motivate behaviour and require commitment towards an outcome. An additional key aspect of a goal, is that it must be perceived as possible, although not certain (Macleod, in press). In this regard goals are

distinct from fantasies about future outcomes (Oettingen, 2012). For the purposes of

the present study goals have been defined as cognitive forms of self-regulation that give

focus to and direct behaviour (Vergara & Roberts, 2011).

Another crucial aspect of goals is that they are hierarchical in nature (Emmons, 1989).

Within theories of motivation, goals are seen as a way of describing a bridge between

higher level motivations and lower level specific behaviours (Emmons, 2003).   For

example, a higher-level ambition of 'personal growth' might be served by a goal of

attending university to become a doctor.   This may be connected to short-term

behaviours, such as researching university courses and writing applications. Any level in

this hierarchy can be described as a goal and because of the interconnected nature of

the different levels, each stage can also represent a plan to reach the goal on the level

above.

How Goals Link with Depression

There is a well-established link between dysphoria and deficits in goal-engagement.

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)

symptoms of depression include: depressed mood or irritability, feelings of guilt and

worthlessness as well as decreased pleasure in activities, changes in sleep, appetite and

activity. Sufferers with severe symptoms can feel as though life is not worth living

(American Psychiatric Association, 2013). A key feature of depressive disorder, outlined

in the DSM-5 is feeling hopeless. In Beck's well-known theory of depression, hopelessness about the future is a main component of the negative cognitive triad (Beck, Rush, Shaw & Emery, 1979). The same is true for adolescents with depression, who also report a negative view about the future (Kaslow, Stark, Printz, Livingston, & Tsai, 1992). Hopelessness is thought to lead to the formulation of less specific plans and the pursuit of vague goals. The pursuit of ineffective goals can facilitate rumination, which impedes the development of new more adaptive goals. Depression is also linked to goal deficits in many other ways. Depressed individuals typically predict that their goals are unlikely to be attained. Yet, they also rely heavily on their goals being fulfilled in order to be happy. For this reason sufferers often hold on to goals, which are unlikely to be realised. These concepts and the evidence supporting them will be discussed more fully in the following section.

i. Poorly Defined Plans and Goals

Current literature suggests those sufferers of depression have a reduced propensity to plan for the future and therefore show lower levels of goal-success and life fulfillment (Prenda & Lachman, 2001). What is more, Fredrickson (2004) proposed that negative affect reduces individuals' cognitive flexibility and therefore their ability to cope and plan for adversity. Plans are the vehicles that move people from present states to future desired states. Scholnick and Friedman (1993, p. 146) defined plans as "the designs we construct to guide our attempts to reach a goal in a given environment". In this regard,

it is thought that plans are the necessary behaviour-scripts that bring about future goal aspirations and personal growth.

The cyclical effect of poor planning on depression has been studied empirically. Nezlek (2001) observed that people with depression make less thorough plans. In this study participants described their daily plans retrospectively for 21 days. The sample were asked to measure how carefully they had planned their social and achievement oriented activities and to what extent these plans had been executed. Participants with elevated symptoms of depression planned less carefully and their plans were less fully realised. Moreover, the psychological adjustment of all participants was higher when their plans were more fully realised. Nezlek concluded that vague plans might reduce the success of goal-pursuit and in turn confirm an individual's predictions that they cannot achieve their desires. However, as data were only collected over a three-week period, these causal assumptions were not substantiated.

Still, Dickson and MacLeod (2004a) also reported similar findings. The authors found that the number of planned steps taken to accomplish goals was negatively associated with depression. Dickson and MacLeod recruited, highly anxious, highly depressed and 'mixed' anxious and depressed adolescents and compared them with healthy controls. Participants were asked to describe their idiographic goals. They were then asked to select the two most important of these goals and generate as many plans as possible to

achieve their goals, within a short time period. Participants' goals and plans were coded

for specificity and compared with their self-report measures of anxiety and depression.

As predicted, compared to controls, depressed adolescents were less specific in

describing personal goals and plans, whereas high anxious adolescents did not differ

significantly from the control group. The results indicated that specific plans possessed

more mental cues to assist thinking positively about the future. Comparatively, ill-

defined plans were significantly associated with symptoms of depression.

There is also a tendency for those with depression to over-generalise their goals. This is

in line with autobiographical memory research that has found an over generality effect

in depression (Williams & Scott, 1988). It has been suggested this over-generality effect

is due to a deficit in forming specific mental representations of goals. Belcher and

Kangas (2014) found that depressed individuals were less specific about the experiences

they wanted to avoid and also less specific in forming plans to achieve their goals. The

findings suggested that depression may be related to difficulties envisaging the future,

which in turn hinders goal success.

ii. Prediction of Negative Outcomes

As previously mentioned, a defining feature of depression is chronic hopelessness. As a

result depressed individuals often anticipate poorer goal outcomes and have been

found to show lower likelihood estimates of future positive events (Butler & Mathews,

1983). The same is true at the severe end of the spectrum, suicidal individuals are often less able to think of events that they are looking forward to and give lower estimates of these desired events occurring (MacLeod & Salaminiou, 2001). This effect has been demonstrated empirically, Dickson, Moberly and Kinderman (2011) asked depressed patients and matched healthy controls to write down as many things as possible that they would typically be trying to achieve in the future. For example, 'having time to relax on the weekend' or 'seeing friends'. Both groups generated the same number of goals but when asked to rate how likely the objectives were to be achieved the depressed group gave significantly lower estimates than the control group.

Depressed individuals also show lower ratings of control over their goal outcomes. For instance Danchin, MacLeod, and Tata (2010) found that suicidal patients were able to describe personal goals but showed markedly lower estimates of control over these goals. The results indicated that although severely depressed individuals can have comparable levels of goal importance (Dickson et al., 2011) and goal commitment (Vergara & Roberts, 2011) they are prevented from being able derive satisfaction from a sense of controlled progress towards their goals.

iii. Conditional Goal Setting

As previously described, goals are organised in a hierarchical manner, where plans and sub-goals serve higher-order ambitions. In well-functioning systems these different

levels are consistent with each other and all contribute to the goal being achieved. Street (2002) proposed that those with depression are 'Conditional Goal Setters'. In which the linkages between the different levels become overly identified with each other. For example someone with depression is more likely to endorse the view that, "I can only be happy if my ex-partner falls in love with me again". It is thought that conditional goal setting can become dysfunctional, as often individuals become inflexible and entirely dependent on lower level goals being achieved in order to feel satisfied (McIntosh, 1996).

In support of the Conditional Goal Setting theory, Danchin, MacLeod and Tata (2010) found that participants with a recent suicidal episode showed greater endorsement of lower-level goals than did psychologically distorted and healthy controls. The suicidal group also placed a greater importance on lower-order goals being achieved as routes to well-being. Finally, when the questions were reversed so that participants were asked to rate how happy or fulfilled they would feel if their goal *was* achieved, the suicidal group showed higher endorsement of these positive statements. The findings therefore suggested that depressed and suicidal individuals are more likely to believe that goal-fulfilment will be sufficient to bring them happiness.

iv. Painful engagement

The 'Conditional Goal' paradigm has also been used to explain another set of findings. Studies have shown that those with dysphoria are less likely to disengage from unachievable goals in order to engage with alternative goals. Although depressed individuals can recognise that obtaining their goal is unlikely, they continue to pursue it, as they believe that their happiness depends on it (Wrosch & Miller, 2009). They also tend to persist with improbable goals without gaining any anticipatory benefit from doing so and despite a perceived lack of progress, which ultimately has a negative impact on emotional well-being over time. Using the same example as above, someone with depression may not experience any positive affect by imagining themselves being with their loved one. Moreover they are more likely to persist with trying to make contact with this person despite clear signs that he or she is no longer interested. MacLeod and Conway (2007) defined this configuration of having to pursue unattainable goals as 'Painful Engagement'.

MacLeod and Conway (2007) observed 'Painful Engagement' in a group of suicidal individuals. The participants had a reduced belief that their goals would come about but crucially, they were also extremely dependent on achieving their goals as they had fixed and rigid views that goal-completion was their only route to happiness. Painful-engagement produces a 'pernicious psychological state' whereby individuals are trapped pursuing goals that are unlikely to be realised whilst also being reluctant to

adopt different goals (Macleod, 2013). To further illustrate this point, if someone thinks that having a long-term partner is the only thing that will bring them happiness and that being alone means a life of unhappiness, they are unlikely to relinquish the objective of finding a partner, even when it seems unlikely to happen (MacLeod, in press).

To better understand painful-engagement Wrosch, Scheier, Miller, Schulz, & Carver (2003) developed a Goal Adjustment Scale to investigate self-report measures of goal disengagement and re-engagement. Their scale measured items such as "I find it difficult to stop trying to achieve the goal" (disengagement item) and "I seek other meaningful goals" (re-engagement item). In a six-year longitudinal study by Dunne, Wrosch, and Miller (2011) depressive symptoms were more closely associated with the disengagement than the re-engagement scale. The authors found that after controlling for initial levels of depression, problematic disengagement measured at baseline better predicted depressive symptoms at follow-up. However, O'Connor and colleagues (2009) found the re-engagement scale correlated more strongly with depressive symptoms, in patients who had had a recent suicidal episode. In their study, low re-engagement scores predicted persistence in suicidal symptoms 10 weeks after a suicidal episode. Although findings regarding goal-disengagement versus re-engagement have varied, research has consistently found an association between depressive symptoms and painful engagement with goals.

How Goals Link to Anxiety

Impaired goal processing has also been observed in sufferers of anxiety. Generalised Anxiety Disorder is characterised by chronic worry about varying problems and circumstances. The symptoms include feeling irritable, restlessness or on edge, being easily fatigued, having difficulty concentrating, and experiencing muscle tension (as per the DSM-5, American Psychiatric Association, 2013). Theoretical accounts by Kendall and Chansky (1991) suggest that anxious individuals engage in automatic, internal dialogues that take the form of 'what if' type questions. This 'catastrophising' is thought to occur when worriers persistently iterate the problematic features of their worry topic (Startup & Davey, 2001). Catastrophising links to goals as the preoccupation with failing, reduces the well-being benefit of goal-pursuit (Kraaij, Garnefski, Schroevers, Weijmer & Helmerhorst, 2010). The literature also suggests that anxiety is linked with a tendency to catastrophise about the consequence of goal failure (e.g. 'how can I possibly cope if I do not get this promotion'). Moreover, efforts to avoid negative consequences often increase the likelihood of these negative outcomes occurring. Still, goal-setting has been found to reduce the 'intolerance of uncertainty' in anxious individuals. The evidence supporting these claims will be discussed in the following section.

i. Anticipating More Negative Consequences as a Result of Goal Failure

Dickson (2006) predicted that catastrophising might engender an increased number of self-generated negative consequence steps in response to goal non-attainment. Based

on theoretical accounts by Andersen, Spielman and Bargh (1992) it was also predicted this would be in a relatively automatic and effortless manner. A student sample was recruited and asked to describe their idiographic goals. Participants then described their goal consequences, one consequence step at a time (using an adaption of Vasey and Borkovec's (1992) 'what if' questioning procedure). This was completed in response to goal attainment and goal non-attainment, respectively. As expected, anxious individuals, relative to non-anxious individuals, gave more negative consequence steps in response to goal non-attainment. These findings supported the notion that anxiety is associated with a greater preoccupation of goal-failure.

ii. Avoiding Negative Experiences and Reduced Goal Efficacy

It has also been proposed that sufferers of anxiety are more likely to set goals to avoid embarrassing or painful experiences, which can have a detrimental effect on goal success. A series of studies by Darnon and colleagues (2007) found that the desire to avoid performing more poorly than others, consistently showed deleterious effects on goal performance. Rodebaugh (2007) investigated this effect in more depth; 120 speech anxious participants were asked to generate their most important prevention and promotion goals for a public speaking task. Participants were given a two minute preparation period, which was thought to be long enough for most participants to complete their speech, but short enough to provoke anxiety (Rodebaugh & Chambless, 2002). Participants then delivered their speech in a room with a prominent video

camera. Research assistants observed their speeches and rated how anxious the participants appeared delivering their presentations. The results demonstrated that participants who focused on prevention goals (e.g. 'avoiding appearing nervous') appeared to be more anxious and less skilled on the observers' measure. Conversely, confident participants who focused on 'promotion goals' (e.g. 'delivering a good speech') were able to perform better and appeared more relaxed to the observers. Rodebaugh therefore concluded that anxious individuals' tendency to focus on avoiding negative outcomes, in fact increases the likelihood of these feared outcomes happening. Although this causal link was made, this conclusion was unsubstantiated as the direction of the relationship could not be determined from Rodebaugh's results.

This being said, the negative consequences of prevention goals are also found in cognitive-behavioral accounts of anxiety. Rapee and Heimberg (1997) have suggested that people who are concerned that they will make a bad impression often do. For instance individuals who try not to appear red, hot and nervous, often show visible signs of anxiety due to the effort required to suppress these bodily responses. Additionally, the attempt to avoid appearing anxious through the use of safety behaviors often maintains anxiety (Clark & Wells, 1995).

iii. Intolerance of Uncertainty

Fortunately, it is thought that goals can reduce anxiety. Lang and Heckhausen (2001)

proposed that planning for the future reduces intolerance of uncertainty by enhancing a person's sense of agency and autonomy. Intolerance of uncertainty has been defined as the tendency to excessively fear that a negative event may occur, however small the probability of its occurrence (Dugas, Gosselin, & Ladouceur, 2001). Intolerance of uncertainty is considered to be an important factor in understanding the aetiology and maintenance of anxiety (Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994). Sufferers of anxiety find many aspects of life intolerable given that life is filled with ambiguity and uncertainty. However, pursuing goals can make life more tolerable, especially when these goals are believed likely to happen or fulfill intrinsic values (Sheldon & Kasser, 1998; Sheldon & Elliot 1999; Sheldon & Houser-Marko, 2001; Sheldon & Hoon, 2013).

Prenda and Lachman (2001) examined the correlates of self-reported future planning with perceived control and life satisfaction. This study had two aims: first, to examine antecedents of self-reported planning styles, and second, to explore the relationship between planning, perceived control, and life satisfaction. Their two samples consisted of over 3,000 adult participants. The results indicated that greater future planning was related to improved life satisfaction and lower neuroticism. Moreover, control beliefs mediated the effects of planning, suggesting that planning for the future facilitated a sense of perceived control, which enhanced life satisfaction.

How Goals Link with Well-Being

There are multiple other mechanisms by which goals enhance well-being. It is thought that goals organise and motivate engagement in tasks. This engagement guides behaviour and provides reasons for that action. This meaningful activity gives individuals a sense of purpose in life and optimism, which in turn fuels further goal-directed behaviour (Pomerantz, & Oishi, 2000; Cantor & Sanderson, 1999). Although the link between well-being and goals has been increasingly studied, the definition of well-being is 'not homogeneous, meticulously organized, or theoretically unified' (Lent, 2004 p. 482). Therefore the following section will define well-being and look at why theorists believe goals to be so important for happiness. It will then discuss how Telic, Activity and Self-Regulation Theory explain the well-being benefit derived from goal pursuit. Finally, the following section will report why all goals do not enhance well-being and explains the importance of setting intrinsically meaningful goals.

i. Defining Well-being

Since the early philosophical discussions of well-being, it has been conceptualised from two distinct perspectives, the hedonic (which emphasises pleasure) and the eudaimonic (which emphasises meaning in life) (Ryan & Deci, 2001). In the hedonic view, well-being is a matter of happiness, 'feeling good' experiencing pleasure and avoiding pain (Kahneman & Riis, 2005). Hedonic approaches emphasise pleasures of the mind and body, as indicated primarily by momentary experiences of positive affect (Diener, Suh,

Lucas, & Smith, 1999). However, Diener and Seligman (2002) observed that individuals who do not report subjectively high levels of well-being, do not necessarily have reduced levels of self-rated life satisfaction, indicating that there may be separate constructs contributing to overall well-being.

The present study focused on the multi-dimensional conceptualisation of Psychological Well-Being (PWB), as defined by Ryff (1989). Ryff's model describes well-being as a process of engaging in life and its different factors, including intellectual, social, and emotional factors. Ryff and Keyes (1995) devised a scientifically usable scale consisting of six PWB dimensions:

- **Self-Acceptance** (holding a positive attitude towards oneself, acknowledging the presence of good and bad qualities in the self and being able to positively evaluate one's past self).

- **Environmental Mastery** (the ability to manage one's life; personal growth - being open to new experiences and being able to choose and create environments that meet one's specific needs).

- **Purpose of Life** (believing that one's life is meaningful, having goals, intentions and a sense of direction).

- **Autonomy** (independence and self-determination, being able to evaluate oneself according to personal standards and not look to others for approval).

- **Positive Relations with Other** (having satisfying, warm and trusting interactions

with other people and being able to display empathy affection and intimacy in relationships).

- **Personal Growth** (being open to new experiences and considering the self as growing and expanding over time).

Ryff's multi-dimensional formulation of PWB has been widely adopted and validated by research (Van Dierendonck, 2004; Schutte, Wissing & Khumalo, 2013). The Scale was originally validated on a sample of well-educated, high socio-economic status individuals (Ryff, 1989). Since then, it has been extensively used with a number of different populations and in various studies of mental health difficulties (Nierenberg et al., 2010).

Ryff's conceptualisation of PWB incorporates ideas of goal pursuit and attainment. In Ryff's scale a high scoring item on the 'purpose in life' dimension is: '*I enjoy making plans for the future and enjoy making them a reality*' (Ryff, (1989, p.1072). Additionally, a key feature of well-being as defined by Ryff is "*the unique striving towards excellence based on the individual's distinct potential*" (Ryff & Singer, 2008, p.14). This definition takes into account that self-fulfillment and realisation are key features of an individual's growth and fulfillment. Recent research suggests that the pursuit of goals are inextricably linked to well-being (Diener, Suh, Lucas, & Smith, 1999; Ryan & Deci, 2001). The authors suggest this is because the process of progressing towards an outcome gives meaning to life and accomplishing this objective gives rise to positive affect.

Although, the evidence supporting this causal conclusion is sparse, a wealth of research has examined the link between goals and well-being.

ii. Telic and Activity Theories

'Telic' theories suggest that well-being is enhanced when a person successfully obtains a goal, and impaired when a person fails to reach their goal (Diener, 1984). It is thought that accomplishing a goal creates a sense of pride, efficacy and attainment, especially after having worked hard to achieve the goal (Schmuck & Sheldon, 2001). Successful pursuits may be defined in terms of adequate progress towards the target end-state (Carver & Scheier, 1990) or in terms of accomplishing the final goal (Gollwitzer, 1999). In contrast 'Activity' theories posit that well-being is derived from a sense of progressing towards a goal, rather than fulfilling the goal. According to authors such as Palys and Little (1983), pursuing a goal that involves conscious effort is fundamental to well-being. It has been proposed that there are eudaimonic benefits to active goal pursuit in terms of acquiring new skills, cultivating flow experience and offering life structure (Cantor, 1990).

iii. Self-Regulation Theory

Carver and Scheier (1990) have proposed that active goal pursuit is more closely related to well-being. This is because attaining a goal can in fact reduce subjective well-being. Carver and Scheier argued that accomplishing a goal can lead to a feeling of desolation if

it does not open the possibility of another goal being set. Therefore, according to their

Self-Regulation Theory, a sense of progressing towards a goal is the key determinant of

well-being. Carver and Scheier (1990) observed that individuals constantly self-regulate

and assess where they are in relation to their goal. They also monitor the rate of

progress towards the goal. Positive affect is induced when the rate of progress is

perceived to be good, whereas poor progress results in negative affect. Oatley and

Johnson-Laird (1987) published a similar model, where positive emotions indicate to the

individual that goals are going well and that behaviour should continue in the same way.

Negative emotions, on the other hand, indicate problems with goal progress and signal

to the individual that behaviours must change or that the goal must be reappraised.

Based on this model goal progress is linked with subjective well-being as individuals

derive a sense of satisfaction from accomplishing each step towards the goal or from a

sense that the goal is becoming closer and more likely to be realised.

Recent research has supported these models. Klug and Maier (2015) completed a meta-

analysis of 85 studies examining over 20,000 participants. As expected, well-being was

significantly associated with accomplishing goals, but the findings showed subjective

well-being was more closely linked to a sense of progress than goal-accomplishment.

The conclusion that goal progress is more closely linked with well-being seems

reasonable as many goals are long-term and determination to achieve them would be

difficult if there was little reward during the pursuit process (MacLeod, in press).

Approach and Avoidance Goals

It seems possible, and even plausible, that certain goals are more beneficial to our emotional well-being than others (Tamir & Diener, 2008; Heimpel, Elliot & Wood, 2006; Elliot, Gable & Mapes, 2006). Self-Regulation Theory also asserts that human behaviour is primarily driven by two semi-independent affect-related systems (Carver & Scheier, 2004). One system involves the approach of positive goals. 'Approach Goals' are generally defined as moving towards a positive outcome. They facilitate growth, flourishing and personal enhancement (Elliot & Sheldon, 1997). Drawing closer to approach goals enhances positive affect especially when progress is made at a satisfactory rate. Higgins (1997) has identified this system as 'Promotion Regulatory Focus'.

'Avoidance Goals' on the other hand, relate to preventing undesirable outcomes, survival and avoiding unnecessary risks (Lauriola & Levin, 2001). According to Carver and Scheier (1990), as individuals perceive themselves to be moving towards a feared outcome they will become increasingly fearful and more compelled to avoid the outcome. Higgins (2000) identified this increased avoidance effect as being a 'complementary prevention regulatory focus'. In recent years the psychological effects of pursuing approach and avoidance goals have been examined. The process of striving towards meaningful approach goals is thought to be an important aspect that facilitates psychological growth and reduces dysphoria (Sheldon, Kasser, Smith, & Share, 2002).

Although, both approach and avoidance goals are necessary for successful adaptation, theorists have hypothesised that approach goals are positively related to emotional well-being. Early research from Coats, Janoff-Bulman and Alpert (1996) supported this idea. The authors presented participants with tasks, framed in terms of either approach or avoidance goals. The results showed that participants who reported more approach goals evaluated themselves more positively in terms of self-esteem optimism and psychological well-being, whereas individuals who stated more avoidance goals evaluated themselves more negatively on these measures.

To further examine the effects of approach and avoidance goals on well-being, Elliot and Sheldon (1997) devised a self-report Achievement Goals Questionnaire to assess participants' achievement-relevant goals. Elliot and Sheldon concluded that the motivation to avoid failure was an antecedent of avoidance goal pursuit and that avoidance orientation had detrimental consequences on achievement of goals and overall well-being. Although causal conclusions were made, these may not have been warranted. Nevertheless, the research suggested that approach and avoidance goal-orientations were primarily related to motivation.

Goal Motivation Systems

Increasing numbers of studies have shed light on the motivational systems behind goal-orientation and reported links to anxiety and depression. Motivation has been defined

by Vegara and Roberts (2011) as 'the energizing force that directs behaviour' (p. 1282); and can be divided into approach motivation (directed by the incentive of reward) and avoidance motivation (directed by avoidance of undesired outcomes) (Elliot & Thrash, 2002). This distinction maps well onto traditional motivational accounts.

Gray's (1982) neuropsychological model of motivation posits that appetitive and aversive motivational systems underlie goal-orientation (see also Carver & White, 1994; Gray & McNaughton, 2000). These two fundamental systems that drive behaviour have been named the: 'Behavioural Activation System' (BAS) and the 'Behavioural Inhibition System' (BIS). The BAS is believed to regulate reward and positive experiences. It is responsible for feelings of happiness, hope and elation. Conversely, the BIS is thought to regulate punishment and negative experiences. Therefore it is responsible for feelings of fear, sadness and anxiety.

Fowles (1984) applied Gray's model to the motivational systems of depression and anxiety and observed that both disorders were characterised by high BIS; and depression was also characterised by reduced BAS. Depression is distinguished by a heightened anticipation of future negative events and a reduced anticipation of future positive events (Abramson, Metalsky, & Alloy, 1989). This leads to withdrawal and reduced engagement in pleasurable activities (linked to reduced BAS); and increased avoidance of aversive experiences (linked to increased BIS). On the other hand, a

predominant feature in the aetiology and maintenance of anxiety is a selective attention

for threat relevant information (Mathews & MacLeod 1994). Individuals with anxiety,

have a tendency to exaggerate the probability and intensity of potential future threats

(linked to increased BIS). Increased fear impacts the goals that anxious people choose

which tend to be more conservative and risk averse (Kendall & Chansky, 1991).

Neurobiological findings

Gray's concepts of the reward driven BAS and punishment driven BIS motivational

systems may also relate to distinct neurobiological systems. Recent advances in the

spatio-temporal resolution of functional magnetic resonance imaging (FMRI) have

allowed researchers to see changes in neural activity in greater detail than before

(Grosenick, Greer, & Knutson, 2008). Brain regions associated with approach goal

oriented behaviour such as the left prefrontal cortex have been shown to be hypoactive

in depression (Davidson, Pizagalli, Nitschke and Putman, 2002; Davidson, 1998).

Moreover, Heller and colleagues (2009) showed that deficits in these regions may lead

to specific problems with maintaining positive affect over time, therefore reducing

depressed individuals' ability to successfully engage with their goals. It is also believed

that patients suffering from depression have a pessimistic impact bias, which reduces

the likelihood they will approach a rewarding stimulus and derive benefits (MacLeod &

Salaminiou, 2001; Strunk, Lopez & DeRubeis, 2006). This postulation has been

supported in neuroimaging studies of depressed participants who exhibit reduced

anticipatory activation in their reward-based circuitry; specifically in the nucleus accumbens, which is linked to pleasure (Greer, Trujillo, Glover & Knutson, 2014).

A different brain region appears to be activated when the BIS system is triggered. Knutson and Greer (2008) examined the emotional states that people experienced whilst anticipating monetary incentives. Using the FMRI scan Knutson and Greer observed changes in the activation of specific brain circuits. They discovered that the anterior insula activation increased during loss anticipation and correlated with self-reported negative arousal. Additionally, the anterior insula activation preceded the rejection of overpriced products and the choice of low-risk gambles. Together, these findings support a neurally plausible framework for understanding the BIS and BAS.

Previous Studies and their Limitations

Whilst theory predicts approach system deficits in people with depression and increased avoidance systems in those with depression and anxiety, evidence has not consistently shown this effect. Additionally, the existing neurobiological literature has failed to adequately explain how depressive and anxious states are maintained through goal-avoidance (Strauman, 2002).

In light of this, Dickson and MacLeod (2004a; 2004b; 2006) conducted a series of studies examining the types of goals that people set. School samples of adolescents

were categorised into one of four groups (depressed, anxious, mixed depressed and anxious and healthy controls who were neither anxious nor depressed). Dickson and MacLeod asked participants to generate approach goals (by completing this phrase: *'in the future, it will be important for me to. . .'*) and asked them to write avoidance goals (by completing this phrase: *'in the future, it will be important for me to avoid. . .'*). Results from the 2004a and 2004b studies revealed that higher levels of self-reported anxiety correlated with more avoidance goals and plans. Whereas, higher levels of depression were linked with fewer approach goals and plans, but not to more avoidance goals. Similar outcomes were found in Dickson and MacLeod's 2006 study where participants were also asked to describe the most important consequence associated with achieving their goals. Anxiety was associated with measures of avoidance outcomes and depression was linked to deficits in approach outcomes.

However, when Vergara and Roberts (2011) later replicated this study with adults who had previously been depressed, they found a different pattern of results. Previously depressed and never-depressed individuals did not differ on the number of approach goals generated, the degree of goal commitment or the extent of goal planning. However, contrary to Dickson and MacLeod's findings, previously depressed individuals generated more avoidance goals and reported higher activation of the BAS. Vergara and Roberts suggested that perhaps previously

depressed participants were using the BAS system and approach behaviour in the service of avoiding aversive consequences. They stressed that it would be important for future studies to test whether the BAS can in fact serve the function of active avoidance in depression-prone individuals.

At this time, researchers were beginning to examine motivational systems in more depth than before. For instance, Dickson, Moberly and Kinderman (2011) investigated whether clinically depressed participants differed from never-depressed control participants on their number of freely generated approach and avoidance goals. Participants were also asked to rate the likelihood of goal-accomplishment and give reasons why their goals would and would not be achieved. Counter to the previous studies, the depressed group did not differ on number of approach or avoidance goals given. However, compared to controls, depressed individuals gave lower probability judgments for their approach goal outcomes, and higher likelihood judgments for their avoidance goal outcomes. Moreover, although the control-group generated significantly more positive than negative reasons for goal achievement, depressed participants did not. The results indicated that at a deeper level of enquiry group differences became more apparent.

In a later study by Dickson and Moberly (2013) goal orientation was also more discernable when the explanation of goals were examined. In this study, clinically

depressed participants and controls generated idiographic approach and avoidance goals. Participants then gave causal explanations why these goals would and would not be achieved. The results illustrated that depressed individuals did not significantly differ in goal-orientation at a surface level. However, compared to controls, depressed individuals generated less specific approach but not avoidance goals. Additionally, the depressed group gave fewer explanations for approach goal attainment and less specific explanations for goal nonattainment. Again, these findings suggested that reasons for goal pursuit must be analysed to examine self-regulatory systems more reliably.

Underlying Goal Orientation

As the literature expands, researchers have begun to consider different methodologies to understand goal-orientation. Sherratt and MacLeod (2013) argued that previous inconsistent findings might have been due to the fact that the goals generated were not extrapolated from the motivations driving them. Emmons (1989) suggested that there is an important distinction between high-level more abstract goals and lower level motivations. The hierarchical nature of goals explains how goals that appear to be approach driven on the surface may not always match the underlying motivation. For example, an approach goal of 'getting a new job', may have an avoidance motivation ('so that my family will not think I am a failure') or an approach motivation ('so that I can learn new skills'). But earlier studies have

often not been sensitive enough to detect this discrepancy.

Consequently, Sherratt and MacLeod (2013) addressed this key limitation. By delving deeper beneath the surface features of goals and uncovering the *underlying* motivations driving them, they found that what appeared to be an approach goal was not necessarily underpinned by approach motivation. They first elicited approach and avoidance goals from depressed and non-depressed participants and then asked them directly about their underlying motivation for those goals (by requesting that participants list reasons why their goals mattered to them and why they wanted them to happen). The main dependent variable was the subsequent independent coding of those responses as representing approach or avoidance motivation.

In line with previous findings on patient samples, the groups did not differ on the straightforward number of approach and avoidance goals. However, for underlying reasons the depressed group gave significantly more avoidance reasons and fewer approach reasons for approach goals. In the control group just 10% of their reasons underlying approach goals were avoidance-driven, compared with 39% in the depressed group. Using this methodology results showed a significant difference in the proportion of avoidance motivations in the depressed sample compared with controls. Sherratt and MacLeod's (2013) study held clinical implications as it highlighted the importance of greater inquiry into client's underlying motivations for goals.

Nevertheless, Sherratt and MacLeod's study had some limitations. First, it was difficult for the study to disentangle the effects of anxiety from those of depression. This was because (as commonly found) the depressed group also had elevated anxiety scores. The authors suggested it would have been favourable to compare pure depressed and pure anxious groups with a control group in order to attribute the findings exclusively to each disorder. Second, although inferences about well-being could be drawn from the results of this study, the relationship between goal-orientation and the components of well-being were not explored. A final drawback was that the sample size was small and only powered to detect medium to large effect sizes.

Unique Contributions of the Present Study

Sherratt and MacLeod (2013) suggested that future research using different populations and measures would be warranted in order to replicate and extend their findings. Therefore the present study replicated their work using a late adolescent sample. The study also examined whether underlying goal-orientation would correlate with different facets of well-being. Additionally, the present study was unique as it recorded participants' 'Maintenance' reasons for adopting goals. Finally, the present study investigated how closely the adolescents felt personally connected with their goals and compared this with measures of emotional well-being. The added value of these four factors are discussed in the following section.

i. Examination of Adolescents' Goals

The present study replicated Sherratt and MacLeod's (2013) study with 16-18 year olds because it cannot be presumed that the existing adult findings would be generalisable to all age groups. Adolescence is a unique period when successfully pursuing goals and establishing personal identity is of fundamental importance (Nurmi, 1991). This developmental stage represents a time of transition and establishing future directions in life, which makes this period an important one for studying goals. Yet despite the increasing recognition of the value of testing young people, the majority of research in this field has recruited adult samples (Terjensen, Jacofsky, Froh & Digiuseppe, 2004).

The paucity of studies investigating adolescent well-being is particularly striking as the prevalence of depression and depressed mood states rise sharply in late adolescence. Hankin et al.(1998) found that the rates of clinical depression increased six-fold from 3% to 18% between the ages of 15 and 18 years. According to Petersen, Compas, Brooks-Gunn, Stemmler and Grant (1993), the proportion of adolescents reporting depressed mood rises from 25% at age 15 to 40% at age 18. Similarly, Culp, Clyman and Culp (1995) discovered that in a group of secondary school students in the United States, 57% reported some symptoms of depression, 33% had considered suicide and 6% had attempted suicide. More recent research has found that the number of young people with depression has nearly doubled over the past 20 years in the United Kingdom (Nuffield Foundation, 2013; ONS, 2011). Evidence also suggests that comorbidity of

anxiety and depression is relatively high in nonclinical adolescence samples (Green, McGinnity & Meltzer, 2005). Furthermore, Keyes (2006) reported that few 12-18 year olds were 'flourishing' according to the way in which he defined it. However, while these findings are concerning, they fail to go beyond basic statistics and it remains relatively unclear what causes psychological dysfunction in adolescents. Therefore the current study hopes to examine the relationship between personal goal systems and dysphoria in this age group.

ii. Exploration of the Relationship between Goal Orientation and Well-Being

The second novel aspect of the present study was the examination of how goal-orientation relates to distinct aspects of well-being. Motivation is arguably one of the most important building blocks of well-being (Diener, et al., 1999). This is because motivation is linked to the pursuit of self-defining goals that are consistent with core beliefs and values (Ryan & Deci, 2000). Although numerous studies have examined the link between approach and avoidance motivations with depression and anxiety, none to date have analysed the relationship between goal-orientation and Ryff's six dimensions of well-being. The present study used Ryff's scale to measure aspects of PWB, as this represents an unchartered area of inquiry in the field. The total score of the scale was not used for the analysis as Ryff and Keyes (1995) found that PWB scores were a superior fit over six dimensions versus just one. The researchers also argued that one-dimensional indicators of well-being (e.g. positive and negative affect, life satisfaction) often neglect key aspects of positive functioning.

iii. Analysis of Maintenance Reasons

The third unique aspect of the present research was the examination of maintenance reasons. These were reasons for adopting goals that referred to maintaining some existing level of functioning. Maintenance reasons have sometimes been seen as approach orientated, as they aim to preserve positive functioning. However, maintenance reasons have also been viewed as more avoidance orientated, focusing on 'loss prevention' (Penningroth & Scott, 2012). Due to this discrepancy, maintenance has recently been recognised as a separate variable. Two prominent theories of lifespan development, 'Socioemotional Selectivity Theory' (Carstensen, 1992; Fredrickson, 2004) and 'Selection, Optimization, and Compensation Theory' (Baltes & Baltes, 1990; Freund & Baltes, 2000; Baltes, 1997; Baltes, Staudinger & Lindendberger, 1999), suggest that younger individuals should report fewer maintenance reasons as they strive towards obtaining a higher level of functioning. Conversely, older adults are expected to shift towards a maintenance (or loss prevention) orientation as a necessary and adaptive consequence of diminishing capacities that occur with aging.

However, maintenance motives have not been widely testing and findings have been varied. For example, Ebner, Freund and Baltes (2006) found that younger adults were more likely to rate their personal goals as functioning to promote growth or gains whereas older adults were more likely to rate their goals as functioning to maintain performance or prevent loss. In contrast, Ogilvie, Rose, and Heppen (2001) found that

acquiring gains was frequent across all ages and there were no age-related differences in the number of maintenance goals that participants set. In summary, the evidence for increased loss-prevention goals with age has been mixed. As maintenance motivation is an emerging field of research is was deemed to be an important factor for the present study to examine.

iv. Study of Self-Concordance

The fourth and final feature of the present research was the examination of self-concordance and emotional well-being. In Sheldon and Kasser's (1995) seminal paper, they explained how not all goals are truly personal in the sense of being integrated with one's core volitional self. Sheldon and Kasser proposed that autonomous goals which are undertaken with a sense of full willingness and choice are better attained than controlled goals which are driven by internal or external pressures. As a result people derive more well-being benefit from the pursuit of autonomous goals (Sheldon and Kasser, 1998). Subsequent studies have supported this theory. Judge and colleagues (2005) found that when people feel fully volitional in their actions they evidence greater creativity, depth of information processing and task persistence at work. In contrast when people are motivated by external controls, performance is often adversely affected. For example Grolnick, Ryan and Deci (1991) found that the more controlling parents were of their children, the more their children pursued extrinsic goals. The impact of this external pressure negatively predicted children's level of achievement in school and their creative performance.

Although the extent to which personal goals are intrinsically meaningful has been studied, the majority of these publications have examined adults. Therefore the present study was interested in whether self-concordance would also relate to measures of emotional well-being in a late adolescent sample. To measure this, the present study used Sheldon and Elliot's (1998) 'Self-Determination Scale'. The scale delineates and measures 'Autonomy' by combining the extent to which a goal is 'Intrinsic' and 'Identified'. Intrinsically motivated goals are aligned with a person's interests and are assumed to be inherently enjoyable. Moreover, intrinsically motivated goals are often operationally defined in terms of their assistance with self-initiated behaviour. Identified motivation on the other hand involves acting out a sense of personal conviction whether or not the activity is enjoyable. Individuals pursue such goals as they fit with their superordinate values and deep-seated beliefs. This value congruence is thought to ensure that the goal receives sustained investments of personal resources even when little enjoyment is derived from doing so. In short, autonomous goals (including both intrinsic and identified goals) are likely to remain relevant to the individuals as they reflect core values and interests.

At the other end of the spectrum, the Self-Determination Scale measures the extent to which goals are controlled. 'Controlled' motivation is measured by combining the extent to which a goal is 'Extrinsic' and 'Introjected. Extrinsic motivation relates to the extent that an individual strives to obtain an incentive or pay off such as money or approval.

Introjected motivation consists of acting because an individual would feel guilty or anxious if they did not. In this case, people feel compelled to act based on their own internal processes rather than environmental or situational demands. Compared with Autonomous goals, Controlled goals are less likely to be well protected from competing desires and temptations and are more likely to fade with the passage of time.

Studies have begun examining the link between self-concordance of goals and emotional well-being. Winch, Moberly and Dickson (2015) examined the approach and avoidance goals that undergraduates generated. Participants then rated to what extent their goals were self-concordant. Anxious symptoms predicted significant unique variance in introjected motivation for approach and avoidance goals, whereas depressive symptoms predicted significant unique variance in intrinsic regulation for approach (but not avoidance) goals. The findings suggested that anxiety is distinguished by pursuit of goals in order to avoid negative outcomes whereas depression is characterised by reduced enjoyment of approach goal pursuit. The present study aimed to add to the emerging literature regarding self-concordance in young people.

Summary of Present Study

The present study explored how underlying goal-motivation correlates with depression, anxiety and PWB. The study recruited adolescents aged 16 to 18 years. The participants were asked to identify their own idiographic goals using Dickson and MacLeod's (2004a;

2004b) goal generation task. Participants were then re-presented with their two most important approach and avoidance goals and asked to provide their reasons for pursuing each goal, which were coded blind for approach, maintenance or avoidance motivation. The adolescents then selected their most important reasons for adopting these four goals (in order to investigate whether the predicated patterns would still emerge when a different method of quantifying goal-orientation was used). Finally, participants rated the self-concordance of their four most important goals. In the analysis stage, goals, reasons and self-concordance were correlated with the emotional well-being scales. It was hoped that examining the underlying reasons for goal-pursuit would give greater and more valid insights into individuals' motivation-systems.

Hypotheses

Several predictions were made, based on the theory that anxiety reflects heightened BIS activity and that depression involves heightened BIS and reduced BAS activity:

1. There will be little or no overall correlation between the number of initially stated approach or avoidance goals with measures of depression, anxiety and the six dimensions of PWB.

2. When underlying motivations for goals are coded, depressive symptoms will correlate with fewer underlying approach and more underlying avoidance motivations. Anxiety symptoms will correlate with having more underlying

avoidance motivations. The six dimensions of PWB will correlate with more approach and fewer avoidance motivations.

3. When participant's most important reasons for goal-pursuit are analysed, the proportion of approach (versus avoidance) reasons will correlate negatively with depression and anxiety but positively with all six dimensions of PWB.

4. The extent to which goals are self-concordant will correlate negatively with measures of depression and anxiety but positively with the six measures of PWB.

As maintenance reasons for goal-pursuit have not been studied, the present research did not make predictions about how this might relate to depression, anxiety or the six dimensions of PWB.

Chapter 2. Method

Participants

A total of 240 sixth form students were recruited from eight secondary schools across London, Hampshire and Surrey. The schools all possessed different characteristics. Six were independent fee-paying schools and of these, four were single-sex schools. Participants met the inclusion criteria if they were in Year 12 or 13 therefore all participants were between the ages of 16 to 18 years (with a mean age of 16.56 years; and a standard deviation of 0.74 years). The sample consisted of 50 (21.1%) males and 189 (79.9%) females. Further participant demographics are reported in the results section.

Design

A correlational design was used for this study. Goals and motivations were correlated with self-report measures of anxiety, depression and PWB.

Power Calculation

Based on the power calculation of the closest existing research by Sherratt and MacLeod (2013) it was predicted that the present study would find a medium effect size (of 0.3). Consequently, a minimum of 85 participants were required in order to have 80% power for detecting a medium effect size when using a .01 criterion of statistical significance

(Faul, Erdfelder, Lang & Buchner, 2007). However, as it was in fact possible to recruit a sample of 240 participants, the present study was powered 99% for detecting a medium effect size.

Measures

i. Participant Information

Demographic data were captured through a short self-report questionnaire (see Appendix 1 p. 161). Participants provided their age, year group, gender, ethnicity, preferred language and the number of countries they had been educated in.

ii. Patient Health Questionnaire (PHQ-9)

The PHQ-9 (Kroenke, Spitzer, & Williams, 2001) was used to assess participants' symptoms of depression (see Appendix 1 p. 176). The scale is a 9-item self-report questionnaire in which individuals are asked to rate how they have felt over the past two weeks. Each question is scored 0 to 3 (where 0 = not at all, 1 = several days, 2 = more than half the days and 3 = nearly everyday). The total score is calculated by simple addition of the answers for each item with a resulting range of 0 to 27. The nine items reflect the DSM-IV criterion for Major depressive disorder, with an optimum cut-off value of above 9. In addition to making criteria-based diagnoses of depressive disorders, the PHQ-9 is also a reliable and valid measure of depression severity

(Cameron, Crawford, Lawton, & Reid, 2008). PHQ-9 scores of 5-9, 10-14, 15-19 and 20-27 represent mild, moderate, moderately severe, and severe depression, respectively (Cameron, et al., 2008).

In order to assess the construct validity of the PHQ-9, Kroenke and collegues (2001) tested 6,000 patients in 8 primary care clinics and 7 obstetrics-gynecology clinics. Kroenke compared the PHQ-9 against a 20-item Short-Form General Health Survey, self-reported sick days, clinic visits, and symptom-related difficulties. Kroenke also assessed the criterion validity against an independent structured mental health professional interview. The internal reliability of the PHQ-9 was high, in both the PHQ Primary Care Study and in the obstetrics-gynecology sample (with Cronbach's α of 0.89 and 0.86 respectively). Test-retest reliability of the PHQ-9 was also strong with a sensitivity and specificity of 88% for major depression. More recent studies have also found the PHQ-9 to be valid with good psychometric properties (Diez-Quevedo, Rangil, Sanchez-Planell, Kroenke, & Spitzer, 2001; Löwe, Unützer, Callahan, Perkins, & Kroenke, 2004).

Although numerous studies have demonstrated that the PHQ-9 is an effective research tool in adults, fewer studies have examined its performance characteristics when it is administered to adolescents. In a recent study by Richardson et al. (2010) the PHQ-9 was completed by 442 young people aged 13–17 years. Criterion validity and performance characteristics were assessed against an independent structured mental

health interview (the Child Diagnostic Interview Schedule). Construct validity was assessed by comparing the PHQ-9 to a self-report measure of functional difficulties and a parental report of child psychosocial impairment. The results showed that PHQ-9 scores of 11 or more had a sensitivity of 89.5% and a specificity of 77.5% for detecting those who met diagnostic criteria for depression. Additionally, greater PHQ-9 scores were significantly correlated with higher levels of functional impairment, as well as parental reports of psychosocial problems. The authors concluded that although the clinical cut-off point was higher among adolescents compared with the adults, the sensitivity and specificity of the PHQ-9 was similar.

The PHQ-9 was chosen for the present study, as it is brief, easy to score and widely used in primary mental health services; additionally the language was deemed easy for the participants to understand. Whilst other scales such as the Hospital Depression and Anxiety Scale (Zigmond & Snaith, 1983) could have been chosen research suggested that the PHQ-9 showed superior reliability as well as convergent and discriminant validity (Cameron, Crawford, Lawton, & Reid, 2008).

iii. Generalised Anxiety Disorder 7 Questionnaire (GAD-7)

The GAD-7 was chosen to assess participant's symptoms of Generalised Anxiety Disorder (GAD) (see Appendix 1 p. 176). This scale is a brief, self-administered measure that was developed in line with DSM-IV criteria for GAD (Spitzer, Kroenke, Williams, &

Löwe, 2006). The items ask the degree to which individuals have been bothered by certain symptoms of anxiety over the past 2 weeks. Symptoms include: 'feeling nervous, anxious or on edge', 'being so restless that it is hard to sit still' and 'becoming easily annoyed or irritable and feeling afraid as if something might happen'. As with the PHQ-9, the scores of the GAD-7 range from 0 (Not at all) to 3 (Nearly every day). Therefore, the total score ranges from 0 to 21. According to the original authors (Spitzer et al., 2006), the clinical cut-offs can be categorised into four severity groups: minimal/no anxiety (0–4), mild (5–9), moderate (10–14), or severe (15–21), with scores of above 7 indicating clinical caseness for GAD.

To measure the validity of this scale, Spitzer and colleagues (2006) recruited a large sample of service-users. The participants' GAD scores were compared with the results of their self-report measure and their structured psychiatric interview (completed by a mental health professional over the telephone). The authors found that the internal consistency of the GAD-7 was excellent (Cronbach α = .92) and test-retest reliability was good (intraclass correlation = 0.83). Subsequent validation studies have found similar results (Williams, & Löwe, 2006; Löwe et al. 2008; Donker, van Straten, Marks, & Cuijpers, 2011, Williams, 2014).

The GAD-7 was chosen for the study as it is based on the diagnostic criteria of anxiety disorder and therefore emerges as a strong predictor of functional impairment (Stein,

2004). Furthermore, the GAD-7 is significantly shorter than many other anxiety measures, yet maintains good sensitivity (89%) and specificity (82%). For example, Ruiz and colleagues (2011) observed a high concordance between the self-administered GAD-7 and the semi-structured Hamilton Anxiety Scale, which contains 14 items. Similarly, the GAD-7 has been compared with other anxiety questionnaires such as the Penn State Worry Questionnaire (PSWQ), which is widely used in the USA. When compared with the PSWQ, the GAD-7 had significantly greater internal consistency (Williams, 2014).

Although Spitzer and colleagues (2006) found that results from the GAD-7 were similar in younger adults, the scale was originally designed for those 18 years and above. Therefore this scale is not commonly used in Child and Adolescent Mental Health Services. Most primary care teams in the United Kingdom administer the Revised Child Anxiety and Depression Scale (RCADS) (Chorpita, Moffett & Gray, 2005). This self-report questionnaire consists of subscales regarding: separation anxiety disorder, social phobia, generalised anxiety disorder, panic disorder, obsessive compulsive disorder and major depressive disorder. The sum of the 5 anxiety subscales yields a Total Anxiety score. Whilst the RCADS has demonstrated good internal consistency (of between a= 78-88) it is very lengthy, consisting of 47 items. Additionally although a shorter 25-item version was considered for the study, there were disproportionality too many questions regarding anxiety compared with depression. Therefore as all participants were over the

age of 16 and perhaps closer to young adults than children, the PHQ-9 and GAD-7 seemed the most appropriate measures for the study.

iv. Ryff's Psychological Well-being (PWB) Scale

In order to measure self-reported psychological well-being, Ryff and Keyes' (1995) PWB Scale was used (see Appendix 1 p. 172). The 42-item scale assesses the six dimensions of well-being with seven positive or negative statements for each dimension. Examples of these statements are listed below in Table 1:

Table 1- *Examples from Ryff's Well-Being Scale*

Dimension	Example of a positively scoring item	Example of a reverse scoring item
Self-Acceptance	In general, I feel confident and positive about myself	In many ways, I feel disappointed about my achievements in life
Positive Relations with Others	I know that I can trust my friends, and they know they can trust me	I often feel lonely because I have few close friends with whom to share my concerns
Autonomy	Being happy with myself is more important than having others approve of me	I tend to worry what other people think of me
Environmental Mastery	I am quite good at managing the many responsibilities of my daily life	I often feel overwhelmed by my responsibilities
Purpose in Life	I enjoy making plans for the future and working to make them a reality	I used to set goals for myself, but that now seems a waste of time
Personal Growth	I have the sense that I have developed a lot as a person over time	I do not enjoy being in new situations that require me to change my old familiar ways of doing things

For each item respondents rate their agreement on a six-point scale from strongly disagree (1) to strongly agree (6). Prior to the data analysis, the scores for the 22 negatively worded items were reversed (see Appendix 2 for further details). Therefore, a score from 7 to 45 was calculated for each dimension, with higher totals signifying higher levels of PWB.

Ryff's multidimensional psychological well-being model was chosen as it represents a widely used instrument to assess positive functioning in both clinical and research settings. The 42-item version has been shown to have sound construct validity with a Cronbach's alpha coefficient for the total scale of $\alpha = 0.90$ (Salami, 2011). It also has adequate internal consistency of subscales with Cronbach's α of: .75 for Autonomy, .82 for Environmental Mastery, .74 for Personal Growth, .76 for Purpose in Life, .81 for Positive Relations with Others and .88 for Self- Acceptance (Van Dierendonck, 2004). The 18-item version was not used due to its psychometric inconsistencies in assessing all six dimensions of PWB (Abbot et al., 2006). The longer 84 and 54-item versions were not used due to research session time constraints.

Whilst previous studies have shown controversial results regarding the latent structure and factorial validity of the model (Burns & Machin, 2009; Abbott, Ploubidis, Huppert, Kuh & Croudace, 2010) Ryff's scale has been used successfully with adolescents. Sirigatti and colleagues (2009) analysed the Italian version of scale by testing 602 adolescents attending secondary schools in Florence. The results confirmed the multidimensionality of the instrument and the substantial validity of the model. The English version of Ryff's scale was also validated in a more recent study, in which Salami (2011) used the measure to examine well-being in secondary school students in Nigeria.

v. Goal generation task

An adaption of Dickson and MacLeod's (2004a; 2004b) goal generation task was used to elicit the students' personal objectives. Participants were asked to list their approach and avoidance goals. They were asked to spend at least one full minute generating as many goals as they could think of. There were 12 lines available for participants to write on per condition (see Appendix 1 p.162).

In the approach condition the participants were asked to list desirable outcomes they were trying to achieve *(e.g., "getting into university" or "getting married").* Respondents were required to complete the sentence "*In the future, it will be important for me to . . . ".* They were also instructed that "*for this type of goal we are interested in things you would perhaps like to do in the future or to happen*". In the avoidance condition the participants were asked to generate undesirable outcomes they were trying to avoid *(e.g., "getting into trouble with the police" "failing exams").* Respondents completed the phrase "*in the future, it will be important to avoid . . . ''.* They were then told that "*for this type of goal we are interested in things you perhaps would not want to end up doing or would not like to happen*". The usefulness of this method of eliciting goals has been assessed in previous research (Dickson & MacLeod, 2004a; 2004b; 2006; Sherratt & MacLeod, 2013).

vi. Underlying Motivation task

Once the adolescents had thought of all their goals, they were asked to choose the two most important goals from each condition. They were then asked to re-write these four goals ready for the following tasks (see Appendix 1 p. 163). To examine the underlying motivation of these four important goals, an adaptation of Sherratt and MacLeod's (2013) task was used (see Appendix 1 p. 164). Participants were instructed to *"Look at goal 1 (from page 5), write down as many reasons as you can think of why this goal matters, that is, why you want this goal to happen".* As with the first task, 12 lines were available for their responses. Once the respondents had generated all of their reasons for their first goal, they were instructed to repeat the process for the subsequent three goals.

Finally, when participants had completed generating reasons for their four goals they were asked to underline the most important reason they had on each page (see Appendix 1 p. 169).

vii. Coding the reasons Participants had for adopting their goals

To analyse the reasons that students had for adopting their goals the researcher consulted the coding scheme used by Sherratt and MacLeod (2013). Subsequently, a selection of the response booklets were reviewed and discussed with the research supervisor who has extensive knowledge in the field of approach and avoidance motivation.

This process gave rise to an initial coding protocol, which ensured that goal-motives were coded correctly and consistently into one of four categories: 'approach', 'avoidance', 'maintenance' or 'un-codable'. The basic premise for an approach reason was to obtain something or gain a positive effect. An avoidance motivation was to avoid something bad from happening or losing something. A maintenance reason was a drive to keep things as they are now. When a statement did not fit the above categories, was unclear or totally illegible it was scored as un-codable. Likewise, if a participant crossed something out it was not classified. On occasions, respondents wrote two-part statements on the same line and in the same phrase. For example one participant's goal was to attend a good university, but she provided two reasons for this goal on the same line: 'to learn new things and not be different from my peers'. In these instances only the first point was scored in order to ensure that all data were captured in the same way. Examples of how responses were classified can be seen below in Table 2.

Table 2- *Coding Scheme Examples For Approach, Avoidance, Maintenance and un-*

Codeable Reasons

Code	Examples from the data
Approach	• To look forward to the day • To be well rounded • To make me / someone else happy/ to make a difference • It would be useful for my future/ for my career • To support myself / my family • To maximise my potential / to be the best I can be/ to prove myself • Because I enjoy it / I love it / I'm passionate about it / it is important to me / I want it/ I think I would like it/ it is my dream • To have people around me/ meet new people / make new friends • So I can learn new things/ gain new experiences • For a challenge/ an adventure/ something positive to do
Avoidance	• To avoid stress/ disappointments/ worry/ unhappiness/ regret • To avoid disappointing my family/ to avoid hurting others • I don't want to end up depressed / alone / unhappy • I don't want to miss out/ be forgotten • I don't want to waste time / opportunities I've had / my life • I want to avoid dying young/ getting ill/ damaging my career • I'm scared of becoming unhealthy
Maintenance	• To keep fit as I am now/ to keep me sane • To stay sociable / happy/ close to my family and friends • For traditions to be continued/ to continue the family lineage
Un-codable	• I feel obligated/ it's part of my life/ it's easier not to… • My dad has depression/ my mother is successful • My dad/ friend dreams of going there • It affects those around you *(and the participant does not specify whether this is for better or worse)* • Because you spend most of your time at work • Drugs are illegal/ Money is not everything • Living away from home *(and the participant does not specify whether this is for better or worse)* • Parents have paid for my education

In order to test the validity and reliability of the coding protocol used, a blind rater was trained how to categorise underlying goal motivation according to criteria. Subsequently, a random sample of 10% of the response booklets (n=24) were chosen and the reasons were coded independently. That is to say that, the inter-rater agreement of each reason for each of the four most important goals was calculated. The agreement between the two raters (on 439 reasons) was excellent (Cohen's Kappa = .928), indicating a very high level of agreement.

viii. Self-Concordance Measure

Self-concordance was assessed using Sheldon and Elliot's (1998) Self-Determination Scale (see Appendix 1 p. 169*)*. Participants were asked to rate the reasons they pursued each of their four most important goals across four dimensions (two approach and two avoidance). The scale included four types of perceived causality for behaviours: External (1. "You strive for this goal because somebody else wants you to, or because the situation seems to compel it"), Introjected (2. "You strive for this goal because you would feel ashamed, guilty or anxious if you didn't"), Identified (3. "You strive for this goal because you really believe that it is an important goal to have") and Intrinsic (4. "You strive for this goal because of the enjoyment or stimulation which this goal provides you"). The items are each rated on a continuum using a 7-point Likert scale where 1 represents *'not at all for this reason'* and 7 represents *'completely for this reason'*.

High scores on the first two items indicated low self-concordance, whereas high scores on the last two items indicated high self-concordance. Overall scores were calculated using the standard procedure. The last two items (measuring identified and intrinsic motivations) were summed and subtracted by the sum of first two items (measuring external and introjected motivations), like so:

(Q3 + Q4) – (Q1 + Q2) = Self-Determination Score

This resulted in a number between -12 and 12 where higher scores indicated greater self-concordance. The measure has been used and validated in previous studies (Winch, Moberly, Dickson, 2015). It has been found to have good internal consistency with a Cronbach's alpha of 0.89 (Sheldon & Kasser, 1995).

Piloting

Prior to visiting the school, the research session was piloted on five young people aged 16 to 18. The pilot study indicated approximately how long it would take for the questionnaires to be completed in a class setting. It was vital that the introduction to the study, the questionnaire completion and debrief all took under an hour so that the study could be completed during a standard lesson time.

The feedback from the adolescents revealed that some of the written instructions were difficult to follow. For example, the group found it challenging to list reasons why they wanted to avoid certain things from happening. As it was not possible to alter the procedure (which had been validated by previous research), standard prompts were prepared, which can be found in the Procedure section. The pilot also illustrated where the wording of the instructions needed to be clearer and more concise. Consequently the researcher used standardised guidelines when introducing and debriefing the participants. The pilot sample was satisfied with the changes that had been made to the test procedure and unanimously agreed that the amended instructions were easily comprehensible for peers of their age.

Recruitment

In the initial phase of recruitment 20 state-schools and sixth-form colleges in London were identified. An invitation letter (see Appendix 3) was sent to the head-teacher, head of year or head of psychology containing information about the study. Schools who expressed an interest were contacted by telephone to discuss the research and two schools agreed to participate. Subsequently 44 independent schools in greater London, Surrey and Hampshire were invited to take part in the same way. Although nine schools agreed to take part only six schools were recruited due to time constraints.

Prior to visiting the schools, teachers informed their students about the research and ensured that the class were willing to participate. Across all eight schools it was agreed that the head teachers would determine if the study could take place. On the day of testing, the researcher met with the relevant staff to discuss the protocol and answer any further questions. At the start of lesson the researcher introduced the study and invited the students to participate.

Procedure

Data were collected between October and December 2015. In the first school the Head of Sixth Form allowed her tutor group to be recruited during form time and in the subsequent schools the study took place during psychology lessons. In all of the schools the class-time was approximately an hour. The data were collected in groups of between six-20 students.

Prior to the session the researcher placed information sheets around the classroom so that participants did not sit too closely together. At the start of the class, participants were introduced to the study, its aims and the procedure. It was made explicit that participation was completely voluntary and that teachers would not have access to their anonymised data. The students were given the opportunity to ask questions and were informed that they could withdraw from the research at any point, without providing a reason. In total three students did not wish to take part and completed class-work

during the allocated time. Participants were then asked to read the information sheet and sign the consent form on the reverse page (see Appendix 4 and 5)*. As the sample were aged 16 years and above they did not require parental consent and had full autonomy to opt in or out of the research.

The assessment booklets were then distributed and the students were told to write their answers without conferring with their peers. Participants recorded their approach and avoidance goals as well as their reasons for pursuing these objectives in these booklets. Throughout the testing period, the researcher would verify that each participant was completing the questionnaire booklet correctly. If it was clear that a participant was not writing and was unsure how to respond to the goal generation task the researcher approached the participant individually and gave a standard prompt. They were told that *'for this task there are no right or wrong answers, your goals can connect to any time in the future and relate to whatever you are striving towards'.* When participants were required to write the reasons they had for adopting their goals, some participants would give extremely brief answers to describe these reasons. Therefore, the researcher gave particular attention to ensuring that all students described their reasons in sufficient detail. If the researcher deemed a participant's responses to be too brief and therefore too ambiguous to be coded (e.g. if the participant listed the words 'fun, good, friends, family') the researcher would ask: *'are you able to provide a little more detail about why this goal is important to you?'* Furthermore, several students

struggled to write reasons for why they were avoiding certain things from happening in the future. If a participant was not writing the experimenter would say: *'why is it important for you to avoid this [goal] from happening in the future'.* Finally, if the researcher observed that an item was missed on one of the emotional well-being scales, participants were prompted with the following statement: *'are you able to provide an answer for this item?'*.

The researcher was also on hand to answer any questions that arose, however care was taken not to suggest goals or reasons for adopting these goals, as this would have affected the responses that participants gave. In order to ensure that participants had time to complete the questionnaire during the allocated time, at regular intervals, the class was told how much time they had remaining. It was thought that strict time-constraints should not be imposed on the young people, as some participants were able read and interpret the information provided more rapidly than others. Moreover, some students wanted to write more for certain sections that others and it was not thought that the examiner should impose restrictions on how long each section should take.

The final page of the booklet thanked participants for their time and they were given a contact email address should they wish to have a summary of the results (see Appendix 1 p. 177). Whilst the completed booklets were collected, the participants were asked how they found the session and if they had any questions. Afterwards the researcher

spoke to the participants as a group to explain the aims of the study and debrief them. The researcher and a member of school-staff remained in the classroom after the session if students wanted to learn more about the study or careers in clinical psychology.

Ethical Approval

The Royal Holloway University of London Ethics Committee reviewed and approved the study in September 2015 (see Appendix 6 for the approval letter). Permission for the study to take place was also granted from senior managers of the participating schools. Additionally, the study was conducted in accordance with the British Psychological Society (BPS) ethical guidelines for the research of non-clinical samples (BPS, 2004).

Chapter 3- Results

This chapter begins with a description of the analytic strategy used and the procedures undertaken for preparing the data before commencing the statistical testing. Details are then provided regarding the process of managing outliers and extreme scores. The internal consistencies of scales are then given. Next, an examination of the normality of distributions is reported, and the transformations undertaken to mitigate skewness and kurtosis are described. The demographic characteristics of the sample are also presented, followed by the inter-correlations between salient variables. Finally, each of the four research areas with their associated hypotheses are outlined and the corresponding statistical analyses are reported.

Analytic strategy

Data were inputted and analysed using the IBM Statistical Package for Social Sciences (SPSS) version 21.0. Of the 240 participants who took part in the study, 199 had complete data sets. The data entry was verified and descriptive statistics were studied which confirmed that all observed data were within expected ranges.

As previously mentioned, the reasons participants' had for adopting their goals were coded as being in one of four categories: Approach, avoidance, maintenance and un-codable. In total, over 4,000 reasons were provided by the sample. 358 (8.4%) of these

reasons were un-codable, that it is to say that they could not be clearly defined as being approach, avoidance or maintenance. Consequently these reasons were removed from the analysis. Additionally as there were only sixty-two (1.5%) maintenance reasons given these were also discounted from the analysis. After coding, the underlying reasons pertaining to the first two goals were summed; and the reasons pertaining to the last two goals were summed. The remainder of this chapter will refer to these composite scores.

For data interpretation, exact p-values are given, unless otherwise stated. Findings have been reported to two decimal places with the exception of percentages, which are reported to one decimal place. Throughout the analyses the following strategies were adopted. All hypothesis testing was two-tailed. Where Levene's Test for homogeneity of variances was found to be significant, t-values where equal variances were not assumed were reported. Where Mauchley's test of sphericity was significant, Huynh-Feldt values were reported. For correlational analyses with multiple correlations, a significance level of $p<.01$ was used to reduce the likelihood of Type I errors (incorrect rejection of a true null hypothesis). A Bonferroni correction was considered to counteract the problem of multiple comparisons. However, given the number of tests undertaken, this would have been too stringent and would have increased the likelihood of Type II errors. In the analysis where a significant correlation of $p>.01$ and $p<.05$ was achieved, it was described as a trend and these results should be treated cautiously.

Data Screening

i. Managing Outliers

The data were screened for outliers. An outlier was defined as being more than three standard deviations from the mean of the target variable (Tabachnik & Fidell, 2007). Any outliers were then Winsorised, that is, they were changed manually to the value of the next highest score plus one unit of measurement. This was balanced by repeating the procedure at the opposite end of the distribution. There were no outliers in the PHQ-9 and GAD-7 scores.

Four of Ryff's Psychological Well-being categories (Environmental Mastery, Self-Acceptance, Purpose in Life and Autonomy) had no outliers. However, two of the scales (Positive Relationships with Others and Personal Growth) had extreme outliers, which were extremely low scores from one participant. These two extreme scores were Winsorised and retained in the dataset. This process prevented a loss of power in the study, and because the sample was large it was unlikely that changing these outliers would have disproportionately influenced the findings (Tabachnick & Fidell, 2007).

ii. Internal consistency

Cronbach's alpha was calculated for the concordance scale (α =.632). This was calculated using the scores of each goals as opposed to the scores of each item. As numbers over 0.7 are deemed to be adequate, the internal consistency of this scale was

just below the acceptable bounds (Streiner, 2003). However, as previous studies have used this measure it was kept in the analysis but viewed with caution. The internal reliability for the depression and anxiety measures were calculated and both scales were in the excellent range (PHQ-9: α = .831 and GAD-7: α = .894). The internal consistency was also calculated for the PWB Scales. Self-acceptance showed the highest internal consistency, whereas Environmental Mastery and Personal growth had the lowest internal consistency. Although these two variables were just below the acceptable bounds (of .70) and therefore had to be viewed with caution, they were kept in the data set as previous research have found these scales to be reliable (see Table 3 for Cronbach alphas).

Table 3- *Cronbach alphas for the internal consistency of the PWB Subscales*

Subscale Category	Cronbach alpha
Positive Relationships with Others	.756
Environmental Mastery	.676
Personal Growth	.673
Self-Acceptance	.818
Purpose in Life	.738
Autonomy	.736

iii. Parametric Data Assumptions

The distributions of all the variables were checked for normality by inspecting the histograms against the normal curve. Standardised *z*-scores for skewness and kurtosis were then calculated for each variable, following the standard procedures as reported by Tabachnick and Fidell (2001). A distribution was considered normal if a z-score for both skewness and kurtosis was less than 2.58 (p > .01) (Field, 2009).

Of the scales used, the self-concordance measure and the 'Most Important Reason' participants had for adopting their goals were normally distributed. However, both the PHQ-9 and GAD-7 were significantly positively skewed (z = 4.03 and z = 4.84 respectively). This suggested that on these scales the majority of participants' scores were in the lower regions. However, the kurtosis levels were within normal limits. Two of the six PWB scales were normally distributed (Autonomy and Environmental Mastery). However the remaining four scales were significantly negatively skewed (Positive Relationships z=-5.45; Personal Growth z=-5.80; Purpose in Life z=-4.38; Self-acceptance z=-3.15). Of the six scales only Personal Growth showed significant kurtosis (z= 4.89).

Regarding the goals that participants wrote about, the number of approach goals generated were normally distributed however the number of avoidance goals were significantly positively skewed (z=4.98). That is to say that the majority of participants' gave fewer avoidance goals. When the underling motivations were examined, the

numbers of approach and avoidance reasons given were positively skewed. Across both conditions participants tended to give few reasons for adopting their goals. Furthermore, with the exception of approach reasons in the approach condition all of the reasons showed significant kurtosis.

For not normally distributed data, Tabachnick & Fidell (2001) suggest that an option for reducing skwedness is variable transformation, undertaken to change the shape of the distribution to more nearly normal. The positively skewed variables (PHQ-9, GAD-7 and underlying reasons) were subject to a square root transformation. This normalised the distribution of these variables, with the exception of approach reasons in the approach condition which remained just outside of the normal limits (z=2.85). The four PWB scales were also transformed (by initially inverting the scale in order to complete the square root transformation, then redressing the inversion). This successfully eliminated the significant skew. However, the 'number of avoidance goals' variable remained problematic. Neither square-root nor log10 transformations were able to reduce the skew and the best value was z=3.48. Although this variable could not be normalised, Tabachnick and Fidell (2001) suggest that for large sample sizes, some departure from normality is more tolerated. Therefore unevenly distributed data on these variables was unlikely to violate the validity of the parametric analyses. For the variables' final z-scores see Appendix 7.

Descriptive data

i. Age and Gender

The sample consisted of 50 (21.1%) males and 189 (79.9%) females (n=239). 141 participants were in year 12 (59%) (or lower sixth form) and 98 (41%) were in year 13 (or upper sixth form). The students were between the ages of 16 to 18 years (mean age = 16.70, SD = .692 years).

ii. Ethnicity

The participants' ethnicities were demographically representative of the UK. The sample was predominantly White British (69.5%), however 12.9% were black, 8.7% were Asian and 2.9% were of mixed heritage. Further details can be seen in Table 4. Within the sample 18 (7.5%) students had English as a second language, however all were proficient in written and spoken English.

Table 4- *Ethnicities of Participants*

Ethnicity	N	Percentage (%)
White **(Including: British White Irish, Other White Background)**	166	69.5
Black Caribbean	16	6.7
Black African	13	5.4
Black Other	2	.8
Indian	6	2.5
Pakistani	6	2.5
Bangladeshi	1	.4
Chinese	8	3.3
Mixed-Race	7	2.9
Other	14	5.9

iii. Depression Scores

The students' depression scores ranged from 0 to 27 (M = 9.02, SD = 5.69). The analysis showed that 86 (43.2%) participants had a score of between 9 and 12, which was in the clinical range for depression (Cameron, et al., 2008). However, if the more stringent cut-off for depression in adolescents was used (of 11, as suggested by Richardson, et al., 2010) then 58 (29%) participants were in the clinical range.

iv. Anxiety Scores

The students' generalised anxiety scores ranged from 0 to 21 (M = 6.89, SD = 5.45). The analysis showed that 72 (36.2%) participants scored above 7, which indicated that their scores were in the clinical range for anxiety (Spitzer et al., 2006).

v. Well-Being Scores

The means and standard deviations for each of the PWB scales were calculated. Overall, Personal Growth and Positive Relations had the highest mean scores (representing greater well-being in these areas), whereas self-acceptance had the lowest mean score. Descriptive statistics for each dimension are shown in Table 5.

Table 5- *Means and Standard Deviations of PWB*

Dimension of Well-being	Mean	Standard deviation
Environmental Mastery	28.10	4.07
Personal Growth	33.17	4.79
Positive Relations	32.29	5.76
Purpose in Life	31.42	5.40
Self-acceptance	27.56	6.69
Environmental Mastery	28.10	4.07

Inter-correlations of Depression, Anxiety and Well-being

Before investigating the main research question regarding the relationship between depression and anxiety with goal motivation it was necessary to examine whether anxiety and depression were themselves related. To test this, a bivariate correlation was performed. Depression scores and generalised anxiety scores were significantly positively correlated ($r(199) = .786$, $p<.001$), indicating that higher levels of depression were associated with higher levels of anxiety.

In order to fully explore the relationship between well-being and goal-orientation, it was also important to establish the inter-correlations among the six dimensions of Ryff's Scale. The results are reported in Table 6. All of the six scales were significantly positively correlated with each other, therefore indicating that high scores in one dimension were likely to yield high scores in the other five dimensions. The strongest correlation was between Environmental Mastery and Self-Acceptance.

Table 6- *Correlations Between the Six Dimensions of PWB*

	Environmental Mastery	Personal Growth	Positive Relations	Purpose in Life	Self-acceptance
Autonomy	.370***	.404***	.184**	.201**	.422***
Environmental Mastery		.421***	.468***	.456***	.683***
Personal Growth			.414***	.525***	.567***
Positive Relations				.394***	.423***
Purpose in Life					.505***

Note: *** Correlation is significant at the 0.001 level.
    ** Correlation is significant at the 0.01 level.
    Pearson Correlation (2-tailed), N=236.

Pearson's correlations were conducted between the PHQ-9 and GAD-7 scores were compared with the PWB scales (the results of this test are reported in table 7). The PHQ-9 scores were significantly negatively correlated with all of the self-reported PWB dimensions. This meant that higher levels of Environmental Mastery, Personal Growth, Purpose in Life, Positive Relations and Self-Acceptance were associated with lower depression. The GAD-7 also showed significant negative correlations with all of the dimensions of self-reported well-being. Therefore, lower anxiety levels were associated with higher self-reported PWB across all six dimensions. Self-acceptance was most strongly correlated with both depression and anxiety.

Table 7- *Correlations between depression and anxiety with the six dimensions of self-*

reported PWB

		Depression Score	Anxiety Score
Autonomy	p	-.278***	-.348***
	Sig.	.000	.000
Environmental Mastery	p	-.603***	-.580***
	Sig.	.000	.000
Personal Growth	p	-.339***	-.323***
	Sig.	.000	.000
Positive Relations	p	-.304***	-.316***
	Sig.	.000	.000
Purpose in Life	p	-.340***	-.309***
	Sig.	.000	.000
Self-acceptance	p	-.599***	-.589***
	Sig.	.000	.000

Note: *** Correlation is significant at the 0.001 level.
Pearson Correlation (2-tailed), N=199.

In summary, the analyses of the inter-correlations revealed that as expected depression and anxiety scores were very highly correlated. This was important to note when interpreting the main findings. The inter-correlations also showed that higher levels of depression and anxiety were significantly associated with lower PWB scores on all dimensions.

Approach and Avoidance goals

Before examining the possible relationship between participant's goals and their emotional well-being, a descriptive analysis of the types of goals generated was

undertaken. This gave a clearer idea of the kinds of events that people were looking forward to or trying to avoid. Overall participants wrote proportionally more approach goals than avoidance goals (see Figure 1). A total of 3,205 goals were generated by the sample.

41%

59%

■ Number of Approach goals- n=1881

■ Number of Avoidance goals- n=1324
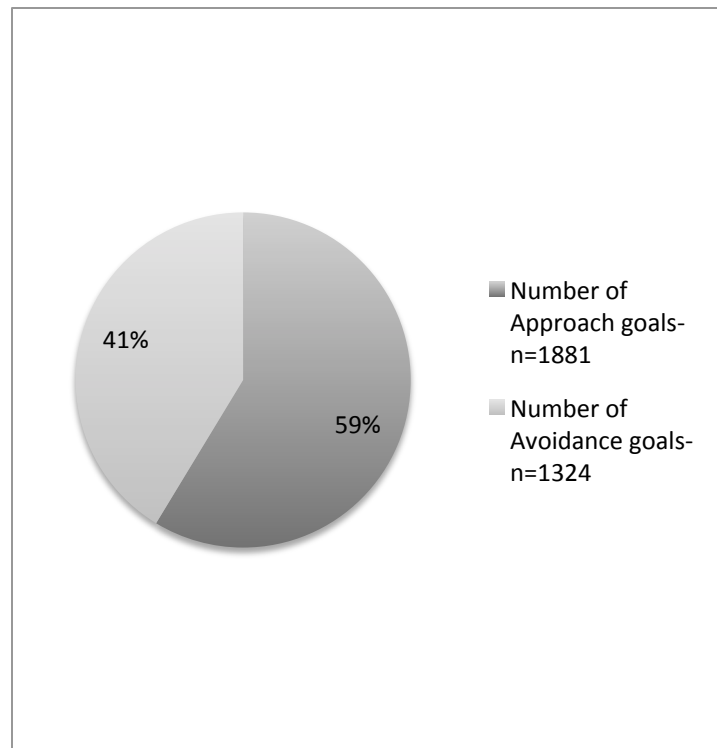
Figure 1- *Proportion of Approach versus Avoidance Goals Generated*

Correlation between Number of Approach and Avoidance goals, with Measures of Emotional Well-Being

The first hypothesis was that there would be little or no negative correlation between depression and the number of approach goals generated and little or no positive correlation between anxiety and the number of avoidance goals generated. The results

showed that depression and number of approach goals were not significantly correlated. Depression and number of avoidance goals were correlated but not at the .01 level. Therefore there was a trend where higher depression scores were linked with more avoidance goals (but this result should be treated with caution). The correlations showed that anxiety and number of approach goals were not significantly correlated. However, in line with previous findings, anxiety scores were positively correlated with the number of avoidance goals generated. See Table 8 for the results.

Table 8- *Bivariate Correlations Between Depression, Anxiety with Number of Approach and Avoidance Goals*

	Depression Score	Anxiety Score
Number of Approach goals	.069	.103
Number of Avoidance goals	.161*	.208**

Note: ** Correlation is significant at the 0.01 level.
    * Correlation is significant at the 0.05 level.
    Pearson Correlation (2-tailed), N=199.

Correlation Between PWB and Number of Goals generated

Although the present study did not make predictions about the relationship between surface-level approach and avoidance goals with the six dimensions of well-being, the correlations between these variables are reported in Table 9. Although the results were not significant at the p<.01 level a trend was observed where participants who scored

higher on measures of Personal Growth, Positive Relations and Purpose in Life generated more approach goals. That is to say that higher PWB scores in these areas were associated with the number of goals that participants were striving towards (but this result should be viewed cautiously).

Table 9- *Relationship Between PWB and Number of Goals generated*

	Number of Avoidance Goals	Number of Approach Goals
Autonomy	.002	.049
Environmental Mastery	.018	.081
Personal Growth	.012	.140*
Positive Relations	.015	.150*
Purpose in Life	.015	.146*
Self-acceptance	-.074	.018

Note: * Correlation is significant at the 0.05 level.
Pearson Correlation (2-tailed), N=199.

Analysis of Participant's underlying Goal-Motivation

On the whole, participants provided an average of five reasons for each of their four most important goals. The frequency and percentages of the types of reasons students gave can be seen in Table 10 & Figure 2.

Table 10- *Number and Percentages of Participants' underlying Goal-Motivations*

	Approach condition		Avoidance condition	
	N	**%**	**N**	**%**
Approach reasons	1895	89	655	39
Avoidance reasons	239	11	1030	61
Total number	2134		1685	
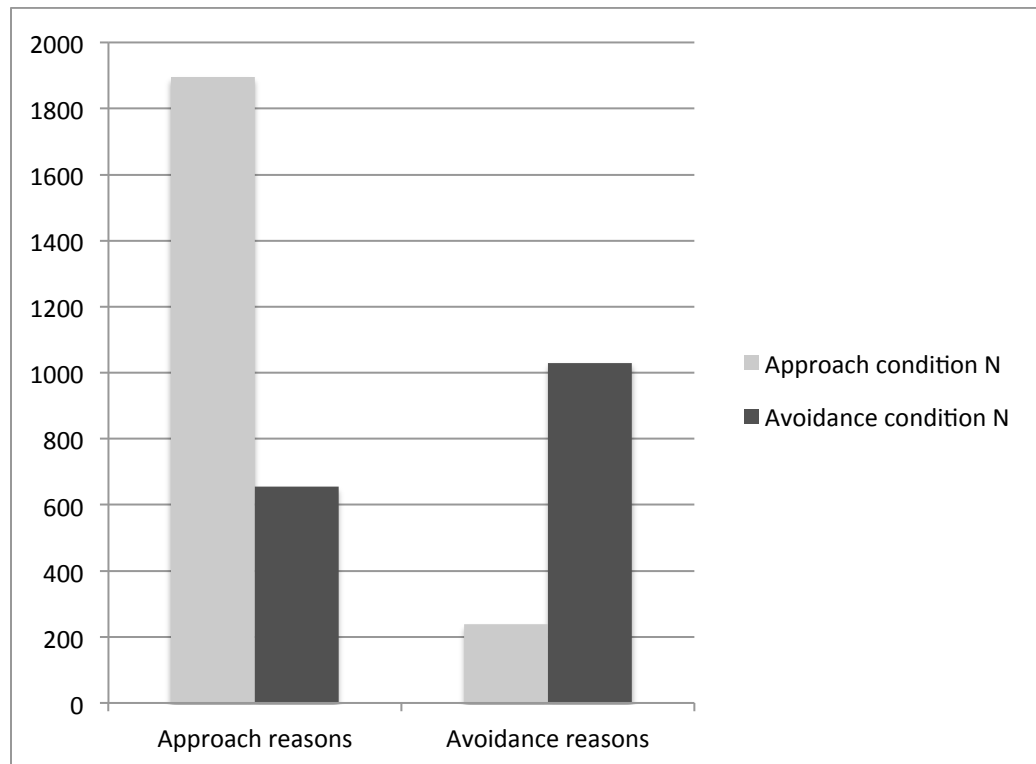
Figure 2- *Participant's underlying Goal-Motivations*

The analysis showed that in the approach condition (i.e. when participants explained why they were striving towards their two most important goals), students provided eight times more approach reasons than avoidance reasons. Conversely, in the avoidance condition (where participants explained why they were avoiding certain things from happening in the future) considerably more avoidance reasons were given than approach reasons.

Relationship Between Underlying Goal-Motivation and Emotional Well-Being

The central research question of the study was whether there was a significant relationship between the *underlying* reasons individuals had for pursuing their goals and their emotional well-being. Based on the existing literature it was hypothesised that depression would be correlated with more avoidance and fewer approach motives, anxiety would be correlated with more avoidance motives and PWB scores were expected to correlate with more approach and fewer avoidance motives.

i. How Underlying Goal-Motivation Related to Depression and Anxiety

The relationship between depression and the number of approach goals generated was investigated using bivariate correlations. The results are presented in Table 11.

Table 11- *Bivariate Correlations Between Depression, Anxiety and the Number of Underlying Approach and Avoidance Reasons Given*

	Approach Condition		Avoidance Condition	
	Approach Reasons	Avoidance Reasons	Approach Reasons	Avoidance Reasons
Depression	.156*	0.008	-0.125	.173*
Anxiety	0.102	0.102	-.174*	.203**

Note: ** Correlation is significant at the 0.01 level.

     * Correlation is significant at the 0.05 level.

     Pearson Correlation (2-tailed), N=199.

The first hypothesis that increased depression would be negatively correlated with approach reasons was not supported. In both the approach goal conditions, and in the avoidance goal condition the results were non-significant at the required $p<.01$ level. However, an unexpected trend was observed where increased depression was associated with more approach reasons in the approach condition. Still, as this result was only significant at the $p<.05$ level it should be treated with caution. It was also predicted that depression would be positively correlated with number of avoidance goals. Although not adequately significant for the study, depression was positively associated with number of underlying avoidance reasons for avoidance goals.

To test the second part of the hypothesis that there would be a significant positive correlation between anxiety and the number of avoidance reasons generated, the same bivariate correlations were run. The results partially supported the hypothesis. In the avoidance condition there was a significant correlation between anxiety and the number of avoidance goals given. In other words, when participants were asked why they wanted to avoid certain things happening in the future, those who were more anxious described significantly more avoidance reasons. However, this was not true in the approach condition.

Although not significant at the necessary $p<.01$ level, one unexpected finding was that participants who were more anxious also generated significantly fewer approach

reasons in the avoidance condition. That is, more anxious participants gave fewer positive reasons for avoiding certain goals (see Table 11 for full details).

ii. Unique contribution of Depression and Anxiety

As depression and anxiety were significantly correlated, a regression analysis was conducted to determine the unique contributions of PHQ-9 and GAD-7 on underlying goal motivations. This test helped determine whether depression or anxiety scores predicted the number of avoidance reasons participants gave in the avoidance condition (which had both shown a correlation with this variable). A standard multiple regression was performed with number of avoidance reasons (in the avoidance-goal condition) as the dependent variable and depression and anxiety as the independent variables. These independent variables accounted for a significant amount of variance in the number of avoidance reasons stated (R^2 = .042, adjusted R^2 = .032; F(2,194) = 4.213, p =.016). However, this was not significant at the p<.01 level. Furthermore the partial regression coefficients showed that depression scores did not have a significant unique contribution to number of avoidance reasons in the avoidance condition (B = .029, Beta = .037, t(194) = .323, p = 747). Similarly, anxiety scores also did not show a significant unique contribution (B = 124, Beta = .174, t(194) = 1.532, p = .127) most likely due to their degree of overlap.

iii. How Underlying Goal-Motivation Related to Well-being

As no previous studies have examined the relationship between well-being and goal

motivation, this was an exploratory analysis. Bivariate correlations were carried out

between all 6 dimensions of PWB, the results are displayed in Table 12.

Table 12- *Bivariate Correlations Between the 6-Dimensions of Well-Being and Number of Approach and Avoidance Reasons Given*

	Approach Condition		Avoidance Condition	
	Approach Reasons	Avoidance Reasons	Approach Reasons	Avoidance Reasons
Autonomy	0.105	-0.07	-0.094	-0.028
Environmental Mastery	0.011	-0.014	.145*	-0.051
Personal Growth	0.063	-0.037	0.022	-0.07
Positive Relations	0.076	0.049	0.081	0.013
Purpose in Life	0.048	-0.028	0.043	-0.044
Self-acceptance	-0.068	-0.014	0.079	-.175**

Note: ** Correlation is significant at the 0.01 level.

      * Correlation is significant at the 0.05 level.

      Pearson Correlation (2-tailed), N=236.

The results indicated that those with greater Self Acceptance provided fewer avoidance reasons in the avoidance condition. That is to say, there was a significant negative correlation between Self Acceptance and the number of avoidance reasons generated. Additionally a trend (p<.05) was observed whereby greater Environmental Mastery scores were correlated with more approach reasons in the approach condition (however this result should be treated with caution).

Potential Confounding variables

To examine whether participants from different ethnic groups gave different numbers of approach and avoidance goals and different underlying reasons for adopting their goals, an Independent Samples T-test was performed. In order to have sufficient numbers in each group, participants were assigned to either 'White British' or 'Other Ethnic' groups. The results demonstrated that there were no significant differences between the groups on any of the dependent variables. However, at the p<.05 level White participants generated more approach reasons in the approach condition (t(226)=2.36, p=.02). See Table 13 for means and standard deviations.

Table 13- *Mean and Standard Deviations of Goals and Underlying Reasons*

According to Ethnic Groups

	White	Other Ethnic Group
Number of Approach goals	8.13 (2.224)	7.57 (2.780)
Number of Avoidance goals	5.57 (2.145)	5.43 (2.422)
Approach Condition		
Approach Reasons	2.822 (.595)	2.616 (.653)
Avoidance Reasons	.759 (.727)	.668 (.678)
Avoidance Condition		
Approach Reasons	1.519 (.902)	1.21 (.842)
Avoidance Reasons	1.974 (.77)	1.831 (.962)

Note: Mean (Standard Deviation)

It was also important to verify whether there were significant differences according to gender in the number of approach and avoidance goals given and the reasons for adopting goals. Consequently an Independent Samples T-test was performed. The results indicated that there were no significant differences between groups. However, at the $p<.05$ level females generated more avoidance goals (t(236)=2.03, sig=.044) and more approach reasons in the approach condition (t(236)=2.13, sig=.034). See Table 14 for means and standard deviations.

Table 14- *Mean and Standard Deviations of Goals and Underlying Reasons*

According to Gender

	Male	Female
Number of Approach goals	7.64 (2.640)	7.93 (2.392)
Number of Avoidance goals	5.00 (2.157)	5.71 (2.223)
Approach Condition		
Approach Reasons	2.591 (.69)	2.798 (.589)
Avoidance Reasons	.709 (.726)	.726 (.709)
Avoidance Condition		
Approach Reasons	1.194 (1.102)	1.459 (.874)
Avoidance Reasons	1.824 (.978)	1.952 (.789)

Note: Mean (Standard Deviation)

Participant's Most Important Goal-Motivation

Participants were requested to underline the main reason they had for adopting each of their four goals. The most important reason fell into one of four categories (Un-codable, Approach, Avoidance or Maintenance). The numbers of most important reasons in the approach conditions were summed and the same process was repeated in the avoidance condition (the numbers and frequencies are represented in Table 15). Similar to Table 10, in the approach condition more participants chose an approach reason to be most important, whereas in the avoidance condition more participants rated an

avoidance reason to be most important. As with the previous analyses the Un-codable

and Maintenance reasons were removed from the data.

Table 15- *Number and Percentage of Most Important Reasons given*

Most important goal	Approach Condition		Avoidance Condition	
	N	%	N	%
Un-codable	28	6.6	37	8.9
Approach	364	85.2	147	35.5
Avoidance	29	6.8	228	55.1
Maintenance	6	1.4	2	0.5
Total	427	100.0	414	100.0

In order to determine if there was a link between the types of reasons participants

chose and their emotional well-being, bivariate correlations were conducted. In order to

create one score that would represent the degree to which participants' most important

reasons were approach orientated a new variable was computed by adding the number

of approach reasons participants gave and subtracting the number of avoidance reasons

they gave. This resulted in a score of between -4 and 4, where lower scores indicated a

greater proportion of avoidance reasons and higher scores indicated a greater

proportion of approach reasons. The results of this analysis can be seen in Table 16. It

should be noted however that only half of that participants had underlined four reasons,

therefore the following analyses pertains to just 134 participants.

Table 16- *Bivariate Correlations between the Proportion of Most Important Approach*

Reasons and Emotional Well-Being

Measure of Emotional Well-Being	Most Important Reason
Depression score	-.201*
Anxiety score	-.182*
Autonomy	0.088
Environmental Mastery	0.156
Personal Growth	0.153
Positive Relations	0.077
Purpose in Life	0.128
Self-acceptance	.243**

Note: ** Correlation is significant at the 0.01 level.

    * Correlation is significant at the 0.05 level.

    Pearson Correlation (2-tailed), N=134.

Based on existing literature, it was predicted that participants with higher levels of depression would be less likely to choose an approach reason as being their most-important goal motivation. Whilst there was a trend towards a correlation, this did not meet the required significance level for the present study. Therefore, the relationship between depression scores and the proportion of approach reasons chosen as most important could not be clearly established. It was also predicted that participants with higher levels of anxiety would be more likely to choose an avoidance reason to be their most important reason for adopting a goal. The results showed that there was a

negative trend between anxiety and the proportion of approach reasons deemed to be most important. However, this finding should be also be viewed with caution as it was not significant at the p<.01 level.

Although previous research has not examined the relationship between underlying goal orientation and PWB, it was predicted that there would be a significant positive correlation between well-being and the proportion of approach reasons deemed to be most important. The correlations revealed that increased Self-Acceptance was significantly correlated with proportion of most-important approach goals. These findings suggested that Self-Acceptance was more closely related to approach-orientation than the other dimensions of PWB.

Relationship Between Self-Concordance and Mood

The final stage of the data analysis investigated the hypothesis that there would be a significant relationship between self-concordance and measures of emotional well-being. As previously mentioned in the Method chapter, participants rated how intrinsically motivated their four most important goals were. This generated two concordance scores (one for the approach and one for the avoidance conditions). Bivariate correlations were used to examine whether there was a significant relationship between concordance and measures of depression, anxiety and PWB. The results can be seen in Table 17.

Table 17- *Bivariate Correlations between Concordance and Emotional Well-Being*

	Concordance Approach	Concordance Avoidance
Depression	-0.137	-.155*
Anxiety	-.223**	-.205**
Autonomy	.178**	.135*
Environmental Mastery	.262***	.252***
Personal Growth	.328***	.325***
Positive Relations	.179**	.229***
Purpose in Life	.254***	.242***
Self-acceptance	.229***	.246***

Note: *** Correlation is significant at the 0.001 level.

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Pearson Correlation (2-tailed), N=199

The results indicated a negative trend between depression and concordance scores in the avoidance condition, however this did not meet the necessary significance level and should be considered tentatively. The pattern of results was clearer with the anxiety scores. Higher anxiety scores were significantly correlated with lower concordance scores in both the approach and avoidance conditions. In line with the prediction, there was a significant positive correlation between concordance scores and all six dimensions of PWB (see Table 16 for full details). This was true in both the approach and avoidance

conditions. Based on the p-values the strongest relationship was between Personal Growth and self-concordance. That is to say that, higher levels of Personal Growth were associated with higher levels of concordance.

Post Hoc testing

In order to determine if any of the six PWB had a unique and significant contribution to concordance, two regression analyses were conducted (one for the approach condition and one for the avoidance condition). A standard multiple regression was performed with concordance score of approach-goals as the dependent variable and the six PWB scores as the independent variables. These independent variables accounted for a significant amount of variance of the concordance scores (R^2 = .132, adjusted R^2 = .110; $F(6, 229)$ = 5.825, p< .001). Furthermore the partial regression coefficients showed that Personal Growth had a significant unique contribution to concordance score in the approach condition (B = 2.560, Beta = .247, $t(229)$ = 2.965, p = .003), the other dimensions were non-significant.

The regression was repeated using the concordance scores of the avoidance-goals as the dependent variable and the six PWB scores as the independent variables (see Table 18 for full details). As with the previous test, the independent variables accounted for a significant amount of variance in the concordance scores (R^2 = .128, adjusted R^2 = .105; $F(6,226)$ = 5.546, p < .001). As expected, personal growth had a significant unique

contribution to the concordance score in the avoidance condition (B = 2.994, Beta = .240, $t(226)$ = 2.863, p = .005), the other dimensions were non-significant. In summary Personal Growth scores significantly predicted concordance scores and the association between these two variables appeared to be distinct from the other PWB dimensions.

Table 18- *Partial Regression Coefficients of PWB Dimension and Self-Concordance*

PWB Dimension	Self-Concordance Approach Condition		Self-Concordance Avoidance Condition	
	B	p	B	P
Autonomy	.048	.627	-.033	.787
Environmental Mastery	.250	.072	.216	.202
Personal Growth	2.560	.003	2.994	.005
Positive Relations	-.064	.925	.783	.344
Purpose in Life	.848	.275	.546	.562
Self-acceptance	-.704	.431	-.130	.905

Chapter 4: Discussion

The study aimed to examine whether anxious and depressive symptoms were uniquely related to underlying approach and avoidance motives in goal pursuit. The study set out to replicate and extend Sherratt and MacLeod's (2013) research but using a late adolescent sample. The first hypothesis was that depressed participants would tend to give more avoidance and fewer approach goals and anxious participants would give more avoidance goals, but that this effect would be relatively weak at the surface level. The results showed that there was a trend where higher depression scores were linked with more avoidance goals. In line with prediction, anxiety scores were positively correlated with the number of avoidance goals generated (but the effect size was small). The relationship between PWB and goal orientation had previously been unstudied. A positive trend was also observed where Personal growth, Positive Relations and Purpose in Life were all linked with the number of approach goals generated. However, these trends towards a correlation were viewed with caution, as they did not meet the required significance levels for the purposes of this study.

The central hypothesis was, that depression would be correlated with fewer underlying approach and more underlying avoidance goal-motives, whereas anxiety would be correlated with more underlying avoidance motives. The results partially supported the hypothesis. A non-significant trend was observed where depression was associated with

more underlying avoidance reasons for avoidance goals. Depression was not associated with less approach reasons but in fact linked to more approach reasons in the approach condition. With regards to anxiety, there was a significant correlation between anxiety and the number of avoidance goals generated in the avoidance condition. Therefore, although more depressed and anxious participants gave more avoidance reasons in the avoidance condition, the pattern of results was not clearer at the deeper level of the goal-hierarchy. While a novel area of research, it was predicted that PWB scores would correlate with more approach and fewer avoidance motives. The results showed some evidence supporting this hypothesis. There was a significant negative correlation between Self Acceptance and the number of avoidance reasons generated in the avoidance condition. There was also a positive trend between Environmental Mastery and approach reasons in the avoidance condition.

A novel aspect of the present research was the examination of maintenance reasons for adopting goals. Although maintenance reasons did emerge as their own distinct category, there were only 62 (1.5%) reasons given. As this was deemed to be an insufficient number for reliable analysis, these maintenance reasons were discounted from the study.

It was also hypothesised that more depressed and anxious participants would choose a smaller proportion of approach motives to be their most important reason for adopting

their goals. This hypothesis was partially supported, there was a trend towards a negative correlation between anxiety scores and number of approach reasons chosen. Additionally, participants scoring higher on the Personal Acceptance scale chose significantly more approach reasons to be their most important reason for adopting their goals.

Finally, it was hypothesised that greater self-concordance of goals would positively correlate with PWB and correlate negatively with measures of depression and anxiety. Self-concordance of both approach and avoidance goals was strongly correlated with the six dimensions of PWB. Additionally, anxiety was strongly negatively correlated with self-concordance, and a trend towards negative correlation was observed between depression and self-concordance.

Results in the Broader Framework of other Findings and Theories

i. Surface Level Approach and Avoidance Goals

Based on the theoretical view that depression reflects a disruption to BAS activity and increases in BIS activity, it was predicted that depressed individuals might adopt more avoidance and fewer approach goals. Anxiety on the other hand was presumed to reflect heightened BIS activity and therefore it was predicted that anxiety might correlate with an increased numbers of avoidance goals. Although there was not a significant correlation, the results showed that there was a trend where higher

depression scores were linked with more avoidance goals (but not with fewer approach goals). In line with theoretical accounts, anxiety scores were positively correlated with a greater number of avoidance goals generated. The relationship between PWB and goal orientation had previously been unstudied. Although the effects were small and did not meet the required significance level, a positive trend was observed where Personal growth, Positive Relations and Purpose in Life were all linked with more approach goals generated. Whilst this was not significant, the direction of this association between PWB and approach-orientation was as expected.

It was not surprising that the analysis of surface-level goals did not show strong correlations as previous studies have also produced mixed results. Sherratt and MacLeod (2013) did not find strong correlations between emotional well-being and goal-orientation at the surface level. Dickson and colleagues (2011) have argued that this is because individuals with and without emotional disturbance typically have multiple goals, both approach and avoidance-type. What differs however, are the reasons for adopting these goals. For instance, in the present study several students were striving towards getting into a good university. However, their motivations for pursuing these goals differed. Some participants wanted to 'learn new things' and 'meet new people', whereas others were fearful that their 'family would be let down if they did not attend university' or worried that they would be 'judged poorly by their peers'. Therefore, it was likely that goal-orientation was not strongly linked with anxiety and

depression because deeper levels of the goal hierarchy needed to be examined. For this reason, the motives for adopting goals were investigated to uncover individual's biases towards either approach or avoidance strategies for self-regulation.

ii. Underlying Goal-Motivation and Depression

It was expected that at a deeper level of analysis, the patterns predicted by Fowles' neuropsychological model would be more discernable. With regards to depression the predicted patterns were more clearly identified at the underlying level. Higher PHQ-9 scores were significantly correlated with avoidance reasons in the avoidance condition. The increase in avoidance motivation was in keeping with cognitive accounts of depression (e.g. Beck, 1995). Depression is characterised by a preoccupation with cognitions relating to past loss and failure that perhaps facilitate a heightened sensitivity to the possibility of impending negative events. It is thought that greater attachment of avoidance motivation can act as a defense mechanism for protecting against personal failure (MacLeod, in press).

In keeping with Sherratt and MacLeod's (2013) study, it was predicted that depression would correlate with fewer approach reasons. Although not significant at the P<.05 level, the present analysis showed that depression scores were in fact related to increases in approach motivation, which was unexpected and counter to prediction. Based on extant literature, it is thought that the tendency of depressed individuals to generate fewer

approach goals exacerbates the depressive motivational cycle. This ultimately limits opportunities to experience goal-related rewards and pleasure, which are necessary motivational reinforcers. Previous findings have been in keeping with the theoretical view that depression is distinguished by low reward sensitivity and reduced approach orientation (Fowles, 1988, 1994). Research by MacLeod and Cropley (1995) found that diminished anticipation of positive occurrences was more salient than increased anticipation of negative experiences, in the manifestation of depressive hopelessness. MacLeod and Salaminiou (2001) further demonstrated the relationship between negative expectancies and depression. MacLeod and Salaminiou found that participants with depression had a reduced capacity to anticipate pleasure and difficulties accessing the mental representations of such experiences.

It is difficult to explain why an approach-reason decrement was not found amongst the more depressed adolescents. It may be that as depression and anxiety scores were highly inter-correlated, the pattern of results mirrored what would be expected of anxiety. This is very possible as the regression showed that neither anxiety nor depression could uniquely predict goal-orientation making the expected patterns unobservable. According to the literature, anxious individuals are equally motivated to strive for potential rewarding and pleasant goal experiences, but extremely avoidant of negative experiences. Therefore in order to observe motivational differences future studies may need to examine pure depressed and pure anxious groups or participants

with more severe symptoms of depression.

Another explanation for these unforeseen findings was that there might have been a problem with the measurement of depression. The PHQ-9 is not typically used with this age group and therefore its reliability is relatively untested in 16 to 18 year olds. Although the study could be repeated using a more age-appropriate measure for depression, the PHQ-9 does have good internal reliability (Kroenke, Spitzer, & Williams, 2001; Kroenke, & Spitzer, 2002).

iii. Underlying Goal Motivation and Anxiety

It was predicted that more anxious participants would show heightened avoidance goal systems when their reasons for adopting goals were analysed. This hypothesis was partly supported as more anxious participants gave significantly more avoidance reasons for pursuing avoidance goals. The present findings were consistent with Gray (1982) and Fowles' (1988, 1994) theoretical models that suggest anxious individuals experience heightened activation of the BIS, which leads to selective attention for threat-relevant information. This heightened threat attentional bias is seen to be a defining feature in the aetiology and maintenance of anxiety. The present findings can also be explained from a cognitive perspective. Sufferers of anxiety are typically hyper-vigilant towards danger and have heightened anticipation of potentially harmful experiences. Accompanying this attentional bias are clear mental representations of potentially harmful experiences, which augments avoidance orientation and motivation

(Mathews & MacLeod, 1994).

However, it is unclear why significant effects were only found in the avoidance condition. It may be that the avoidance-orientation was more pronounced when participants imagined threat-relevant circumstances (such as homelessness, poverty and illness). Previous studies support this idea that future-oriented cognitions of anxiety are more strongly biased towards pain-prevention than frustrative non-reward cognitions (Barlow, 2000). This proclivity to negative reasoning in response to anticipated goal non-attainment was in line with Higgins' (2000) self-regulatory focus theory. Higgins purported that heightened prevention focus appears to underlie avoidance goals (e.g., ''I must not make a mistake or else I will be fired from my job'') more than approach goals (''I must always appear to be competent or I may be demoted''). Still, as this is only the second study to examine the underlying reasons for goal-pursuit, further examination of this avoidance of adversity is needed.

It was also predicted that heightened anxiety would not be linked to approach-orientation. Counter to prediction there was a negative trend between the number of approach reasons and anxiety in the avoidance condition. Although this trend was not significant (and should therefore be viewed cautiously) it was unforeseen because although anxiety is linked to increased attention to aversive experiences, it is not associated with reduced attention to pleasant and rewarding future experiences. As previously mentioned these findings may be due to the high inter-correlation of the

PHQ-9 and GAD-7; or due to problems with the suitability of the measure with this age-group.

iv. Comparison with Sherratt and MacLeod's (2013) Study

Overall, the present data did not fully reflect Sherratt and MacLeod's (2013) results, they found that depression correlated with less approach and more avoidance reasons for adopting goals. In the present study however, depression was not associated with an approach orientation decrement. This can be explained by a number of reasons. First, the present study used a correlation design with a non-clinical sample. Sherratt and MacLeod (2013) used a between subjects design in which their clinical group were formally diagnosed with depression in psychological services. It is therefore possible that the discrepancy between their control and clinical group would have been more pronounced as the latter may have had elevated levels of depression. In the present study although nearly half of the participants met clinical caseness for depression (according to the measures), they were all functioning reasonably well as they were attending school.

 Second, the Sherratt and MacLeod (2013) study examined adults (between the ages of 20 and 60 years old). The present study recruited 16 to 18 year olds and it cannot be assumed that adolescents pursue the same goals and for the same reasons as adults. As previously mentioned 'Socioemotional Selectivity Theory' and 'Selection, Optimization, and Compensation Theory', purport that younger individuals have a greater future focus

than older adults and should therefore report more gain goals. Conversely, adults are expected to shift towards loss prevention orientation with age in order to adapt to diminishing cognitive and physical abilities (Penningroth & Scott, 2012). Therefore according to life span theories it is unsurprising that the present findings did not replicate those of the previous study, as age may have been an important variable in goal-orientation. Further developmental research is needed to ascertain whether motivational responses vary with age.

Finally, it is possible that the time-constraints placed on participants in the present study (due to their one-hour lesson time) may have restricted the numbers of reasons they were able to provide. Additionally as the participants were not given strict time-periods to complete each section of the questionnaire, they may not have organised their time equally across all of the sections. This is a possible draw-back as during the analysis some participants wrote several reasons for their first two most important approach goals but fewer for their avoidance goals. As a result the quality of the data for the approach condition might be better than in the avoidance condition.

Perhaps more crucially, although the students sat apart from their peers, it is possible that some of them were concerned about being completely truthful in their responses. If students felt their peers could see their responses it may have biased them towards writing more socially desirable or normative statements. This was not a drawback faced

by Sherratt and MacLeod (2013), 21 participants completed the procedure with the researcher present and 38 participants completed their responses in their own time and returned their assessment pack either by post or e-mail. This meant that participants had no time-constraints and could complete their responses in confidence that only the experimenter would see what they had written. This more individualised process of data collection may have yielded more valid responses. Still, the drawback to participants completing their assessments at home was that the experimenter would not have been on hand to answer questions or ensure that the booklets were being completed correctly. In order to more closely replicate Sherratt and MacLeod's study a between subjects design could have been used, recruiting and individually testing CAMHS clients diagnosed with depression and anxiety. This method would more closely replicate Sherratt and MacLeod's (2013) study and therefore any different results from the adolescents would be more attributable to age-related factors.

v. Deeper Level Analysis did not Yield Clearer Results

The present study also differed from Sherratt and MacLeod's (2013) as the present analysis showed that effect sizes of the correlations were similar at the superficial and underlying levels of goal-hierarchy. These equivocal correlations were surprising, as previous studies have shown that goal-orientation becomes clearer when underlying motivations are examined. It is not certain why the present findings did not yield clearer patterns. Perhaps even the more depressed and anxious adolescents were more

focused on gain goals and had more approach reasons than adults may have done. As aforementioned, this is a possibility as life-span theories suggest that late adolescence is an important time for increasing functioning and striving towards self-fulfillment (Penningroth & Scott, 2012). Therefore, age may have been a confounding factor which affected the patterns of results.

Alternatively, it may be that adolescents describe their goals in a way that mirrors their underlying goal orientation. In the series of studies by Dickson and MacLeod (2004a; 2004b, 2006) which recruited adolescents of the same age, goal-orientation was discernable at the surface level of the goal-hierarchy. In order to gain more reliable findings, future research could examine participants' more fundamental reasons and core drivers for adopting goals. By delving further down the hierarchy of motivation, researchers would get a better idea of what drives young people. It may be that surface features of their goals are congruent with profound and intrinsic motivations, or it may be the present method was not sufficient to tap into the participant's self-regulation systems. It would also be important for future studies to examine various age-groups to see if there are age-related differences in the way that individuals describe their goals and motives.

vi. Underlying Motivation and Well-Being Scales

The present study was also interested in whether adolescents scoring highly on

measures of PWB would be more motivated to generate more approach and less avoidance reasons for adopting their goals. Based on the closest existing literature regarding dysphoria, it was predicted that high scores on the PWB scale would be linked to approach-orientations. The results showed that those with greater Self Acceptance provided fewer avoidance reasons in the avoidance condition. Additionally a trend was observed whereby greater Environmental Mastery scores were correlated with more approach reasons in the approach condition (although this was in line with prediction it should be viewed with caution as it did not meet significance).

These findings were in line with Self Regulation Theory (Carver & Scheier, 1990). The theory predicts that the pursuit of approach-orientated goals should be more manageable than the pursuit of avoidance goals. This is because the pursuit of approach goals involves constantly monitoring positive outcomes, therefore making positive cognitions (e.g. perceptions of progress and competence) more accessible during goal pursuit. Conversely, the pursuit of avoidance goals requires constant monitoring of negative outcomes, giving rise to negative and punitive thoughts. Over time, the pursuit of approach goals typically maintains positive cognitions, whereas avoidance goals maintain negative cognitions. Additionally according to other cybernetic control models the pursuit of approach goals involves a smaller discrepancy between a current state and a desired state. On the other hand, the pursuit of avoidance goals involves greater discrepancy between a current state and an undesired state. From this conceptual

viewpoint, the pursuit of approach goals should be more adaptive because progress is more tangible and easier to monitor (Elliot, Sheldon, & Church, 1997).

Second, from a cognitive perspective the pursuit of approach goals should also be linked with subjective well-being. Typically if a person is predisposed to expecting success, then approach goal aspirations and approach type plans may be positively reinforced. Conversely, if a person is predisposed to dysphoria, negative feelings give rise to cognitive themes of failure and hopelessness, which undermine and inhibit the generation of approach goals (Elliot & Sheldon, 1998; 1997; Higgins, Roney, Crowe, & Hymes, 1994). Coats, Janoff-Bulman, and Alpert (1996) studied this empirically. They presented participants with tasks, framed in terms of either approach or avoidance goals. Pursuing approach goals was associated with higher perceptions of success and satisfaction compared with the avoidance tasks.

Third, it is thought that approach goal tasks lead to greater perceived progress and efficacy, which in turn, promotes positive affect. Miles, MacLeod and Pote (2004) found that pre-goal attainment relates to well-being over time as not only is goal-progress intrinsically rewarding but it also increases the anticipation of a goal being met. This 'pre-goal attainment positive affect' is thought to be central to motivating behaviour and achieving goals. The researchers suggested that positive affect, which is strongly characterised by anticipatory states such as excitement and vitality increase as goals

become closer.

Although a sense of goal progress is likely to be inherently rewarding and give rise to feelings of satisfaction, the above-mentioned models and studies have not been able to fully explain why only Self-Acceptance correlated with reduced avoidance motivation. One explanation might be that this variable is the most similar to psychological distress and the regression analysis showed that it had a unique contribution to goal orientation. Therefore it is possible that this scale was more sensitive to PWB than the other five scales. It could also be that greater Self-Acceptance reflects greater self-confidence and therefore a reduced inclination to avoid feared outcomes.

The trend towards a positive correlation between Environmental Mastery and approach reasons in the approach condition was expected (although it did not meet the required significance level). Previous studies have suggested that higher levels of perceived resources facilitate the forming and accessibility of approach type mental constructs. For example, Schnelle, Brandstätter and Knopfel (2010) conducted a series of experiments that examined individuals' perceived availability of resources (material, social or personal) and their motivation for adopting a goal. The authors found that the more goal-relevant resources a person felt that they had the more likely they believed their goal would be realised. Schnelle et al. argued that greater resources positively affected participant's attitude towards their goal-pursuit engendering an approach

orientation. Whereas, individuals who did not possess goal-relevant resources where more likely to be avoidance orientated. However, although the authors made a causal argument that goal-relevant resources affect goal-orientation, further research would need to be conducted to assess the validity of their conclusions and to validate the present findings.

Although Self-Acceptance and Environmental Mastery, showed associations with underlying goal-orientation, the correlations with the PWB scales were largely non-significant. This may because Ryff's PWB model was perhaps not a precise measure of subjective well-being. Burns and Machin (2009) examined the validity of the PWB scale, using data from a life events study. They concluded that further development of PWB measures was required to reflect its multi-dimensional nature. Burns and Machin also argued that in its current form, the construct validity of the six dimensions of well-being are inadequate and fail to fully evaluate the nature and impact of PWB. Whilst the present findings should be interpreted with caution Ryff's scale has been well validated by research of adolescent populations and the PWB scale has been cited in hundreds of studies (Salami, 2011).

vii. Most Important Reason

In order to determine if emotional well-being would still correlate with underlying goal-orientation if a different measurement was used, participants were asked to select their

most important reason for pursuing their goal. Although the correlations were not significant at the $p < .01$ level, the direction of the relationships were consistent with predictions. More depressed and anxious individuals showed a tendency towards choosing fewer important approach reasons (and therefore more avoidance reasons) for adopting their goals. Thus, there was some evidence to support the cognitive accounts that claim anxiety and dysphoria lead to a prioritisation for threat-relevant information. Moreover, Self-Acceptance was significantly correlated with more approach important reasons.

The results of these correlations suggest that differing methods and measures of goal-orientation can still yield expected patterns of results. For example Dickson and MacLeod (2004a) examined highly depressed, anxious and mixed (depressed and anxious) adolescents. The study measured participants' idiographic approach and avoidance plans. The adolescents were asked to think of strategies or ways to achieve their goals. The prompts were: "How can I accomplish this [approach goal]?" and "How can I avoid this [avoidance goal]?". Participants were then asked to start each plan step with the words 'by' or 'by not' to elicit approach and avoidance plans. These planned steps were then coded as either approach or avoidance. In line with predictions, the results showed that highly depressed, highly anxious and 'mixed' adolescents generated fewer approach and more avoidance plans and were less specific in forming approach goals and plans than controls.

Similarly when Dickson and MacLeod (2006) investigated individuals' response-variations to consequence steps for goals, the expected patterns also emerged. To examine goal orientation at a deeper level of analysis, Dickson and MacLeod asked participants to think of reasons to explain why their two most important approach and avoidance goals would and would not be achieved. Participants were given a short period to generate as many relevant causal explanations that they could think of. As predicted, dysphoric adolescents perceived more negative consequence steps associated with goal non-attainment (irrespective of goal type) than controls. The findings of both studies along with the present study (which all used different methodologies) indicate that there is a relatively strong interplay between motivational systems and emotional well-being.

viii. Correlation between Self-Concordance and Emotional Well-Being

According to Sheldon and Elliot's (1999) Self-Concordance Theory, those who adopt goals because they enjoy them or value them, show more goal progress and more positive experiences. Conversely, little PWB benefit is derived from goals that are pursued because a person feels obligated to do so (Covington & Müeller, 2001). In line with this notion the results of the present study showed that increased scores in depression and anxiety were associated with reduced ratings of self-concordance (particularly the anxiety scores which were significantly correlated). Therefore more

anxious individuals showed greater endorsement of pursuing their goals because they felt obligated to or the situation demanded it. The results showed an even more pronounced correlation between self-concordance and the six PWB scales. As expected there was a significant positive relationship between participant's PWB and the extent to which they freely chose intrinsically meaningful goals. The post hoc regression analysis also showed that Personal Growth had a significant unique contribution to self-concordance scores.

There are several reasons why making progress towards or even achieving a goal may correlate positively or negatively with emotional well-being. It is thought that extrinsic goals (e.g. related to fame and financial success) can undermine PWB. Deci and Ryan (2000) developed a Self Determination Theory (SDT), to explain why goals need to be intrinsically motivated in order to benefit PWB. SDT proposes that we have three fundamental and underlying needs for, autonomy, competence and relatedness. Intrinsic goals link more closely to these universal needs than do extrinsic goals and therefore enhance our subjective experience of well-being. On the other hand, extrinsic or materialistic goals have limited and even negative effects of PWB as they do not enhance our three fundamental needs.

The SDT has been empirically supported by Bauer and McAdams (2004). The researchers asked participants to list their two main life goals and write a paragraph about the

reasons for having them. These reasons were coded for whether they were intrinsically or extrinsically motivated. As predicted, intrinsic goals were significantly associated with greater self-reported life satisfaction. In a subsequent study by the same authors (in 2010) the researchers coded the participants' reasons for adopting their two major life goals and measured their subjective well-being at that time, and again three years later. The presence of so called 'Socioemotional Growth Communal Goals' (aiming for a deeper experience of others and relationships) were significantly linked with well-being in the initial phase of the study and significantly predicted increases in well-being three years later.

Similarly, Vasalampi, Salmela-Aro, and Nurmi (2009) found empirical evidence for SDT and self-concordance theories. The authors found that having personal goals that were selected for autonomous reasons increased goal-directed effort and thereby increased goal progress. In turn, this goal progress leads to an increase in subjective well-being and adjustment. These ideas also relate to clinical interventions. Sheldon et al. (2010) discovered that a group who were asked to adopt goals that would increase their sense of autonomy, competence and relatedness showed improved well-being, whereas a group who were ask to adopt goals to merely improve their life circumstances did not show increased well-being. The results by Sheldon et al. (2010) support the idea that having and working towards certain goals can enhance levels of well-being.

More recently, Kasser et al. (2014) conducted three longitudinal studies investigating changes in well-being and materialistic goals, with time frames ranging from six months to twelve years. The studies examined the difference between pursuing intrinsic goals (related to affiliation and self-acceptance) and compared with extrinsic goals (regarding financial success, appearance and social recognition). As predicted, the results consistently showed that progressing towards or achieving intrinsic goals was significantly positively related to well-being, whereas the opposite is true when extrinsic goals were pursued (Sheldon & Kasser, 1998). Over time participants who demonstrated endorsement of goals such as 'to be a very wealthy person" showed impaired subjective well-being. Finally, Dittmar and her team (2014) completed a meta-analysis of 151 studies which examined the idea that extrinsic goals relate to reduced well-being. There was clear evidence of an inverse relationship between materialistic goals (r = -.16 to r = -.24) with life satisfaction and positive affect. This was especially true for behavioural measures that were not a direct assessment of well-being (such as excessive consumerism and risky health behaviour). Together, these findings and the present results go some way to explain why pursuing goals that are not self-concordant can negatively impact emotional well-being.

Other findings

i. Link Between Well-Being and Distress

The present data also raised some additional findings of note. Seligman (2012)

suggested that well-being and psychological distress are two separate constructs should not be considered on the same continuum. Whilst this may be true, the results showed that the six dimensions of PWB were all correlated with measures of depression and anxiety. Self-acceptance had the strongest correlation with both measures of distress. According to MacLeod (2013) it is possible that well-being, depression and anxiety were inter-correlated for three main reasons. First, there is a limit to the experience that one can have at any time. If positive experiences are enhanced, this has an inhibitory effect on negative experiences. Second, if people are flourishing past their neutral state, it can increase their long-term resilience against life stressors. Third, depression and anxiety are often chronic and entangled in people's lives. Therefore individuals who are orientated towards maximising their strengths are less impacted by residual or recurrent psychological difficulties.

Studies of clinical populations have also found reduced PWB in those with depression and anxiety. Nierenberg et al. (2010) compared individuals with minor depression to a baseline population norm. Nierenberg found that depression was associated with extremely low levels of Self-Acceptance and Environmental Mastery, reduced Purpose in Life and Positive Relations with Others, but relatively normal Personal Growth and Autonomy. However, in a later study by Edmondson (2012) a slightly different pattern of results was observed. Edmondson examined the PWB scores of participants with depression and discovered that Environmental Mastery was the lowest at three

standard deviations below the population norm. Self-Acceptance was two standard deviations below the norm. Positive Relations with Others, Purpose in Life and Personal Growth were all one standard deviation below the population norm. Similarly to Nierenberg's findings, Autonomy was the closest to the population norm. Thus, the present findings reflect the results of both of these studies, suggesting that Self-Acceptance is most closely negatively correlated with measures of dysphoria. These studies and the data from the present research shed light on how we understand PWB.

ii. Extensive Descriptions of Goals

The present findings also shed light on the goals that young people set, which represented the types of things that characterise adolescent life. Overall, participants were mostly striving towards goals concerning their AS/A-level exams, family relationships and having fun (through travelling or playing sport). In addition, getting a good university education, a good job and a good salary were also commented on frequently. Miscellaneous goals included having increased independence, moving away from home and making parents proud.

In the avoidance goal condition, where respondents were asked to list all of the things they would like to avoid happening in the future, participants wrote a wider range of objectives. Similar to the approach condition, participants wrote that they would like to

avoid family breakdown, failing their exams or not getting a good job. However, they also included additional things such as not going to prison, getting involved with drugs or getting into an abusive relationship. More rigorous qualitative examination would be useful to determine what types of goals are beneficial to young people's well-being and what types of goals are detrimental.

iii. High Distress Scores Amongst Adolescents

Further examination of adolescents' mental health would certainly be warranted. Although not a focus of the research, the present findings highlighted elevated levels of anxiety and depression scores amongst the young people who were tested. The average PHQ-9 score was 9 and the average GAD-7 score was 7, which were around the clinical cut-off scores for depression and anxiety respectively. Even with the higher cut-off for depression in adolescents of 11 (as suggested by Richardson et al., 2010), a disproportionally high number of the students were in the clinical range for depression. These results are consistent with previous research that has shown that adolescents tend to report high psychological distress scores, even beyond the usual clinical cut-off scores for adults (Roberts, Andrews, Lewinsohn, & Hops, 1990). The reasons for this deserve further examination.

While these high distress scores may reflect, the normal transitory and volatile nature of mood states in adolescence, more recent research suggests that the British education

system is placing too much pressure on young people to succeed in exams. Ballou and Stevenson (2015) highlighted that a huge emphasis is placed on exam performance, which has a detrimental effect on students' well-being and can cause chronic stress. Although teachers and health care professionals campaign for a more holistic approach to teaching, the pressures on schools to do well in league tables and Ofsted inspections mean that students are expected to do better in their exams year on year. Whilst academic pressure may be the cause of this emotional disturbance, further research is needed to better understand this alarming psychological phenomenon.

The present findings also suggest that national CAMHS services are only meeting the needs of a fraction of the people experiencing emotional disturbance. On average CAMHS services see 1-2% of 16-18 year olds in the community (Afuape & Krause, 2016). However the present findings indicate that young people's need for psychological support may far outweigh the provisions that are available. Statistics collated by Young Minds (2011) reported that 4.4% of young people have an anxiety disorder (representing 195 000 adolescents), 1.4% (or 62 000 adolescents) are *seriously* depressed. Moreover, between 1 in every 12 and 1 in every 15 teenagers self-harm which could result in 100 000 young people being hospitalised due to self-harm by 2020 (Young Minds, 2011; Brophy & Holmstrom, 2006). The increasing incidence of mental health difficulties in young people are particularly concerning given the recent National Health Service budget cuts and reforms. Psychological services are being asked to see

more clients with fewer staff, which has increased waiting times and is having implications on the length of treatment offered. In some areas young people are only being seen when their mental illness becomes critical and campaign groups are calling for reforms in psychological services (Afuape & Krause, 2016).

In light of this, there are clinical implications of the present study. The government could do more to address the high distress levels through early intervention programmes delivered through schools. For example the Mindfulness in Schools project (Burnett, Cullen, & O'Neill, 2010; Kuyken, et al., 2013) and the Targeted Mental Health in Schools (TaMHS) Project (Barrow, 2011) have shown promising results. Further well-being initiatives would not only take pressure off National health care services but may also prevent young people from developing more severe forms of mental illness. Moreover, if psychological distress can be prevented by teaching goal-orientation skills and well-being this may be a very cost-effective strategy to reducing dysphoria in adolescents (Chida & Steptoe, 2008)

Strengths of the study

i. Examined Idiographic goals

As well as highlighting some avenues for further enquiry, the present study had some other features that are worth noting. First participants were asked to write idiographic (personally relevant) goals and then generate reasons for adopting these goals. Previous

research into goal-orientation has asked for participants' endorsement of pre-determined goals. It can be argued that the present study's open-ended measures elicited more naturally occurring and meaningful goal responses. This was particularly important, as the aim of the study was to identify subtleties in the ways in which the adolescents described their goal-motives. For example, if a participant wrote that they wanted a romantic partner their reason could be 'so that I will not be alone' (an avoidance reason) or 'so that I have loved ones around me' (an approach reason). Both reasons are very similar but the former suggests an avoidance motive where the respondent fears ending up alone, whereas the latter indicates that the respondent would like to build meaningful relationships. Although these motivational measures are relatively new, the goal measure (Dickson & MacLeod, 2004a) and the goal reasoning measure (Sherratt & MacLeod, 2013) do have high face validity and the pattern of results do provide evidence of convergent and discriminant validity.

ii. Large and Diverse Sample

Another methodological issue that deserves comment is the large and diverse sample. Recruiting school students meant that considerable data could be collected within a limited time period. The present sample consisted of 240 participants, this was sufficient to detect a medium effect size at a power of .99. As the data were collected from different schools across London, Hampshire and Surrey the sample was broadly representative of all the major ethnic groups in the UK. Similarly as the students were

recruited from state run schools, an academy and independent schools the participants were from different socio-economic and educational backgrounds. A major advantage of recruiting participants in schools was that there is a reduced self-selection bias. Although the students were not put under any pressure to participate, as the study occurred during their class time virtually all of the students were happy to take part. Conversely, if the students had been asked to complete the study in their own time it can be assumed that far fewer adolescents would have been willing to complete the booklets. If the study had used a self-selection sample, it is likely that a much smaller cohort of students would have taken part, and their personal characteristics may not have represented the general population as well.

iii. Number of Reasons

It was decided that the *number* approach and avoidance reasons would be used in the analysis rather that the *proportion* of these reasons, as number was deemed to be a more accurate measure of goal-orientation. This is because, literature suggests that human beings are prone to produce very clear and salient mental representations of their goal outcomes (MacLeod, in press). These mental images make it easy for individuals to generate goal-motives in a relatively automatic and effortless manner. As a result is was thought that analysing the number of reasons would give a more accurate representation of the degree to which individuals were approach or avoidance orientated. Nevertheless, for verification sake, the analysis was repeated using

proportions of approach and avoidance goals and similar results were found.

Limitations of the study

i. Results are not Generalisable to a Clinical Sample

Indeed there were some limitations of the study. The present findings relate to a non-clinical sample and so cannot be generalised to psychological service-users with clinical disorders. Whilst many of the participants were experiencing significant levels of psychological distress (according to their endorsements of the symptoms on the PHQ-9 and GAD-7) statistically speaking only a tiny fraction of the students would have been CAMHS clients. Therefore, future comparative research would be beneficial in determining the generalisability of the current findings with clinically diagnosed adolescent samples.

Additionally, the present study used a correlation design, which meant that it was difficult to clearly separate the motivation systems of anxious and depressed individuals. Because there was no scope to clinically assess the participants to differentiate *pure* depressed, *pure* anxious, and mixed (depressed/anxious) adolescents from each other, comorbidity made the interpretation of results more difficult. Future studies could conduct a between groups design where clinically assessed depressed and anxious adolescents could be recruited from mental health services. By differentiating participants into groups (through diagnostic interviewing and clinical assessment tools),

the motivation systems common to these disorders would be more easily identifiable.

ii. Unable to Draw Causal Conclusions

Another drawback to the present study is that it is not possible to draw definitive conclusions concerning causality. Whilst the present findings identified an important link between anxiety and avoidance-orientation, the cross-sectional design meant that the direction of this relationship could not be determined. For example, it could be that feelings of distress give rise to an avoidance orientation and increased generation of avoidance goals; alternatively it could be that pursuing a greater number of avoidance goals for avoidance reasons leads to depression and anxiety.

Although causal links could not be drawn it is likely that both factors have a reciprocal relationship. Research suggests that avoidant motives for pursuing personal goals are likely to be emotionally and cognitively demanding. This is because an increased focus on avoidance requires heightened vigilance and monitoring to identify a wide range of possible threatening and reward loss experiences. Over time these efforts to avert all danger reduce a person's risk taking and propensity to face new challenging experiences. Cautious behaviour subsequently restricts the possibility of learning through failure or the testing of personal limits, which are both necessary for growth and healthy flourishing in adolescents. Perhaps one way for future studies to better understand causality could be to conduct further experimental or longitudinal studies which track

participants' sequence of behaviour over time. This could indicate which process triggers the next.

Clinical implications

The implications of the present study are wide reaching. The findings suggest that heath care professionals should pay greater attention to the interplay between motivational and cognitive processes in dysphoric adolescents, which may assist with diagnosing anxiety and depression. A better understanding of approach and avoidance motivation could also help to inform early intervention and flourishing programmes (Terjesen, Jacofsky, Froh & DiGiuseppe, 2004). Furthermore, the goal motives observed in dysphoric adolescents may improve the effectiveness of relapse prevention treatments. The following section will discuss how psychologists are already beginning to consider the importance of goal pursuit in motivational attunement therapy, goal setting and planning guidance and relationship interventions (Elliot, & Church, 2002).

i. Motivational Attunement

The present findings could be applied to nascent interventions that target unhelpful motivation. Holtforth and Castonguay (2005) found that better outcomes were achieved in psychotherapy if therapists enhanced patient's approach goals and minimised the activation of avoidance goals. Holtforth and Castonguay named this particular approach

to therapy 'Motivational Attunement'. These findings coupled with the present study suggest that clinicians should have a greater awareness of the possible discrepancies between the surface features of goals and their underlying motivations.

Furthermore, the present findings showed a high correlation between self-concordance and PWB. A greater awareness of motivational attunement could help therapists and clients to set personally meaningful goals. This is important as individuals pursue multiple goals, some of which are more salient than others, but only progress toward personally meaningful goals predicts increases in well-being (Brunstein, Schultheiss, & Maier, 1999; Brunstein, Schultheiss, & Grassman, 1998). Clients could be informed this is because the perceived importance of goals also determines the time spent on goal-related activities (Cantor, 1990; Emmons, 1989). Additionally, if a goal is consistent with core values it will feel more fulfilling when it is achieved.

ii. Brief Goal Setting and Planning Interventions

The findings from the present study could be taken one step further and developed into entire treatment packages. Such as the 'Goal Setting and Planning' (GAP) interventions developed by MacLeod and colleagues (MacLeod, Coates & Hetherton, 2008; Coote & Macleod, 2013). These intervention packages were designed to train people to identify goals, form plans and implement steps to move towards goals. In these studies, participants were asked to select and pursue goals that were self-

concordant and approach-oriented, from a list of self-generated goals. Across the two studies participants who took part in the programme and received brief goal setting and planning skills, reported significantly higher emotional well-being than their respective controls. Interventions such as these would be beneficial as people who are low in mood often strive towards extrinsic goals to improve their situation, without realising that these goals have little capability of providing well-being benefits. The pursuits of extrinsic goals also reduce individuals' capacity to pursue more intrinsic goals that do have the potential to enhance their mood.

iii. Improving Relationships

It is also possible that the present findings may have implications for couple's therapy or for service-users who wish to improve their relationships. The approach-avoidance distinction has been particularly helpful in understanding motivation in interpersonal relationships (Gable, 2006). It is thought that approach goals guide individuals towards potentially positive outcomes, such as intimacy, closeness and growth in their intimate relationships. Whereas, avoidance goals guide individuals away from potentially negative outcomes, such as conflict and rejection. However, overly adopting avoidance goals in social or romantic relationships can be problematic. For example, avoidance goals may cause couples to become preoccupied with avoiding conflict or relationship breakdown.

The effects of avoidance motivation in relationships have been studied empirically. Impett and collogues (2010) conducted two daily experience studies and a laboratory study, to explore how couples in romantic relationships might be able to maintain and even improve feelings of satisfaction in their daily lives and over time. The findings suggested that approach goals were associated with increased relationship satisfaction in the short-term and over time, particularly when both partners were high approach-orientated. As predicted, avoidance goals were associated with reduced relationship satisfaction over time, and participants were especially disappointed when they had partners with high avoidance goals. Additionally, external observers rated individuals that were high in approach goals as relatively more satisfied and responsive to a partner's needs whereas the reverse was true for those with high avoidance goals.

Similarly, the present findings could be applied to interventions for wider social interactions. For example, Gable (2006) investigated the link between approach social motives and the presence of positive social features, and compared this to avoidance social motives and the presence of negative social features. Gable conducted three studies (two of which were longitudinal) and measured individuals' short-term social goals, dispositional social motives and social outcomes. Approach-orientation was significantly associated with more satisfaction with social bonds and less loneliness. In contrast, avoidance motives were associated with, negative social attitudes, more loneliness and greater relationship insecurity. These studies suggest that the present

findings can be applicable to a range of problems and treatments.

Avenues for future research

i. Cultural Considerations

There are numerous avenues for further research. Whilst the present study captured data on ethnicity, preferred language and where participants were educated, the majority of the students were white British. Future research could examine if goal-motivation differs across cultures. This may be important as self-directed behaviour is important and valued in individualistic cultures, whereas cooperativeness and social support is essential in collective cultures (Josefsson, 2011). Therefore culture has a role in determining the desirability of approach and avoidance goals (Diener, Oishi, & Lucas, 2003; Diener & Suh, 2000; Oishi & Diener, 2001; Sheldon et al., 2004).).

Studies have found that individualistic cultures view approach goals as more desirable than collectivist cultures (Elliot, Chirkov, Kim & Sheldon, 2001). Elliot et al., (2001) found that although pursuing more approach goals was correlated with increased well-being in European Americans, this was not the case for Koreans, Russians and Asian Americans. This may be because different cultures value different affective experiences. Eid and Diener (2001) studied this hypothesis a large cross-cultural study. They found that pride, which reflects approach goals, was viewed as more desirable by members of individualistic cultures. Similarly, Tsai, Knutson, and Fung (2006) found that European

Americans valued feelings such as excitement that reflect approach goals, whereas Chinese and Asian Americans valued feelings of calmness and relief that reflect more avoidant-orientation. The findings of these studies suggest that future research should inquire about participant's specific cultural beliefs. This is important since the impact of pursuing approach-orientated goals on well-being depends upon the appropriateness of this in a given culture.

ii. Longitudinal study

The current study used a cross-sectional methodology. There are no published studies examining underlying goal-motivation from a longitudinal perspective. Such research is needed to examine the impact of personal approach and avoidance motivational biases over time. For example, a motivational system focused primarily on avoidance may well over time limit a person's experiences and quality of life, which could therefore exacerbate anxiety. Alternatively it may be that pursuing avoidance type goals are necessary and adaptive at times of crisis (such as homelessness, job loss or relationship breakdown). Therefore a longitudinal study of individuals throughout life would give insight into how goal-motive interacts with mood and cognition over time. Another advantage of collecting data at multiple time points is that it would allow for test–retest data on the measures of emotional well-being. The time-constraints on the present study meant that these measures could only be administered on one occasion. More stable and reliable results may have been obtained by repeating these measures over

time.

Conclusion

What constitutes happiness and what gives life meaning are two fundamental questions of our human existence. Yet, historically, psychology has focused on repairing mental illness as opposed to enhancing capacity to thrive. However, over the past decade the psychology of well-being has gained momentum and begun to aid our understanding of what keeps us healthy (Wood & Tarrier, 2010; Seligman, 2002; Seligman, 2004). It has been argued that therapies that incorporate well-being yield better results than the interventions currently used (Fava, Rafanelli, Cazzaro, Conti & Grandi, 1998; Emmons & McCullough, 2003; Haybron, 2008).

Finding effective treatments is imperative, as the present study indicates that the adolescents recruited were suffering from remarkably high levels of anxiety and depression. Although worrying, these findings were unsurprising given the high incidence of emotional disturbance in young people today. Although it is widely known that levels of distress are high amongst adolescents, little research has examined why this is so. For this reason the present research investigated the motivational differences underlying symptoms of anxiety and depression.

The overall pattern of results suggested that anxiety correlated with high avoidance

orientation whereas depression was not associated with the expected reduction in the approach system. As the patterns were not clearer at a deeper level of enquiry, the data also points to the value of studying further aspects of motivation and individual's core intrinsic reasons for adopting goals. The results reiterate the importance of having approach orientated and meaningful goals for increased well-being (Elliot, 2006; 2008). It is hoped that this study will complement the health service's drive to better understand and promote their well-being. This may inform further cost effective and holistic treatments for young people with psychological distress.

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Appendices

Appendix 1- Response Booklet

Response Booklet

Thank you for agreeing to take part in this study. This questionnaire has 6 parts:

1. **About you**
2. **Your goals for the future**
3. **Why do your goals matter to you?**
4. **Reasons for pursuing your goals**
5. **Well-being questionnaire**
6. **Mood questionnaire**

Please work through all questions in turn, and don't skip any.

Part One: About You

Demographic questionnaire

Please could you provide us with some background information about yourself:

1. Age: _____ years

2. Year group: Year 12 ☐   Year 13 ☐

3. Gender: Female ☐   Male ☐

4. To which ethnic group do you belong: **(please check 'x' appropriate box)**

White ☐	Black-Caribbean ☐	Black-African ☐	Black-Other ☐
Indian ☐	Pakistani ☐	Bangladeshi ☐	Chinese ☐
Mixed race ☐	Other ☐		

5. Is English your first language?   Yes ☐   No ☐

If no which is your prefered language_____

6. In which country(ies) have you been educated?

_____

Part Two: Your goals for the future

Goal Generation Task

Now we are going to think about your goals for the future.

I would like you to think about goals for the future. First, I would like you to think about things you would perhaps like to do in the future, or to happen in the future Give yourself at least one full minute to do this, even if you're finding it difficult to think of things. I will let you know when you may turn over the page. Don't worry if you don't fill all the lines. Please complete the following sentence with as many goals as you can think of:

In the future, it will be important for me to…

1) ....

2)..

3) ....

4) ....

5) ....

6) ....

7) ....

8) ....

9) ....

10) ....

11) ....

12) ....

Thank you. Now I would like you to think about another type of goals. This time I would like you to think of things in the future that you want to avoid doing or happening.

Give yourself at least one full minute to do this. Again, I will be timing it and tell you when to stop. Don't worry if you don't fill all the lines.

Please complete the following sentence with as many goals as you can think of:

In the future, it will be important for me to avoid…

1) ....

2) ....

3) ....

4) ....

5) ....

6) ....

7) ....

8) ....

9) ....

10) ....

11) ....

12) ....

Choosing your key goals

Selecting Most Important Goals

Now we would like you to choose the two most important goals you thought of from page 2, and the two most important goals from page 3.

Please write them down below:

My two goals from "In the future, it will be important for me to…" are:

Goal 1: ....

Goal 2: ....

My two goals from "In the future, it will be important for me to avoid…" are:

Goal 3: ....

Goal 4: ....

Part Three: Why do your goals matter to you?

We are interested in why goals matter to people. We would like you to think of reasons why your goals are important to you. For each goal you wrote on the previous page we are going to ask you to list reasons why it matters to you.

Look at Goal 1 on <mark>page 4</mark>
Write as many reasons as you can think of why this goal matters, that is, why you want this goal to happen.

There is no time limit this time. When you have thought of as many reasons as you can then move on to the next page.

1)...

2)...

3) ....

4) ....

5) ....

6) ....

7) ....

8) ....

9) ....

10) ....

11) ....

12) ....

Write as many reasons as you can think of why **Goal 2** matters, that is, why you want this goal to happen.

There is no time limit. When you have thought of as many reasons as you can then move on to the next page.

1)...

2)...

3) ....

4) ....

5) ....

6) ....

7) ....

8) ....

9) ....

10) ....

11) ....

12) ....

Write as many reasons as you can think of why **Goal 3** matters, that is, why you want this goal to happen.

There is no time limit. When you have thought of as many reasons as you can then move on to the next page.

1)...

2)...

3) ....

4) ....

5) ....

6) ....

7) ....

8) ....

9) ....

10) ....

11) ....

12) ....

Look at Goal 4 on page 4

Write as many reasons as you can think of why **Goal 4** matters, that is, why you want this goal to happen.

There is no time limit. When you have thought of as many reasons as you can then move on to the next page.

1)..

2)..

3) ....

4) ....

5) ....

6) ....

7) ....

8) ....

9) ....

10) ....

11) ....

12) ....

Thank you for listing those reasons. The last thing to do for this part is to go back to pages 5-8 and <u>underline</u> the one reason on each page that you think is most important.

Part Four: Reasons for pursuing goals

We have now reached the last part of the questionnaire. We have thought about why your goals matter to you . Now, we would like to know how far your reasons for pursuing your goals match some common reasons that people pursue goals.

Thinking about Goal 1 on page 4: Check 'x' in one box for each statement.

*Self-Concordance Scale

a) You pursue this goal because somebody else wants you to or because the situation demands it.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

b) You pursue this goal because you would feel ashamed, guilty or anxious if you didn't.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

c) You pursue this goal because you really feel it's an important goal to have.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

d) You pursue this goal because of the fun and enjoyment that it provides you.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

Thinking about Goal 2 on page 4: Check 'x' in one box for each statement.

a) You pursue this goal because somebody else wants you to or because the situation demands it.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

b) You pursue this goal because you would feel ashamed, guilty or anxious if you didn't.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

c) You pursue this goal because you really feel it's an important goal to have.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

d) You pursue this goal because of the fun and enjoyment that it provides you.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

Thinking about Goal 3 on page 4: Check 'x' in one box for each statement.

a) You pursue this goal because somebody else wants you to or because the situation demands it.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

b) You pursue this goal because you would feel ashamed, guilty or anxious if you didn't.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

c) You pursue this goal because you really feel it's an important goal to have.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

d) You pursue this goal because of the fun and enjoyment that it provides you.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

Thinking about Goal 4 on page 4: Check 'x' in one box for each statement.

a) You pursue this goal because somebody else wants you to or because the situation demands it.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

b) You pursue this goal because you would feel ashamed, guilty or anxious if you didn't.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

c) You pursue this goal because you really feel it's an important goal to have.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

d) You pursue this goal because of the fun and enjoyment that it provides you.

Not at all for this reason			Somewhat for this reason			Completely for this reason		
1	2	3	4	5	6	7	8	9

Well-being questionnaire

PWB Scale

Strongly disagree → Strongly agree

Please indicate your degree of agreement (using a score ranging from 1-6) to the following sentences:	1	2	3	4	5	6
1	I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.						
2	In general, I feel I am in charge of the situation in which I live.						
3	I am not interested in activities that will expand my horizons.						
4	Most people see me as loving and affectionate.						
5	I live life one day at a time and don't really think about the future.						
6	When I look at the story of my life, I am pleased with how things have turned out.						
7	My decisions are not usually influenced by what everyone else is doing.						
8	The demands of everyday life often get me down.						
9	I think it is important to have new experiences that challenge how you think about yourself and the world.						
10	Maintaining close relationships has been difficult and frustrating for me.						
11	I have a sense of direction and purpose in life.						
12	In general, I feel confident and positive about myself.						
13	I tend to worry about what other people think of me.						
14	I do not fit very well with the people and the community around me.						
15	When I think about it, I haven't really improved much as a person over the years.						
16	I often feel lonely because I have few close friends with whom to share my concerns.						
17	My daily activities often seem trivial and unimportant to me.						
	cont.						

		1	2	3	4	5	6
18	I feel like many of the people I know have gotten more out of life than I have.						
19	I tend to be influenced by people with strong opinions.						
20	I am quite good at managing the many responsibilities of my daily life.						
21	I have the sense that I have developed a lot as a person over time.						
22	I enjoy personal and mutual conversations with family members or friends.						
23	I don't have a good sense of what it is I'm trying to accomplish in life.						
24	I like most aspects of my personality.						
25	I have confidence in my opinions, even if they are contrary to the general consensus.						
26	I often feel overwhelmed by my responsibilities						
27	I do not enjoy being in new situations that require me to change my old familiar ways of doing things.						
28	People would describe me as a giving person, willing to share my time with others.						
29	I enjoy making plans for the future and working to make them a reality.						
30	In many ways, I feel disappointed about my achievements in life.						
31	It's difficult for me to voice my own opinions on controversial matters.						
32	I have difficulty arranging my life in a way that is satisfying to me.						
33	For me, life has been a continuous process of learning, changing, and growth.						

Strongly disagree → Strongly agree

	cont.	1	2	3	4	5	6
34	I have not experienced many warm and trusting relationships with others.						
35	Some people wander aimlessly through life, but I am not one of them.						
36	My attitude about myself is probably not as positive as most people feel about themselves.						
37	I judge myself by what I think is important, not by the values of what others think is important.						
38	I have been able to build a home and a lifestyle for myself that is much to my liking.						
39	I gave up trying to make big improvements or changes in my life a long time ago.						
40	I know that I can trust my friends, and they know they can trust me.						
41	I sometimes feel as if I've done all there is to do in life.						
42	When I compare myself to friends and acquaintances, it makes me feel good about who I am.						

Mood questionnaire

	Over the last two weeks, how often have you been bothered by any of the following problems?(from 1-4):	0 Not at all	1 Seve ral days	2 more than half the days	3 Nearly every day
1	Little interest or pleasure in doing things?				
2	Feeling down, depressed, or hopeless?				
3	Trouble concentrating on things, such as reading the newspaper or watching television?				
4	Feeling bad about yourself - or that you are a failure or have let yourself or your family down?				
5	Poor appetite or overeating?				
6	Feeling tired or having little energy?				
7	Trouble falling or staying asleep, or sleeping too much?				
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?				
9	Thoughts that you would be better off dead, or of hurting yourself in some way?				
10	Feeling nervous, anxious or on edge?				
11	Not being able to stop or control worrying?				
12	Worrying too much about different things?				
13	Trouble relaxing?				
14	Being so restless that it is hard to sit still?				
15	Becoming easily annoyed or irritable?				
16	Feeling afraid as if something awful might happen?				

You have now reached the end of the questionnaires…

Department of Psychology

Royal Holloway, University of London
Egham, Surrey TW20 0EX, UK

Thank you very much for taking part in this study!

The research aims to explore whether there is a relationship between your emotional well-being and your motivations for adopting goals.

We hope that you have found it interesting! However, if thinking about your future goals or thinking about your mood has made you feel more worried than usual, please feel free to bring this to my attention or inform your teacher.

If you would like to know more the research findings, please contact me by email at Helene.laurent.2013@live.rhul.ac.uk and I will send you a summary of the results.

Appendix 2- Scoring of Ryff's PWB Scale

Scoring Instruction:

1) **Recode negative phrased items**: # 3, 5, 10, 13,14,15,16,17,18,19, 23, 26, 27, 30, 31, 32, 34, 36, 39, 41. (i.e., if the scored is 6 in one of these items, the adjusted score is 1; if 5, the adjusted score is 2 and so on…)

2) **Add together the final degree of agreement in the 6 dimensions:**

a. Autonomy: items 1,7,13,19,25, 31, 37

b. Environmental mastery: items 2,8,14,20,26,32,38

c. Personal Growth: items 3,9,15,21,27,33,39

d. Positive Relations: items: 4,10,16,22,28,34,40

e. Purpose in life: items: 5,11,17,23,29,35,41

f. Self-acceptance: items 6,12,18,24,30,36,42

Appendix 3- Invitation to Participate Letter

Helene Laurent
Department of Psychology
Royal Holloway, University of London
Egham, Surrey TW20 0EX, UK

September 2015

Dear Sir or Madam,

Invitation to Participate

Exploring Goal Motivation and Psychological Well-being in Adolescents

My name is Helene Laurent and I am conducting some research on adolescent well-being, dysphoria and goal motivation as part of my doctorate in Clinical Psychology at Royal Holloway, University of London.

I would like to invite sixth form students to participate in the research. All those between 16 to 18 years will be eligible to take-part. On the day of testing, students will first read an information sheet and sign consent to continue. Those who decide to participate will then be asked to list their goals and the reasons for adopting them. Lastly, they will be asked to complete two questionnaires about their current mood and well-being. The task will last a maximum of 45 minutes. I can bring an alternative exercise for those who do not wish to be involved in the study.

As the questionnaires can be administered to large groups I would be happy to facilitate a lesson and integrate the questionnaires at this time. Depending on what would most benefit your students, I could deliver a presentation on effective goal setting or careers in psychology.

I hope that the students will find this experience enjoyable and learn about effective goal-setting by participating. All information that is collected during the course of this research will be kept confidential and anonymous. Students who take part will also be allowed to withdraw at any time if they wish.

This study has been reviewed and approved by the Royal Holloway Psychology Department ethics committee. I have also been checked and cleared by the Criminal Records Bureau (CRB). I would be delighted to meet with you or speak on the telephone to discuss the research in more detail.

Thank you for taking the time to read this information.

Yours faithfully,
Ms Helene Laurent- Trainee Clinical Psychologist

Appendix 4- Information Sheet

Department of Psychology

Royal Holloway, University of London
Egham, Surrey TW20 0EX, UK

Information Sheet

"Exploring Goal Motivation and Psychological Well-being in Adolescents"

Hello, My name is Helene Laurent and I am a doctoral student at Royal Holloway, University of London. I would like to invite you to participate in this postgraduate research project. You should only participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and feel free to ask me if there is anything that is not clear.

This research will investigate how your mood and psychological well-being affects your motivation for adopting goals. The session will last for 35 minutes. I will ask you to think of goals and reasons for adopting them. You will then receive 3 questionnaires about you, your mood and well-being. All your answers will be written down so none of your peers will know what you said. All information that is collected from you during the course of this research will be kept confidential and your responses on the questionnaires will be anonymous (so what you write down will not be able to be traced back to you).

It is hoped that once the data is analysed, we can find ways of helping adolescents to achieve their optimal potential. We also hope to gain a better understanding of what drives young people so that we can improve teaching on effective goal setting.

The research will be written up as part of my thesis for my doctorate in Clinical Psychology. I also hope to write an article in an academic journal so that the findings can be spread throughout the professional community. Participants will not be identified in any report or publication.

The study has been reviewed and approved by the Psychology Department internal ethical procedure at Royal Holloway University of London. If you would like to discuss any aspect of the research, you can contact me on 01784 414 012 or by email (Helene.laurent.2013@live.rhul.ac.uk). You can also contact Professor Andy MacLeod by email (A.MacLeod@rhul.ac.uk).

Appendix 5- Consent Form

<u>Consent Form</u>

Exploring Goal Motivation and Psychological Well-being in Adolescents

You have been asked to participate in a study about adolescent well-being, which is being carried out by Helene Laurent, trainee clinical psychologist, at Royal Holloway University. Participation is voluntary so there is no requirement to take part.

Have you (please tick the box):

   Read the information sheet about the study?   Yes ☐ No ☐

· **Had an opportunity to ask questions?**   Yes ☐ No ☐

• **Got satisfactory answers to your questions?**   Yes ☐ No ☐

• **Understood that you are free to withdraw from the study at any time, without giving a reason and without it affecting your education?**

                                           Yes ☐   No ☐

• **Do you agree to take part in the study?**   Yes ☐   No ☐

(if you would not like to take part, your teacher has arranged an alternative activity for you to do during this time)

Signature:_____

Name in Capital letters:_____ Date:_____

(This consent form will be stored separately from the anonymous information you provide)

Appendix 6- Ethical Approval

2015/042 Ethics Form Approved

psychology.it.support@rhul.ac.uk

07/05/2015
pava059@rhul.ac.uk;
Macleod, A;
PSY-EthicsAdmin@rhul.ac.uk;
Zagefka, Hanna;

Application Details:	View the form click here Revise the form click here
Applicant Name:	**Helene Laurent**
Application title:	**Exploring the Relationship between Well-being, Dysphoria and Underlying Goal Motivations in Adolescents.**
Comments:	Approved.

Appendix 7- Measures of Skewness and Kurtosis of all Variables

Variable Name	Skew	Kurtosis	Transformed
Depression	-1.441	.34	No
Anxiety	-.788	1.98	No
Autonomy	-1.731	1.67	No
Environmental Mastery	-2.199	.34	No
Personal Growth	1.075	2.72	Yes
Positive Relations	-.394	.42	Yes
Purpose in life	1.264	2.01	Yes
Self Acceptance	.710	1.09	Yes
Approach Goals	.520	1.99	No
Avoidance Goals	-3.48*	3.42	Yes
Approach Reasons Approach Condition	-2.85*	3.57	Yes
Avoidance Reasons Approach Condition	2.332	3.13	Yes
Approach reasons Avoidance Condition	-1.420	2.80	Yes
Avoidance reasons Avoidance Condition	-2.364	1.83	Yes
Most Important Reason	1.231	2.10	No
Concordance Approach	-1.888	1.61	No
Concordance Avoidance	2.356	1.11	No

Note: * Not within acceptable bounds for skew