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A feasibility study of psychological strengths assessment in individuals with recurrent depression

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Abstract

Current conceptualizations of mental illness focus on assessing psychopathology. A balanced approach would assess strengths that individuals bring to coping with illness. This study measures psychological strengths in individuals with recurrent depression, their coping strategies, and their perceptions of the usefulness of strengths assessment as a component of psychological assessment. Individuals ($N = 112$) with recurrent depression completed an online questionnaire measuring strengths. A subset ($n = 10$) completed a follow-up telephone interview. Higher levels of gratitude, self-forgiveness, hope, and spirituality and lower levels of optimism were indicative of higher life satisfaction. The predictors of happiness on the depression/ happiness scale were self-forgiveness, spirituality, and gratitude. Higher levels of hope and self-forgiveness predicted positive affect while lower levels of self-forgiveness predicted negative affect. Participants used a range of coping resources and they valued strengths assessment, seeing the two-continua model of mental health assessment as empowering. The researcher discusses implications for clinical practice.

Keywords: recurrent depression; psychological strengths; life satisfaction; happiness; coping strategies; positive psychology

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A Feasibility Study of Psychological Strengths and Well -being Assessment in Individuals
Living with Recurrent Depression

Current conceptualizations of mental health focus predominantly on the absence of psychopathology and the associated reduction in suffering. Although this approach has been fruitful in developing our understanding and treatment of psychological conditions, little attention has focused on fostering positive mental health (Seligman, 2005). Positive psychologists now argue that mental health is not just the absence of psychopathology but includes positive feelings of well-being ((Maddux, 2005; Maddux, Snyder, & Lopez, 2004; Keyes, 2002, 2005; Wright, 2002). This two continua model of mental health asserts that individuals can experience positive well-being concurrently with psychopathology (Keyes, Shmotkin, & Ryff, 2000; Westerhof & Keyes, 2010). The challenge for psychology is how to develop ways of improving well-being especially for those living with chronic psychological conditions. Researchers suggest that psychological strengths that the person brings to dealing with their condition should be assessed (Maddux, 2002; Maddux, Snyder, & Lopez, 2004; Wright, 2002). This would provide a more balanced approach to mental health assessment than the current pathology models but it could be difficult for patients to accept given their current socialization into the pathology model (Maddux, 2005).

This research explores how individuals living with recurrent depression feel about having their psychological strengths assessed as a component of psychological assessment for depression. The recurrence rates of depression are high with the risk of recurrence increasing with each episode of depression (ten Doesschate, Bockting, Koeter, & Schene, 2010). It is characterised as a chronic condition with sufferers having to adjust to the continued threat of

its recurrence. The factors that predict recurrence are currently poorly understood so efforts are focussed on helping patients cope with the threat of recurrence and here psychological strengths may have a role in future (Goodwin & Jamison, 2007). For example, Seligman, Rashid, and Parks, (2006) report some preliminary research suggesting that psychological strengths assessments and exercises designed to increase positive emotions and social engagement may be a useful supplement for more traditional problem-focused approaches to treating depression.

Currently, there is no agreed definition of psychological strengths within positive psychology with each strengths classification system adopting their own. These definitions reflect what is being measured and in which context. For example, Gallup's Clifton Strengthsfinder in an applied occupational or educational context conceptualizes strengths as talents, "as naturally recurring patterns of thought, feeling, or behavior that can be productively applied" (Hodges & Clifton, 2004, p. 257). The Gallup researchers used an inductive approach to develop the Strengthsfinder, conducting thousands of semi-structured personal interviews with top performers to identify the talents that underpinned their success. The Values-in Action Inventory of Strengths (VIA-IS) used a more deductive approach based on the measurement of virtues valued by societies, religions, and philosophers and their associated character strengths, which are described as being the psychological process and mechanisms that help define virtues (Peterson & Seligman, 2004). Linley and Harrington (2006) argue that the applied Strengthsfinder perspective on strengths lacks the theoretical conceptual framework that is necessary for understanding strengths in depth, and that the VIA approach is somewhat restrictive with its inclusion and exclusion criteria and that a more inclusive definition of strengths is desirable. In this study, I used the more inclusive Linley and Harrington (2006) definition, which covers cognition, affect, and behavior in this study.

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Snyder and Lopez (2007) also adopted this definition in their research. In the definition, strengths are, " natural capacities for behaving, thinking, or feeling in ways that allows optimal functioning and performance in the pursuit of valued outcomes," (Linley & Harrington, 2006, p.88). In this study, I aim to measure psychological strengths derived from positive psychology research and examine their relationship to well-being in individuals living with recurrent depression.

Well-being

Well-being according to the hedonic tradition is conceptualized as the subjective evaluation of reactions to events, and cognitive appraisal of satisfaction and fulfillment that individuals make of their life when deciding how happy they are (Diener, 2000). It reflects their values, goals, expectations, and experiences. Research suggests that well-being involves the experience of more positive affect than negative affect, and higher levels of life satisfaction (Snyder & Lopez, 2005). Although Peterson and Seligman (2004) have identified a large number of psychological strengths, there is no supporting empirical evidence for their effects on mental health for many of them (Park, Peterson, & Seligman, 2004; Park & Peterson, 2009). The rationale for strengths selection in this study was that there was empirical evidence of an association with positive mental health with adult participants, and interventions existed for future use. The ideal was for interventions with depressed adults as participants. First, I undertook systematic literature search in my university library, followed by searches on PsycINFO and Web of Science online databases. I used combinations of the following keywords: *depression, positive psychology, psychological strengths, character strengths, mental health, interventions, well-being, and positive psychotherapy*. With the exception of optimism, there is little research specifically on psychological strengths and

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depression. The psychological strengths of gratitude, hope, optimism, self-forgiveness, other-forgiveness, and spirituality met the selection criteria.

Gratitude

Researchers define gratitude as a strength involving appreciation and thankfulness and suggest that it operates as a moral or pro-social affect or trait (Hershberger, 2005; McCullough, Emmons, & Tsang, 2002; McCullough, Kilpatrick, Emmons, & Larson, 2001; Miller, 1995; Watkins, Woodward, Stone, & Koths, 2003). It involves a generalized tendency to recognize the positive even in adversity and to respond with positive emotion (Neto, 2007). Dispositionally grateful individuals experience higher positive emotions, greater subjective well-being, and higher life satisfaction (Emmons & McCullough, 2003; Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006; Wood, Maltby, Stewart, Linley, & Joseph, 2008). Grateful individuals report lower levels of depression (Frederickson, Tugade, Waugh, & Larkin, 2003; Kendler, Liu, Gardner, McCullough, Larson, & Prescott (2003); Wood, Maltby, Gillet, Linley, & Joseph, (2008). Wood, Froh, and Geraghty (2010) reviewing the gratitude literature, report that while gratitude interventions are frequently hailed as the most successful interventions in positive psychology, many of the studies do not include adequate control groups, so their efficacy is difficult to judge. Two exceptions are studies by Geraghty, Wood and Hyland (2010-a), (2010-b) where gratitude interventions are shown to be more effective in depressed clients than treatment as normal.

Hope

There are two components to the definition of hope; hope as a goal directed thinking process in which people believe they can produce a path to desired goals (pathways thinking) and are motivated to use these pathways (agency thinking). Pathways thinking, reflects the [Type text]

ability to perceive workable routes to desired goals. Agency thinking represents a capacity to sustain movement (motivation) along these pathways (Snyder & Lopez, 2005). High levels of hope are associated with lower levels of depression, higher self-esteem, and greater ability to cope with stress (Snyder, 1998, 2000; Snyder et al, 1991). Hope also correlates positively with positivity affectivity and negatively with negative affectivity (Snyder & Lopez, 2005). Cheavens, Feldman, Gum, Michael, & Snyder (2006) reported that a hope intervention was successful in reducing depression scores in a community sample.

Forgiveness

Forgiveness researchers are still debating how to define forgiveness with each measure defining it slightly differently. Here, I selected the Mauger, Perry, Freeman, Grove, McBride, & McKinney, (1992) definitions. Self-forgiveness involves letting go of negative judgments, and attitudes towards the self and associated negative affect such as guilt and anger and becoming more accepting of self. Interpersonal-forgiveness requires abandoning negative judgments and associated negative affect associated with the wrongdoer and giving up any right to retribution by not seeking revenge or holding grudges. In these definitions, self-forgiveness is intropunitive in orientation whereas other forgiveness is extrapunitive. Self- and other-forgiveness are associated with better mental health and well-being in general and student population samples (e.g., Maltby, Macaskill, & Day, 2001; Macaskill, 2012). Three research groups obtained significant reductions in depression scores following forgiveness interventions with depressed clinical samples (Freedman & Enright, 1996; Lin, Mack, Enright, Krahn, & Baskin, 2004; Reed & Enright, 2006).

Optimism

Dispositional optimists consider negative situational outcomes as temporary and specific rather than being the result of persistent and pervasive factors and are therefore more

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motivated to deal with them. Research results indicate that optimists are more positive, display more adaptive coping skills, resulting in better psychological and physiological adjustment, and ultimately they experience greater well-being than pessimists do (Carver & Scheier, 2001; Deci & Ryan, 2000; Emmons, 1996; Koestner, Lekes, Powers, & Chicoine, 2002; Park et al., 2004; Scheier, Carver, & Bridges, 2001). There are optimism inducing interventions in CBT that are effective in decreasing depression in clinical samples (Riskind, Sarampote, & Mercier, 1996; Seligman, Rashid, & Parks, 2006).

Spirituality

Traditionally, spirituality was defined as a measure of religiosity and many measures are criticized for confounding the two and therefore being inappropriate for samples that are not religious (Pargament & Mahoney, 2005; Sloan, Bagiella, & Powell, 1999). To address this, I used the Spirituality Index (Daaleman & Frey, 2004), which defines spirituality as having meaning in one's life and some sense of involvement and capability, as opposed to feeling alienated and powerless. Higher levels of spirituality are associated with well-being although quantitative research is sparse (Daaleman, Kuckelmann, Cobb, & Frey, 2001). There are many qualitative studies reporting links between spirituality and mental health across a range illness including depression (e.g. George, Larson, Koenig, & McCullough, 2000; Pargament & Mahoney, 2005; Salander, 2006; Sloan, Bagiella, & Powell, 1999). There is evidence that interventions based on developing mindfulness are effective in developing spirituality and reducing depression (Marlatt & Kristeller, 1999).

In summary, the aims in Phase one were to:

1. Examine how individuals with recurrent depression feel about the integration of psychological strengths assessment into clinical assessments for depression.

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2. Examine the association of psychological strengths with well-being in this group.

Based on previous research the hypothesis is that higher levels of character strengths will be predictive of hedonic well-being as measured by levels of affect and life satisfaction.

3. Explore the personal coping strategies of individuals living with recurrent depression to provide further insights into their life experience.
4. Assess in the spirit of positive psychology whether participants could identify any positive outcomes from their illness.

In a second phase of the study, I conducted telephone interviews with a random sample of ten participants from phase one. The aim was to explore in more detail participants' views on psychological strengths assessment and their knowledge of positive psychology.

Phase One Method

Procedure

The research ethics group of a United Kingdom specialist support site for individuals suffering from recurrent depression gave approval for the study and permission to advertise the study on their website. Individuals have to register to become members of the site. Two mental health charities advertise the site, as do some mental health professionals and other members. The site hosts include clinical psychologists, who vet membership by requiring participants to have a diagnosis of depression from a psychiatrist, to specify where and when this occurred, to disclose details of their condition and complete a depression screening questionnaire, all of which the hosts assess, to ensure valid membership. Members subsequently login to the site. The website hosts posted an advertisement for the study on the site. The advertisement served as a participant information sheet, gave the researcher's contact details, and included a link to an electronic questionnaire that participants could

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complete anonymously online. In addition, ten participants contacted the researcher for permission to pass the questionnaire link on to friends suffering from recurrent depression. A university Research Ethics Committee also approved the study.

Checks on depression status

The website hosts did not permit the use of a clinical measure of depression as they tell their participants that the initial screening is the only clinical assessment that occurs. However, the website hosts allowed the researcher to use the Depression/Happiness Scale as an indicator of current levels of depression and to include text boxes for participants to write about the history of their depression and their diagnosis. The researcher, who is a practitioner psychologist and a psychotherapist, and a colleague who is a consultant psychiatrist both independently read the descriptions of the illness history and symptomatology provided in the text boxes. They independently recommended the exclusion of the same three participants on the ground of the absence of recurrent depression. Given that the website hosts had already screened the members for a diagnosis of depression, the researcher felt that these procedures were sufficient to ensure an appropriate clinical sample. Inclusion criteria were the presence of a formal diagnosis of depression, the experience of at least three episodes of depression, and a history of pharmacological treatment for depression. The focus was on pharmacological treatment as psychotherapy has not always been widely available in the UK. Patients are unlikely to access pharmacological treatment without a formal diagnosis, so this acted as a further check.

Participants

The sample consisted of 85 men and 27 women ($N=112$) with a mean age of 41.34 years ($SD=11.24$), 41 were married, 21 living together, 31 single, 11 divorced and 8 engaged

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and of these 6 were living together. Six participants accessed the questionnaire without completing it and three completed questionnaire were discarded, as the participants did not meeting the inclusion criteria of three episodes of depression. Participants could describe in a text box on the questionnaire when their first episode of depression occurred, and 59 (52.7%) of the sample used it. They all made a distinction between the first formal diagnosis of their depression and what on reflection, they saw as the real age of onset. The mean age of formal diagnosis was 31.9 years ($SD = 9.4$), whereas the mean age at reported perceived onset of depression was 18.67 years ($SD = 8.30$) with a range from 5-44. Four female participants reported onset before the age of ten, all associated with sexual abuse. When asked to report the number of episodes of depression, 67 (59.8%) responded with a number in the text box giving a mean of 8.82 ($SD = 12.39$), range 3-80, and the remaining 45 participants (40.2%) used the text box to report words to the effect that there were too many episodes to count. These respondent displayed high levels of despair in their comments, which provided further reassurance to the researcher that these people had recurrent depression. Ten respondents reported being compulsory hospitalized for treatment.

Measures

The online questionnaire supplied more information about the study then elicited demographic information about age, relationship status, and included scales measuring psychological strengths and well-being and text boxes where participants could write about the age at onset, formal diagnosis, and the number of episodes experienced. There was space for respondents to report on their coping strategies and in the spirit of positive psychology, whether their experience of depression had contributed anything positive to their lives. The measures of psychological strengths and well-being were included in a random order. The

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name and a definition of the strength pre-ceded each scale. Participants received a brief explanation of the two-continua model of mental health and its relationship with strengths assessment following which respondents rated whether they felt this was potentially a useful approach using a 5-point Likert scale with a box for qualitative comments.

The researcher worded the explanation of the model to appear as neutral as possible to minimize demand characteristics. It began with an explanation of the traditional one-continuum model based on assessing symptoms, stressing that this has been a very fruitful approach and has led to significant advances in treatment. The two-continua model was then introduced contextualizing it by saying that some psychologists are now suggesting that it might be useful to assess strengths that individuals have as well as symptoms. I used the Linley and Harrington (2006) definition of strengths with some simplification of the wording and repeated to participants that the questionnaire they had just completed measured strengths. Four researchers not involved with the study, assessed the information for demand characteristics and this resulted in some changes in wording.

To decide on the order to present the strengths assessment and information on the model, I ran pilot studies with two groups of undergraduate law students ($N=40$) who had never heard of positive psychology. I presented the strengths assessment and information on the two-continua model of mental health to each group in a different order. Students rated how well they understood the message and made suggestions for improvement. Feedback from both groups indicated that receiving the strengths questionnaire first led to better understanding of the model making it easier to assess. On this basis the researcher presented strengths assessment first followed by the model.

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The Gratitude Question (McCullough et al., 2002). This is a six-item measure of trait gratitude, assessing the intensity of gratitude and the frequency with which it is experienced, and the scope of gratitude events. Respondents recorded their agreement on a seven-point Likert scale. The published coefficient alphas are satisfactory ranging from .76 to .84 (McCullough et al., 2002). High scores indicate higher gratitude.

The Trait Hope Scale (Snyder et al., 1991). The scale consists of 12 items with two subscales of 6 items assessing agency, defined as beliefs that goals are obtainable through effort and a pathways subscale measuring the perceived ability to overcome obstacles. Higher scores indicate greater hopefulness. The alpha coefficients for the scales range from .74 to .88 (Snyder et al. 1991) and have undergone extensive, convergent and discriminant validation (Cheavens, Gum, and Snyder 2000; Snyder 2000).

The Life Orientation Test (Scheier, Carver, & Bridges, 1994). This is a 10-item measure of dispositional optimism. Participants rate agreement with each item on a five-point Likert scale. It includes four filler items to reduce social desirability responding. Higher scores indicate higher levels of optimism. Test retest validations range .56 to .79 for intervals over a 28-month period, with reported alpha values of .81 (Snyder, Rand, & Sigman, 2005).

Forgiveness of Self and Others (Mauger et al., 1992). This consists of two 15-item scales measuring related yet distinct aspects of forgiveness, self-forgiveness, and other-forgiveness. Participants respond "true" or "false" to each statement. The higher the score the less forgiving the individual is. The correlation between the scales is significant but low at .37. Adequate internal reliability of the scales (others, $\alpha = .79$; self, $\alpha = .82$) and test re-test reliability (others, $r = .94$; self, $r = .67$) are reported (Mauger et al., 1992).

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The Spirituality Index (Daaleman & Frey, 2004). This is a 12-item measure of spirituality designed for use with chronic health conditions. Qualitative studies of how patients conceptualize spirituality provided the items for the measure. This differentiates it from other spirituality measures that include overtly religious items, thus making these items less applicable to the non-religious. It is more sensitive to cultural diversity in not assessing any aspects of religious practice. Respondent rate items on a five-point Likert scale. High scores represent high levels of spirituality. The scale has good internal reliability ($\alpha = .91$) and test-retest reliability ($r = 0.79$), (Daaleman & Frey, 2004).

The Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). This is a five-item measure of subjective well-being, assessing broad cognitive judgments of an individual's life. Participants record their responses a seven-point Likert scale with high scores indicating satisfaction. The scale demonstrates good internal consistency ($\alpha = .82$) and satisfactory test re-test reliability ($r = .69$) over a seven-month period (Diener et al., 1985).

The Short Depression-Happiness Scale (SDHS) (Joseph, Linley, Harwood, Lewis & McCollam, 2004). This is a six-item measure of depression through a zero point into happiness reflecting the broad agreement in the research literature that depression and happiness reflect the opposite ends of a bipolar continuum (Russell et al., 1999; Watson et al., 1999). It includes three items measuring happiness and three assessing depression. Participants record their responses on a four-point Likert scale from never, to often. The internal consistency reported is good ($\alpha = .82$) as is the test re-test reliability ($r = .71$), (Joseph et al., 2004). Higher scores represent the happiness end of the continuum.

The Positive and Negative Affect Schedule (PANAS) (Watson, Clark, & Tellegen, 1988). This scale assesses two main dimensions of mood, the tendency of individuals to

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experience positive or negative emotions. It is a 20-item scale with 10 positive emotions and 10 negative emotions. Respondents indicate the degree to which they generally feel the emotion using a five-point Likert scale. The scales are stable over two months, highly internally consistent, and largely uncorrelated (Watson et al., 1988). Higher scores reflect greater experience of positive or negative emotions.

Qualitative Data Analysis

The questionnaire included both qualitative and quantitative data collected via text boxes. I included text boxes to allow participants to report in their own words how they felt about the issues in the questionnaire to provide a better understanding of their views and experience. I used content analysis (Coolican, 2009) to explore the qualitative data using the ethnographic data analysis software (QUALIS Research, 2000) to assist in categorizing, to produce word counts to identify words of potential interest, and then to check on the context within which particular words occurred to assess their applicability to a category.

Participants responded in very similar ways, clearly expressing their views, which made coding relatively unproblematic. After familiarizing myself with the data by repeated reading, I used cross-sectional, categorical indexing with a high level of literal coding, followed by some additional interpretive coding in places (Coolican, 2009; Mason, 2002). A doctoral student experienced in qualitative analysis then independently analyzed a random subset of 20% of the responses using the previously identified categories and their related operational definitions. The interrater reliability was substantial (Landis & Koch, 1977) with Kappa = 0.78 ($p < 0.001$), 95% CI (0.63, 0.89), (Cohen, 1960). I included quotes to represent the most frequently expressed comments.

Results

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Qualitative Data on Assessing Psychological Strengths

All of the women ($n = 27$) and 82 out of 85 men reported that assessing psychological strengths as well as symptoms of depression was potentially an extremely useful approach. Of the three other men, two were unsure and one recorded it as being useful. Providing coping resources was the commonest theme ($n = 110, 98.2\%$), "It could be a way of making you feel more able to cope with the depression". This was followed by comments about the desirability of balanced assessments ($n = 93, 83.04\%$) with one respondent reporting, "I get sick of being seen as a depressed patient, I am more than that, and strengths assessment would reinforce this." Following on from this theme, 74 respondents (66.07%) commented on the effect strengths assessment could have on how others, particularly family members perceived them. One respondent writing:

Being diagnosed with depression is disempowering, the family all think I have to be looked after, that I can't cope by myself. Being able to report to them about the strengths I have to help me through the next episode would be really good. I am not a weak, helpless, hopeless case.

Another common response ($n = 73, 65.12\%$) focused on how strengths assessment made them feel very differently about themselves. One participant summed it up thus:

I now expect my depression to come back if I am honest. I see myself as somehow inferior to others who are not depressed. I have something missing. Telling me I have psychological strengths is a bit scary really. Logically I can see that I have but it is not how I normally think about myself. It is a bit of a wake up call for me.

One respondent commented specifically on the two- continua model of mental health writing:

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While this makes sense when you are well or fairly well, in the throws of severe depression, I am afraid that psychopathology rules. That is my first response.

However when I think about it, I am optimistic and even hopeful in the midst of my depression that I can come through it. That does keep me going and makes me feel better. It maybe helps explain why I can have really bad depression days and not quite so bad days when I am depressed. A lot to think about.

Quantitative Data Analysis

For the quantitative analysis, I used SPSS (version18), first checking for any significant gender differences in scores, which if found would prevent analysis of the data as a single sample. Next, I computed descriptives and explored the associations between psychological strengths and well-being using Pearson product moment correlations. I undertook path analysis using AMOS17 (Arbuckle, 2008) to try to examine the causal relationships between the variables. Finally, I used multiple regressions to examine how well individual strengths predicted the components of well-being.

Quantitative Results on the Relationship of Psychological Strengths to Well-being

-Table 1 about here-

Pre-analysis checks on outliers, missing data, multivariate normality, multicollinearity, and linearity indicated no problems with the dataset. The means, standard deviations, ranges and alpha coefficients for all the scales are in Table 1. All the alpha coefficients are $>.7$ suggesting satisfactory internal scale reliability (Kline, 2000). An a priori alpha level of .05 two-tailed was set for the statistical tests. Using a one-way ANOVA to test for gender differences in scores, indicated that men ($M= 11.25$, 95% CI [10.71, 11.79]), $SD = 2.53$) scored higher than women ($M= 9.93$, 95% CI [8.89, 10.96], $SD = 2.60$) on forgiveness

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of others ($F(1, 110) = 5.53, p < .05$). As this was the only difference and the effect size was small ($d = .46$) further analysis included the whole sample. For the depression/happiness scale, the neutral midpoint of the scale is 15, and the mean score was just on this, with 44 scores on the happiness end of the continuum and 68 towards the depression end.

- Table 2 about here-

The Pearson product moment correlations between psychological strengths and well-being are in Table 2. Gratitude, hope, optimism, self-forgiveness, and spirituality were all positively associated with higher scores on life satisfaction, positive affect, depression/happiness and negatively associated with negative affect. Other-forgiveness was not significantly associated with life satisfaction or negative affect. There was no significant correlation between positive and negative affect confirming the independence of the concepts.

-Table 3 about here-

To examine whether I could make some cautious causal inferences about the relationships between strengths and well-being, I undertook path analysis using AMOS17 (Arbuckle, 2008). In the model, scores on life satisfaction, positive affect, and negative affect defined well-being. The strengths measures were exogenous variables, hypothesized to have a direct effect on well-being. However, trimming the model did not produce a satisfactory fit. Inspection of the dataset indicated that the problem lay in the well-being component of the model. Snyder & Lopez (2005) conceptualize well-being as involving the experience of more positive affect than negative affect, and higher levels of life satisfaction. The mean for negative affect was higher than for positive affect, although with a repeated measures two-tailed t-test the difference was not significant, $t(111) = 1.15$, thus violating the model.

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I then used multiple regressions to explore the statistically significant associations between psychological strengths and well-being to examine the degree to which individual strengths predicted the components of well-being. A power calculation for power of .80 with a medium effect size indicated that a minimum sample size of 110 was required and this is met (Cohen, 1988). For psychological strengths as predictors of life satisfaction, the model is significant, accounting for 60.7% of the variance in life satisfaction ($F(6, 105) = 35.33, p < .001$). The results are in Table 3. Individuals with higher levels of gratitude, self-forgiveness, hope, and spirituality score higher on life satisfaction. Gratitude is the most significant predictor of life satisfaction followed by self-forgiveness, hope, and spirituality. Optimism was a negative predictor suggesting that high levels of optimism in individuals suffering from recurrent is associated with lower scores on life satisfaction.

Psychological strengths were predictors of depression/happiness, accounting for 69.7% of the variance ($F(6, 105) = 43.51, p < .001$). The results in Table 3 show that optimism is the strongest predictor of depression/happiness, followed by self-forgiveness, then gratitude, and finally spirituality. Psychological strengths were significant predictors of positive affect, accounting for 34% of the variance ($F(6, 105) = 10.54, p < .001$). Hope was the strongest unique predictor, followed by spirituality as shown in Table3, suggesting that hopeful individuals with higher levels of spirituality rate themselves as being happier. Psychological strengths were negative predictors of negative affect, the model accounting for 42.1% of the variance ($F(6, 105) = 17.37, p < .001$), with self-forgiveness as the only significant unique predictor. Figure 1 gives a graphical representation of these relationships.

-Figure 1 about here-

Qualitative Analysis of Coping Strategies

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All participants reported utilizing coping strategies ($N= 112$). This data was analyzed using content analysis as discussed previously (Coolican, 2009). In terms of individual strategies, keeping busy by structuring the day into manageable tasks was the commonest reported ($n = 101, 92.86 \%$), followed by spending time with friends and family ($n = 96, 85.7\%$), then eating healthily ($n = 96, 85.7 \%$), doing uplifting cheerful things such as exercising regularly ($n = 76, 67.86 \%$). Many respondents did use more than one strategy with the most popular multiple strategies being keeping busy, spending time with family and friends, and eating healthily and exercising, ($n = 72, 64.28 \%$). Over half ($n = 59, 52.68\%$) mentioned trying to avoid negative events reported in newspapers or television news. The benefits of medication and CBT were mentioned frequently ($75.9\%, n = 85$).

Developing acceptance and being less judgmental about themselves was a coping strategy for 17% ($n = 19$) of respondents, with comments such as this, "I simply accept it is part of what I am about and accept that I can continue to survive." Another reported that, "Accepting that I have mental illness, as total denial has not helped my recovery. I try to be kind to myself and less judgmental." Seven respondents reported brief withdrawal from family, friends, and social life as a way of coping when they become aware that their depression is returning. For example, one participant wrote, "Allowing myself to hide away, stay in bed, and be depressed for a day or two, but telling myself that it will pass". Another wrote, "Shutting down- taking about 12 hours where I retreat into myself- I call it the reset button."

Almost 24% ($n = 27$) mentioned doing voluntary work and things for others which they said helped them put their illness into context and be more grateful for what they had in their own lives. Another 17.9% ($n = 20$) mentioned the usefulness of work and the difficulty

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dealing with enforced absences from work or unemployment. Nine participants mentioned coping techniques to deal with the bad times involving structuring time and taking a day or an hour at a time. Some more specific techniques were also mentioned, "Repeating a mantra that I am not going to kill myself, " Another explained that, "Staying away from people who tell you just to get over it or that you have nothing to be down about, I already know that and it just makes me feel worse." Another said, "Keep believing that everything will pass."

Positives Resulting from Depression

In response to the question about whether their experience of depression had contributed anything positive to their lives, 25% ($n = 28$) responded negatively, with only six qualitative comments such as one respondent who said, "It is just a waste of a life and results in you having low self-esteem." From the 75% ($n = 84$) who responded positively, nineteen prefaced it by saying they never wanted to be depressed but some benefits had resulted. The most popular benefit related to personal growth ($n = 73$, 86.9%) with increases in empathy for others experiencing problems being mentioned most often. Others also reported becoming more self-aware, caring, and compassionate; "I have learnt a lot about myself, how I 'work', and especially how my mind works. Also how this applies to other people, which is very useful in work and personal life." another participant reported that, "I feel that I have grown and am more self-aware."

Increased appreciation for life was the next most popular benefit ($n = 44$, 52.4%) identified; "You appreciate life when you come out of depression- you appreciate little things like sunlight, flowers, etc." Another commented that, "I appreciate being well and I appreciate being alive a lot more than people without illnesses do." Coming to terms with issues from the past was another positive reported ($n = 27$, 32.1%), with one respondent

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reporting, "Without the depression, I would still look back in anger." An awareness of increased psychological strength as a result of surviving episodes of depression was mentioned in various forms by several respondents ($n = 15, 17.7\%$); with comments such as, "I am stronger as a result, more resilient, more caring," and "After each bout, I feel I am stronger - I can survive this." This identification of positive outcomes from their experience of depression is in keeping with the philosophy of positive psychology and evidence of growth in adversity.

Discussion

Almost all the participants were very positive about strengths assessment, seeing it as providing additional coping resources to help them deal with depressive episodes. Thus supporting the concept of a more balanced assessment as outlined in the two-continua model of mental health (Keyes, 2002, 2005). The comments from participants suggested that this would have a positive influence on how individuals perceived themselves as well as positively affecting how other saw them. The one participant, who initially queried the validity of the two-continua model in the context of his illness, changed his mind and felt that this approach was potentially very beneficial.

In this sample, psychological strengths are significant predictors of life satisfaction accounting for a large amount of variance. Gratitude is the strongest predictor and this corresponds with the existing literature on undergraduates (Emmons & McCullough, 2003; Otake et al., 2006). When faced with adversity, grateful individuals quickly respond with cognitions suggesting that it could be worse, thus countering the negative affect associated with experiencing adversity, and producing more positive affect. Self-forgiveness is the next most significant predictor of life satisfaction. Beck (1995) has shown that negative biases in
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thinking about the self are more common in depression and judgments against the self harsher and more damaging than judgments on others, so that self-blaming is more likely in depression (Beck, 1995; Ellis, 1962; Macaskill, 2012; Maltby et al., 2001,). Hope is the next most significant predictor of life satisfaction, in line with research on general populations where hopeful individuals cope better with stressors (Snyder, 2000). Hopefulness, as measured here, is a goal-directed thinking process in which people believe they can produce workable routes to their desired goals and are motivated to keep working to achieve these goals (Diener, 2000), hence its value as a motivator when dealing with recurrent depression. Spirituality is the next positive predictor of life satisfaction, and this fits with previous research on undergraduates (Daaleman et al., 2001). Although researchers have written a great deal about the importance of spirituality for mental health, obtaining empirical validation with a patient population in this study is novel.

Optimism is a negative predictor of life satisfaction. Optimists consider negative situational outcomes as temporary and specific rather than the result of persistent and pervasive factors. However, as episodes of depression continue to recur, this is likely to challenge their conceptual model. Researchers could explore this further in future. Optimism is unlike the other psychological strengths in that high levels of optimism are not always positive, especially when related to health care, where it can become unrealistic optimism. Individuals with high levels of unrealistic optimism may then fail to follow health care advice. In recurrent depression, unrealistic optimism when well, may lead to medication being stopped prematurely, higher incidences of relapse and lead to greater distress when depression reoccurs and is worth examining further in future studies.

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The most significant predictor of depression/happiness is optimism followed by self-forgiveness, gratitude, and spirituality, the four accounting for a large amount of variance. The arguments presented in relation to life satisfaction apply equally here for self-forgiveness, gratitude, and spirituality; they involve less blaming of the self, counting blessings with associated positive thinking, low existential angst, and high self-efficacy all predicting less depression and increased happiness. For life satisfaction, optimism is a negative predictor, whereas optimism predicts higher scores on depression/happiness. However, participants have to apply different time perspectives when assessing life satisfaction and happiness/depression and this may explain these results. Optimism influences largely how individuals deal with their current situation, perceiving negative events as temporary and specific, motivating them to take action (Scheier et al., 2001). Similarly, the depression/happiness scale requires individuals to focus on the present with the longest perspective being about the last week. Assessing life satisfaction requires participants to reflect on their life to date and hence take a much longer perspective and optimistic cognitions do not work so well with this longer perspective. These differences in time perspective may account for the positive relationship between optimism and depression/happiness and the negative relationship between optimism and life satisfaction. Researchers could explore these differences further in future.

Spirituality is the most significant predictor of positive affect followed by hope. Individuals high in spirituality feel that their life has meaning and is purposeful and they are high in self-efficacy so feel equipped to deal with whatever life throws at them (Daaleman and Frey, 2004; Daaleman et al., 2001), all useful attributes for dealing positively with recurrent depression. Hopeful individuals are good at problem solving, planning how to cope

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in future, and are high in positive motivation in terms of how they conceive the future, making the link with positive affect easy to understand. Hope being a predictor of positive affect supports previous research (Snyder, 2000; Snyder and Lopez, 2005, 2007). Although all the psychological strengths explain a large amount of the variance in negative affect scores, only self-forgiveness is a unique predictor suggesting that individuals who are unforgiving in relation to themselves have higher levels of negative thought.

The qualitative data provide a very useful understanding of how individuals cope with recurrent depression. Everyone had positive coping strategies. They are trying to pursue healthy lifestyles with exercise, eating well, and spending time with friends and family. Respondents rated the traditional treatment approaches of medication and CBT positively. Less expected is the avoidance of negative events like the television news or newspapers, but these examples evidence how, even when well, depression still affects the individual's lifestyle. Developing acceptance and being less judgmental of the self, fit with self-forgiveness in the psychological strengths analysis where it links with greater life satisfaction and happiness. Although withdrawal was a minority response, it challenges the "talking cure".

A large proportion reported that depression had contributed something positive to their lives, mostly through personal growth and appreciation of life. The smaller negative group said very little. In research on forgiveness, the person finding some positive experience to associate with the event or its aftermath enhances individual adjustment after a traumatic event. It would be interesting to see whether this identification of positive outcomes applies to the adjustment to living with recurrent depression.

Strengths and Limitations

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This is the first study to assess a range of psychological strengths in individuals living with recurrent depression. The qualitative data came from a much larger sample than usually occurs in such studies, adding validity to the data. While this research provides useful insights on coping behavior, the participants did report high numbers of coping strategies and a high level of multiple coping strategies. It may be that these individuals joined the website, as they are motivated to learn to cope with their depression. The website discussions are also likely to provide them with more information on coping strategies, so they may be better informed. Researchers could usefully compare this data with that obtained from samples of individuals receiving standard treatment and support for recurrent depression through health centers. The lack of participants above 65 years may be a result of internet recruitment. The greater numbers of males responding than females is difficult to explain as both men and women in about equal numbers use the site.

One criticism sometimes leveled at studies like this one, is the method variance issue, said to result from the use of self-report items to measure all the variables in a study. The contention is that data collected by this method lacks construct validity. However, this is a hotly debated issue, with some researchers such as Spector (1977), (2006) suggesting that method variance is an "urban legend" with little credible supporting empirical evidence in relation to self-assessment in particular as a methodology. He argues instead that while there may be biases in data collection, they do not relate just to the methods but rather to a combination of methods and constructs and this may apply equally to other methodologies. Brannick, Chan, Conway, Lance, and Spector (2010) argue that in some situations self-report measures are the most appropriate assessment tool when wishing to assess personal qualities of an individual. I would argue self-assessment of strengths is entirely appropriate in this

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study. Brannick et al., suggest that if the scales used are psychometrically sound, with good evidence of construct validity, as in this study, then construct validity is not an issue. They also suggest that labeling the different scales used as they appear in the questionnaire and defining what the researcher is measuring in each scale as in this study, mitigates against possible method variance, as does the presence of some non-significant correlations between self-assessed variables as found in this study.

In future studies, it would be useful to include a clinical assessment of depression to examine whether the current severity level of depression impacts individuals' reactions to the utility of psychological strengths assessment.

Phase 2: Follow-up Telephone Interviews

The aim was to explore participants' knowledge of positive psychology, and to discuss in more detail whether they felt that knowledge of their psychological strengths might be helpful and useful.

Procedure

After completing the questionnaire participants could email the researcher to indicate if they were willing to participate in further research and 73 (65.19%) responded. I contacted a random sample of seventeen of this group and 10 were available to participate in a telephone discussion during the times suggested. We agreed telephone interview times by email. Interviews lasted between 20 and 30 minutes.

Participants

In total, I interviewed four females and six males, with a mean age of 43 years, ($SD = 10.98$), all of whom had participated in phase one.

Interview Schedule

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The schedule began by thanking participants for their contribution to the study so far. I then asked them to tell me about their depression. A series of prompts were prepared, but it proved unnecessary as interviewees all provided sufficient detail to assure me that they had experienced recurrent depression. Next, I asked them whether they had heard of positive psychology and strengths assessment before this study. Then, I asked if they thought strengths assessment and training on strengths development could be useful in depression. Finally, I asked for any other comments they wanted to make.

Data Analysis

As in Phase 1, I used content analysis (Coolican, 2009), following the procedures described previously. In qualitative methodology, there are no pre-set or calculable sample sizes so the aim is to undertake interviews until saturation occurs. Morse (1995) defined saturation as the point at which the latest interview yields no more new information. By interview eight, I had achieved saturation. A doctoral student checked the interviews using the method described previously. The inter-rater reliability was substantial (Landis & Koch, 1977) with Kappa = 0.73 ($p < .001$), 95% CI (0.60, 0.86), (Cohen, 1960).

Results

None of the participants had any knowledge of positive psychology prior to completing the questionnaire but seven of them had undertaken web searches subsequently to find relevant material. The remaining three had bought books on positive psychology and all were interested in knowing more. All respondents were very positive about assessing psychological strengths as a formal part of clinical assessment as the two quotes below exemplify:

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It would give you sort of something to work with. You feel that you have this huge hill to climb to get out of the depression and then there will be another one. It's dispiriting. Being told you have strengths to use would be a boost.

I am surrounded by people who see me as having a huge problem because I get depressed. It is easy for that to rub off on you. Having a report on your strengths would be good for me and for those around me to see it. They might see me differently.

Another reported, "When I see the doctor, the psychiatric nurse, or any other health worker, all they talk about is my problems, it would be refreshing to talk about the strengths I have to help me get through."

All the participants welcomed the idea of further training to develop and implement their strengths further and several asked if it was available.

I would love to be able to really explore my strengths with someone. I have done some more assessment on a website but while it said something about using your strengths, it did not apply to illness. I want to know how I can become more grateful for example if it would prevent me getting depressed again. How do I need to change?

I have not included responses that were similar to those already in phase one.

Discussion

The telephone interviews confirmed the written qualitative comments reported in Phase one. All the interviewees made it clear that because they have recurrent depression, their family and friends see them as being deficient in some way. Participants saw strengths assessment as a way of transforming how others see them and how they see themselves. However, researchers must be careful not to be overzealous in presenting the benefits of positive

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psychology with conditions like recurrent depression where there is are genetic and biological markers. Several of the participants were enthusiastically seeing positive psychology as a way of preventing relapse rather than as an aid to coping.

The interviewees had all searched for more information on positive psychology evidencing their interest. Future researchers need to examine whether samples recruited in clinical treatment settings are as interested. Participants for the interviewee selection pool were self-selecting from those who were already using a specialist internet forum on depression. However, two thirds of the participants who completed the questionnaire did volunteer to participate in further research. This high response rate must surely be evidence of interest in the topic.

Clinical Implications

Most patients seen for CBT for example, are experiencing acute episodes of depression whereas the participants in this study are living with bouts of recurrent depression and even when well, depression still effects them (Conradi, de Jonge, & Ormel, 2008). They have developed strategies to help them cope, and they watch for signs of recurrence of their depression. They have some very different issues from patients in the acute group. Therapists need to be more aware of the issues that this group of patients has to deal with. The differences in positive and negative affectivity found here in relation to self-forgiveness, emphasize the need for therapists to consider both separately in their interventions. It is easy to assume that by working on developing positive cognitions, negative cognitions will decline but the two are conceptually distinct and require addressing separately (Diener, 2000).

Living with recurrent depression is a burden to individuals and their families. It was clear that people living with recurrent depression could very easily perceive themselves

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negatively. Assessing and reporting on psychological strengths is one way to counteract this. Strengths assessment can provide a counterbalance to all the bad news about the illness. Positive psychology researchers are now developing strengths interventions for therapists to incorporate into therapy for these groups. Based on the present results, individuals with recurrent depression would welcome these interventions.

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Table 1. Means, standard deviations, ranges, and alpha coefficients for all the variables
(N=112)

Measure	<i>M</i>	<i>SD</i>	Range	α
Gratitude	29.78	7.98	6-42	.76
Hope	41.80	10.76	12-96	.72
Optimism	16.71	6.80	6-30	.91
Self-forgiveness	7.92	3.46	0-15	.82
Other-forgiveness	10.93	2.59	0-15	.71
Spirituality	37.51	5.71	12-60	.63
Life satisfaction	17.01	7.24	5-35	.87
Depression/happiness	14.39	4.26	6-24	.91
Positive affect	26.84	9.83	10-50	.92
Negative affect	28.68	12.37	10-50	.93

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Table 2. Correlations between psychological strengths and well-being measures (N = 112)

Measure	1	2	3	4	5	6	7	8	9
1. Gratitude	--								
2. Hope	.54***	--							
3. Optimism	.61***	.68***	--						
4. Self-forgiveness	.41***	.61***	.68***	--					
5. Other-forgiveness	.27**	.34***	.39***	.30**	--				
6. Spirituality	.32**	.56***	.56***	.43***	.24**	--			
7. Life satisfaction	.63***	.67***	.54***	.61***	.09	.48***	--		
8. Depression/Happiness	.62***	.60***	.77***	.67***	.25**	.60***	.68***	--	
9. Positive affect	.29**	.57***	.40***	.29**	.20*	.49***	.44***	.54***	--
10. Negative affect	-.39***	-.48***	-.55***	-.65***	-.03	-.38***	-.48***	-.66***	-.16

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

[Type text]

Table 3. Regression analysis summary for psychological strengths predicting life satisfaction, depression/happiness, positive affect, and negative affect

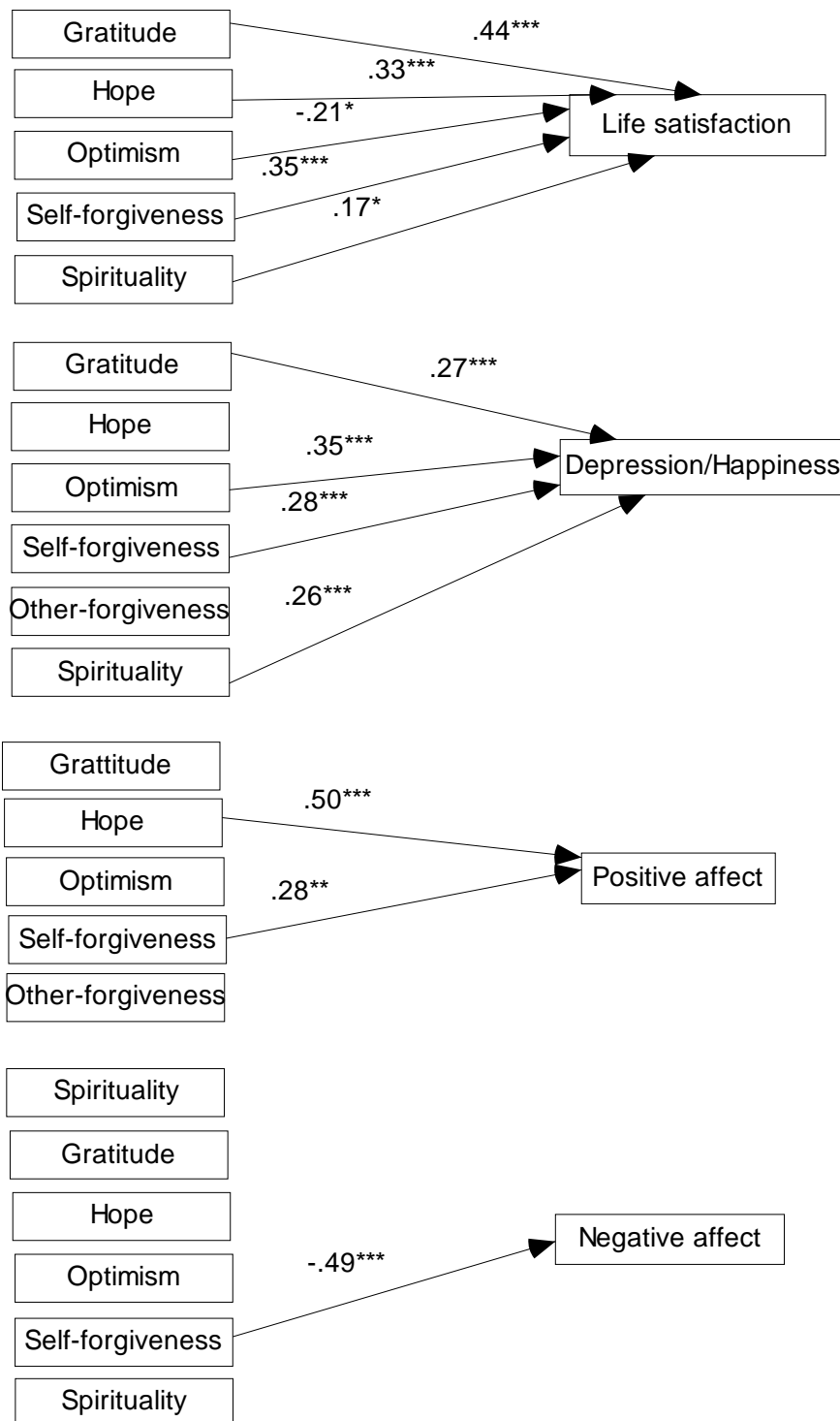
Variable	Life satisfaction			Depression/Happiness			Positive affect			Negative affect		
	B	SEB	β	B	B	β	B	SEB	β	B	SEB	β
Gratitude	.40	.07	.43***	.14	.04	.27***	-.01	.12	-.01	-.15	.15	-.09
Hope	.22	.06	.30***	-.03	.03	-.08	.45	.11	.50***	-.02	.13	-.02
Optimism	-.22	.11	-.26*	.22	.06	.35***	-.01	.20	-.01	-.20	.23	-.11
Self-forgiveness	.74	.17	.35***	.35	.09	.28***	-.36	.31	-.13	-1.77	.37	-.49***
Other-forgiveness				-.12	.09	-0.08	.04	.32	.01			
Spirituality	.22	.09	.17*	.20	.05	.26***	.48	.17	.28**	-.14	.20	-.067

Note. Life satisfaction $R^2 = .63$ ($N = 112, p < .001$) Depression/Happiness $R^2 = .72$ ($N = 112, p < .001$)

Positive affect $R^2 = .38$ ($N = 112, p < .001$) Negative affect $R^2 = .48$ ($N = 112, p < .001$)

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

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Figure 1. Psychological strengths predicting life satisfaction, depression/happiness, and positive affect with the arrows illustrating the statistically significant unique predictors.