The Role of Rational and Irrational Beliefs in Positive and Negative Mental Health Outcomes

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Yours sincerely

Kevin Morley
Abstract

The current research investigated whether irrational beliefs (Demandingness, catastrophizing, Low Frustration Tolerance [LFT], and depreciation beliefs) as defined by REBT theory were central cognitive constructs in the prediction of loneliness. The results indicated that higher levels of depreciation beliefs, and higher levels of catastrophizing beliefs, predict higher levels of psychological distress.

Little is currently known in either area of REBT or positive psychology regarding the role of rational beliefs processes (preferences, non-catastrophizing, high frustration tolerance, and acceptance) in the prediction of positive mental health outcomes. This study was a novel attempt to represent the first empirical test of Albert Ellis’s REBT model of psychological health in the prediction of positive mental health outcomes. Also investigated were the predictions of REBT’s theory of psychological health by investigating whether rational belief processes (preferences, non-catastrophizing, high frustration tolerance, and acceptance) can significantly predict levels of happiness, satisfaction with life, and optimism respectively. Of all the rational belief processes, acceptance was most influential in predicting levels of happiness. An analysis was run to see if there was a statistically significant difference between men and women negative mental health but unfortunately nothing of significance emerged.
“People are not disturbed by things, but by the views they take of them” – Epictetus

Introduction

The middle of the nineteenth century was commonly dominated by psychoanalysis and behaviourism. Behaviourist theory was not interested in the internal world of the individual, and similar to psychoanalytic thought, to them the patient was not viewed as a conscious agent. The behaviourist theory postulated that environmental events determined the behavioural outcome. By in large, traditionally, the behaviourist ignored the cognitive internal workings of the client.

Contrary to the latter opinion, Psychoanalytic theory and therapeutic approach, proclaimed that the internal world of the individual to be of integral significance. But they too, to a significant degree, overlooked the impact of conscious thought on the effect of human life (Dryden & Lemma, 2002).
The Beginnings of Cognitive-Behavioural Therapy

Early in the 1960s a new ground-breaking theory with philosophical underpinnings emerged, known as, cognitive theory. It contradicted the aforementioned theories of thought in regards what motivated human behaviour. Cognitive therapy developed a cognitive behavioural model focused more on action-orientated techniques which enabled the therapist to ease emotional distress (Spinelli, 2006). This model was created on the premise that erroneous beliefs and assumptions which were the manifestation of a skewed distortion of reality gave rise to emotional pain and specific psychopathologies (Beck, 1976). Distorted Cognitive processing triggered by depressive schemas lead to the impairment of perception, long-term memory, recall and inferences. A result of this negative type of cognitive processing, individuals prone to engaging with these types of negative cognitions can experience a view of the world which is very unsettling which in turn fosters feelings of hopelessness (Colledge, 2002).

The aim of this form of therapy was to pin point and alter debilitating and irrational modes of thought which Ellis hypothesised to be the root of human emotional suffering. Unlike many of the already existing therapeutic schools of thought, this revolutionary approach to alleviating human suffering was based upon data which was experimentally and empirically tested. This scientific approach based on data analysis, achieved reliability and validity through the scrupulous scientific experimentation of human behaviour (Spinelli, 2006).
Rational Emotive Behaviour Therapy

Albert Ellis’s rational-emotive behaviour therapy is the original psychopathological model of cognitive therapy. It is a dynamic comprehensive theoretical framework that focuses on the ABC model. Ellis postulated that when an individual reacts to an unpleasant activating (A) internal or external event it has negative emotional consequences (C). The various ways in which individual’s respond will depend on their core belief (B) system (David et al., 2010). What differentiated Ellis’s psychopathological model from other cognitive behavioural schools of thought was that he maintained that the main psychological process involved in the development of psychopathology was the conversion of flexible preferences into rigid demands. Flexible preferences are a consequence of holding rational beliefs which lead to a more positive evaluation of an event which fosters psychological health. Rigid demands are a by-product of irrational beliefs which are extreme evaluations of day to day events (Hyland, et al., 2013).

Ellis found that individuals who have a propensity for holding irrational beliefs are more susceptible to experiencing depression and other debilitating psychopathologies. He maintained that at the core of human suffering is the tendency to use absolutistic evaluations of events perceived by individuals and to counter such rigid inflexible demands it is imperative to transform these absolutistic requests into preferences (Macavei, 2005). Fundamental to REBT theory is the transformation from demands to preferences and this approach distinguishes REBT from other cognitive behavioural therapies.
The Nature of Irrational and Rational Beliefs

The theory of REBT is organised around rational and irrational beliefs. Rational beliefs (Preferences, Non-Catastrophizing, High Frustration Tolerance, and Acceptance beliefs) are flexible in nature. Preferences are the opposite of demands, non-catastrophizing is the ability to use reason when in a stressful situation, HFT is the ability to withstand the stresses of life, and acceptance is the ability to internalise a positive view of oneself (Hyland, in press). They are pragmatic, logically coherent and empirically sound. They lead to a more objective view of reality which fosters positive mental health within an individual. Irrational beliefs (Demandingness, Catastrophizing, Low Frustration Tolerance, and Depreciation beliefs) are the opposite of this for they are non-flexible, non-logically coherent, and are not embedded in empirical reality. Demandingness is the propensity to ask unrealistic requests of oneself, catastrophizing is a tendency to view problems in a unrealistic manner, while LFT is a habit of imagining that you have no strength to withstand stressful situations, and depreciation beliefs are the tendencies of an individual to downplay ones abilities and achievements. By character irrational beliefs are extreme and rigid (David, Lynn & Ellis 2010; Dryden & Neenan, 2004). A study carried out by Szentagotai and Freeman in 2007 to test the REBT model, findings suggested that irrational beliefs were found to be a significant contributing factor in the development and maintenance of depressive states.

Originally Ellis labelled fourteen different types of irrational beliefs in his therapeutic cognitive model. Over time, due to empirical research Ellis was able to pin-point the more attributable irrational beliefs linked to psychopathology. Irrational beliefs are stimulated by negative life events. Ellis’s most frequently encountered errors in the therapeutic setting were “all or nothing” thinking (viewing problems in a
one dimensional, simplistic manner), magnification/minimization (ignoring the positive side of an event and focusing on and enlarging the negative), arbitrary inference (a tendency to arrive at negative conclusions with a lack of supporting evidence), selective abstraction (a tendency to focus on a negative event while ignoring all aspects of a situation) and finally, labelling (the tendency to label things in a negative way while ignoring the choice to view things in a less negatively extreme way), (Bridges and Harnish, 2010).

**Empirical Review of REBT**

There is a vast amount of empirical support for REBT theory to highlight it’s effectiveness in alleviating psychopathological symptomatology. Szentagotai and Freeman (2007) demonstrated through stringent testing the fundamental causes in the genesis of depressive moods in a sample of clinical patients to test the REBT hypothesis of irrational beliefs. Their aim was see how much of an impact negative distorted thoughts had on patients experiencing major depressive disorders and how much of a role irrational beliefs played in this process. Szentagotai and Freeman’s (2007) study revealed that participants who held irrational beliefs at the time of the experiment were more susceptible to mood change, and distorted negative thoughts had less of an impact when there was an absence of irrational beliefs in the participant.

According to REBT theory, central to the manifestation of depressive symptomatology is the existence of demandingness beliefs in an individual’s psychological framework. According to this theory, depression develops from irrational beliefs, self-downing and demandingness in particular. Typical of an individual who holds such rigid beliefs and demands, is the pattern of internal
dialogue such as “I must be competent at all times, or else I am a failure and a worthless human being”, (Kendall et al., 1995). To support this hypothesis, Solomon et al. (2003) designed a study in which two groups, non-depressed group, and remitted depressed group, were compared to see if there were differences in demandingness beliefs between groups. Their design enabled them to hypothesis that the depressive group would hold more irrational beliefs, one of them being demandingness, and it would have an impact on levels of depressive mood states compared to the non-depressed group who should exhibit less negative mood states. Soloman et al. (2003) found statistically significant differences between the groups. The remitted depressive group help nine times more demand beliefs compared to the non-depressive group which supported Ellis theory that demandingness beliefs play a key role in the development of depression (Ellis, 1987). Even though Ellis agreed that there was a lot in common between his and Becks psychological model he did argue that Beck’s was incomplete because he did not take demandingness into consideration. For Ellis, demandingness along with depreciation beliefs was the cornerstone in the development of psychological distress (Ellis, 2003). In a study by Szentagotai et al. (2008), they compared the effectiveness between RETB, CT and pharmacotherapy in the treatment of a clinical sample of individuals with depressive disorders. They found that all treatments were equally efficacious but six months after the trial the REBT group had significantly less relapses. When taking into consideration the aforementioned studies and the mounting body of evidence that supports Ellis’s model it can be concluded that this is an empirically tested and comprehensive cognitive model which has just as much credibility as other cognitive therapeutic models.
Loneliness

Substantial empirical evidence indicates that loneliness plays a significant role in the emergence of pathological symptoms. Recent research has highlighted that the presence of loneliness in an individual’s life can lead to variations in depressive symptoms and affects one’s cognitive faculties and lead to higher levels of anxiety, negative moods and depressive symptomatology (Cacioppo & Hawkley, 2009).

As a social species many people experience loneliness in their lives which is associated with perceived social isolation. An individual can have a rich social life and still experience loneliness and conversely someone who lives a more monastic lifestyle can be less lonely. Studies have shown that loneliness can have significant deleterious effects on an individual’s life emotionally, cognitively and psychologically (Cacioppo & Hawkley, 2010). Although an important factor in the development in psychopathology little is currently understood regarding the role between dysfunctional thinking styles and loneliness.

While substantial evidence exists supporting the role of irrational beliefs in psychopathology, comparatively little is known regarding the protective role played by rational beliefs in the development of psychopathology (Hyland, Shevlin, Adamson, & Boduszek, 2013). Additionally, there is a complete lack of evidence in the psychological literature regarding the role of rational beliefs in positive mental health outcomes (David et al, 2010).
The positive effects of happiness

There are important reasons for investigating the development of positive mental health states. Research has suggested that happier people have a tendency to be more psychologically healthy, have fewer symptoms of psychopathology and experience a higher level of positive symptoms (Ayers, 2013). Specific characteristics such as self-efficacy, confidence, and optimism have been suggested to be correlated to happiness which in turn increase pro-social behaviour, energy, effective coping with life challenges and stress (Lyubomirsky, et al., 2005). Cross-sectional research has demonstrated that people with higher levels of happiness or positive affect have shown to exhibit significantly less symptoms of depression, hypochondria, and schizophrenia (Diener & Seligman, 2002). Cross-sectional research has shown that happy people are less likely to have a history of social phobia or anxiety, are less likely to report a history of substance abuse (Bogner et al., 2001; Kashdan & Roberts, 2004). Longitudinal studies focusing on a student sample found that the top 10% of happy students seemed to have significantly more friends and their relationships were more substantially satisfying and fulfilling (Staw et al., 1994). It then stands to reason; a prevalence of more high quality social relationships in an individual’s life might help decrease levels of loneliness and in turn foster more resilience within an individual. Furthermore, it has been found that happiness and success are significantly correlated and individuals who experience more happiness in their lives can experience more success in other domains such as work, relationships and recovery to illness (Lyubomirsky, King, and Diener, 2005). Modern day psychologists are spending an increasing amount of time in the pursuit of understanding an individual’s strengths and the preventions of mental disorders instead of the traditional approach of focusing on treatment and the individual’s weaknesses and psychopathologies.
Due to this shift of attention from the traditional approach to the more contemporary, it has influenced research to focus on more positive emotions and happiness which encapsulates the core foundations of positive psychology (119, happy book).

**Optimism and positive mental health**

Tiger (1979) said optimism is “a mood or attitude associated with an expectation about the social or material future, one which the evaluator regards as socially desirable, to his or her advantage, or for his or her pleasure”. Optimism has been the debate between philosophers for centuries. Nietzsche and Sophocles debated whether optimism was really a helpful inherent part of human nature and that it was possibly prolonging human suffering (Peterson, 2000). Contrary to this argument, studies have shown optimism to be a coping mechanism for human beings when stressful events are encountered. A by-product of optimism is better physical health, and positive social networks along with bolstering human beings in times of distress and fostering positive mental health (Carver et al., 2010; Nes & Segerstorm, 2006; Taylor & Stanton, 2007).

Taylor et al. (2010) carried out a longitudinal study among Mexican families to investigate whether dispositional optimism, theorized to be a psychological resource, protected families from economic challenges. The fundamental aim of the study was to measure maternal dispositional optimism at two different time periods to see if a difference emerged in parenting skills when faced with the deleterious consequences of financial strain. The findings provided evidence that suggested that those mothers with higher levels of optimism were far more capable of providing more stable parenting behaviours to those parents who scored lower in levels of
optimism. Such empirical investigations suggest that optimistic individuals benefit psychological benefits such as good mood, physical health, perseverance, achievement and the ability to effectively solve problems (Taylor et al. 2010). It is hypothesised within this study that a difference between those who engage with rational thoughts opposed to irrational thoughts should experience more levels of optimism in their lives and the benefits that proceeds to it.

**Optimism in the Therapeutic Environment**

It should be taking into consideration that there are individuals who have an unrealistically optimistic view of the future and this can lead to a dilemma for the therapist when encountering such an individual. Psychologically healthy people on average have a propensity for positive illusion, which is to say, a need to see the positive in life in order to cope in times of challenge. For some clients it is of the utmost importance for the therapist to instil optimism into the life of a patient for studies have shown its psychological benefits. A mounting body of evidence suggests that individuals experiencing depression and anxiety often lack these positive illusions (optimism). Unfortunately, for a vast amount of reasons, therapy does not work for everyone. It is imperative for the therapist to ask the question whether it is ethically acceptable to attempt instilling optimism into the life of a patient who for complex reasons the therapy is not working. If this therapeutic conundrum is not delicately dealt with it can lead to false hope which in turn can result in a loss of trust in the therapist, unnecessary toxic treatments, and years of suffering (Dembo, & Clemens, 2013).
Differences between men and women

Widely acknowledged in psychological literature since the 1960’s is the difference between males and females in the way in which they experience certain psychopathologies and the differences in intensity experienced between the sexes. It has been pointed out that women are far more likely to experience more clinically relevant levels of depression and anxiety (Nolen-Hoeksema, 1987). There have been various attempts to explain this phenomenon, different theories focusing on biological, psychological, and socio-economic factors. Another explanation for this difference in response to stressful life events leading to depressive symptoms is the possibility that women have less effective ways of coping due to a reliance on a more passive, emotion focused strategy (Thoits, 1995; Vingerhoets, & Heck, 1990). Within cognitive psychology there has been a significant amount of research which suggests that the cognitive strategies for coping such as ruminating thoughts, catastrophizing and self-blame are related to negative mental health states such anxiety disorders and depression (Anderson, Miller, Riger, Garnefski, & Sedikides, 1994; Sullivan, Bishop, & Pivik, 1995; Carver, Scheier, & Weintraub, 1989; Garnefski et al., 2001). In addition, studies by Nolen-Hoeksema 1991, have illustrated that women have a greater tendency to engage with more ruminative thought processes than men and this in turn can lead to the amplification of negative emotions. With respect to these findings it is of interest in this study to see if there is a significant difference between males and females in positive and negative mental health.
Rationale

Based upon the literature review there is significant scope for advancing the field of REBT research and the wider clinical psychology literature by investigating the predictions of REBT theory in the context of negative and positive mental health states. To date, no research has been carried out to investigate whether irrational beliefs as defined by REBT theory are important cognitive constructs in the prediction of loneliness. This will therefore provide a novel and original contribution to the scientific literature. Additionally, very little is currently known in either the field of REBT or positive psychology, regarding the role of rational beliefs in the prediction of positive mental health outcomes. This study will therefore represent the first empirical test of the REBT model of psychological health in the prediction of positive mental health outcomes.

Research aims and hypothesis

The current study as such includes three primary research objectives. The first research question is to investigate whether there are any differences between males and females on levels of negative (loneliness and psychological distress) and positive (happiness, optimism, and satisfaction with life) mental health outcomes. With respect
to this research objective it was hypothesised that females would display significantly higher levels of negative mental health compared to men; however, given the paucity of research regarding gender differences in positive mental health it was impossible to formulate a reasonable working hypothesis.

The second research aim is to investigate the predictions of the REBT model of psychopathology by investigating the role of irrational beliefs (Demandingness, catastrophizing, Low Frustration Tolerance [LFT], and depreciation beliefs) in the prediction of two markers of negative mental health that have yet to receive empirical attention by the REBT research community. It is hypothesised that the REBT model will significantly predict a substantial percentage of variance in levels of loneliness, and psychological distress, respectively.

The third research aim is to investigate the predictions of the REBT model of psychological health by investigating the role of rational beliefs (Preferences, Non-Catastrophizing, High Frustration Tolerance [HFT], and Acceptance beliefs) in the prediction of three markers of positive mental health that have yet to receive empirical attention by the REBT research community. It is hypothesised that the REBT model will significantly predict a substantial percentage of variance in levels of happiness, satisfaction with life, and optimism, respectively.
Method

Participants

An opportunistic sample of 82 members of the general public were included in the current study (N = 82). The sample consisted of 38 males (46.34%) and 44 females (53.64%). The participants ranged from 17 to 68 years of age (M = 25.94, SD = 11.68). The respondents number of close friends, partners and relatives ranged from 1 to 40 (M = 10.45, SD = 7.335). It was reported that 31.7% (n = 26) of participants resided in a rural area; 45.1% (n = 37) were living in suburban; and 23.2% (n = 19) were from an urban environment. A significant number of respondents indicated their marital status as single, 69.5% (n = 57), while 3.7% (n = 3.7) indicated they were divorced. There were 17.1% (n = 14) married participants and 9.8% (n = 8) who are co-habiting with a partner. The sample consisted of the general public who completed an anonymous paper and pencil questionnaire which was assembled into a booklet. Participants were informed of the confidentiality of their participation and made aware that at any time they could withdraw from the study. A signed consent form was attached to the coversheet of the questionnaire booklet along with details of the study.
Materials

A questionnaire method was applied and no treatment interventions were conducted during the course of research. Rational and Irrational beliefs were measured using the *Attitudes and Beliefs scale 2: Abbreviated version* (Hyland, Shevlin, Adamson, & Boduszek, 2013). This is a 24 item self-report scale that measures all four irrational belief processes (Demandingness, Catastrophizing, Low Frustration Tolerance, and Depreciation beliefs) and all four rational belief processes (Preferences, Non-Catastrophizing, High-Frustration Tolerance, and Acceptance beliefs). Each of the 8 subscales are measured via 3 items each, along a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). Scores for each of the subscales can therefore range from 3-15 with higher scores in each case indicating higher levels of each belief process. The scale displayed satisfactory internal consistency within the current sample and each subscale reported a Cronbach’s alpha value above .80.

Loneliness was measured using the *University of California-Los Angeles (UCLA) loneliness scale* (Version 3;, Russell, 1996). The UCLA includes 20 items measuring interpersonal loneliness. Participants were required to report how often they experience each item on the scale indicating a greater degree of loneliness. The UCLA measures levels of loneliness along a 4-point Likert scale anchored with “I never feel this way” and “I often feel this way”. Cronbach’s alpha for the UCLA was .94.

Psychological distress was measured using the *General Health Questionnaire-12* (GHQ-12: Goldberg & Williams, 1998). The GHQ-12 is a self-report scale along a four point Likert scale (0, 1, 2, and 3). Total possible scores ranged from a minimum of 0 to a maximum of 36, with higher scores indicating higher levels of psychological
distress. Scores on the GHQ-12 from 11-12 are typical; scores greater than 15 suggest psychological distress; and scores greater than 20 suggest severe psychological distress. Cronbach’s alpha for the GHQ-12 within the current sample was .93.

Happiness was measured using the Oxford Happiness Questionnaire, short form (OHQ-SF: Hills and Argyle 2002). The OHQ-SF includes 8 items to measure levels of personal happiness along a 6-point Likert scale anchored with “strongly disagree” and “strongly agree”. An example of a positive item is “I feel life is very rewarding”, and a negative item is “I do not have particularly happy memories of the past”. Scores range from 8-48 with higher scores reflecting increased levels of happiness. Cronbach’s alpha for the Oxford happiness Scale was .695.

Satisfaction with life was measured using the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985). The SWLS is a 7-item scale anchored with “strongly disagree” and “strongly agree”. Items of the SWLS were rated along a 5-point Likert scale with higher scores indicating higher levels of life satisfaction. An example of a positive item is “In most ways my life is close to my ideal”, or “I am satisfied with my life”. Cronbach’s alpha for the SWLS was .86.

And finally, to measure optimism, the Revised Life Orientation Test (LOT-R; Scheier, Carver, & Bridges, 1994) was used. The LOT-R is a 10 item scale with 3 positive items, 3 negative items, and 4 filler items. An example of a positive item is “In certain times, I usually expect the best”, and a negative item is “If something goes wrong for me, it will”. Items of the LOT-R are rated along a five-point Likert scale with higher scores indicating higher levels of optimism. Cronbach’s alpha for the LOTR-R within the current sample was .79.
Design

The current study is cross-sectional in nature, utilising a quantitative research design. All analyses for the current study were carried out using Statistical Package for Social Sciences version 21 (SPSS-21). Preliminary analyses were initially conducted to assess for the presence of outliers and non-normality. All variables in the study satisfied the assumption of normality and no outliers were identified. Reliability analysis was (Cronbach’s Alpha) performed on each questionnaire to determine the internal reliability of each scale. Descriptive statistics were carried out to provide general information on the sample of participants.

The first research question investigating gender differences necessitated the use of an Independent samples t-test with a Bonferroni correction method (0.05 / 5 = 0.01). For the purposes of the first hypothesis, differences between the genders were only considered to be statistically significant below an alpha level of 0.01 Pearson product moment correlation coefficients were also performed in advance of the regression analysis to ensure test assumptions were satisfied. Also, correlation analysis was conducted to ensure that the predictor variables are significantly correlated with the criterion variables, and that the predictor variables are not highly associated with each other (assumption of multicollinearity). A standard multiple regression analysis was performed to identify whether the predictor variables can explain the various criterion variables under investigation, and to access to the unique, independent effect of each predictor on each criterion variable. Due to the statistical limitations of multiple regressional of only including 1 criterion variable in each analysis, five multiple regression analyses were conducted.
Results

Descriptive Statistics

Outlined in table 1 below are the descriptive statistics (means and standard deviations) for the measured variables in the current study. As can be observed, participants in the current sample demonstrated moderate levels of demandingness, catastrophizing, and low frustration tolerance beliefs but notably displayed very low levels of depreciation beliefs. In terms of the rational belief processes, participants displayed moderate levels of preference, non-catastrophizing, and high frustration tolerance beliefs, and very high levels of acceptance beliefs. These results are interesting as they seem to indicate something unique about the depreciation and acceptance belief processes, respectively.

With respect to the other variables in the study, the current sample displayed low levels of loneliness; scores on the GHQ in the average range; moderately-high levels of happiness; moderate levels of satisfaction with life; and moderate levels of optimism.
Table 1

*Descriptive statistics and reliability of all continuous variables*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>Possible Range</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
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<tr>
<td>Demandingness</td>
<td>10.15</td>
<td>2.53</td>
<td>3-15</td>
<td>3-15</td>
<td>.84</td>
</tr>
<tr>
<td>Catastrophizing</td>
<td>8.31</td>
<td>3.19</td>
<td>3-15</td>
<td>3-15</td>
<td>.81</td>
</tr>
<tr>
<td>LFT</td>
<td>9.60</td>
<td>2.80</td>
<td>3-15</td>
<td>3-15</td>
<td>.82</td>
</tr>
<tr>
<td>Depreciation</td>
<td>5.43</td>
<td>2.90</td>
<td>3-15</td>
<td>3-15</td>
<td>.95</td>
</tr>
<tr>
<td>Preferences</td>
<td>9.94</td>
<td>2.90</td>
<td>3-15</td>
<td>3-15</td>
<td>.85</td>
</tr>
<tr>
<td>Non-Cat</td>
<td>11.06</td>
<td>2.33</td>
<td>5-15</td>
<td>3-15</td>
<td>.84</td>
</tr>
<tr>
<td>HFT</td>
<td>10.40</td>
<td>2.53</td>
<td>4-15</td>
<td>3-15</td>
<td>.78</td>
</tr>
<tr>
<td>Acceptance</td>
<td>12.14</td>
<td>2.47</td>
<td>4-15</td>
<td>3-15</td>
<td>.83</td>
</tr>
<tr>
<td>Loneliness</td>
<td>35.67</td>
<td>11.86</td>
<td>20-67</td>
<td>20-80</td>
<td>.94</td>
</tr>
<tr>
<td>PD</td>
<td>12.11</td>
<td>7.03</td>
<td>2-31</td>
<td>0-36</td>
<td>.93</td>
</tr>
<tr>
<td>Happiness</td>
<td>33.27</td>
<td>6.58</td>
<td>16-47</td>
<td>8-48</td>
<td>.70</td>
</tr>
<tr>
<td>SWL</td>
<td>21.01</td>
<td>6.55</td>
<td>8-32</td>
<td>5-35</td>
<td>.86</td>
</tr>
<tr>
<td>Optimism</td>
<td>20.35</td>
<td>5.09</td>
<td>8-30</td>
<td>6-36</td>
<td></td>
</tr>
</tbody>
</table>
Group Differences

The first objective of the current study was to investigate for gender differences in levels of positive and negative mental health states. Specifically it was predicted based on the existing literature that females would display higher levels of negative mental health. No formal predictions were made regarding gender differences on markers of positive mental health.

An independent samples t-test, with a Bonferroni correction method, was conducted to examine the difference between males and females on levels of loneliness, psychological distress, happiness, satisfaction with life, and optimism. For each variable tested, the Levene’s test was non-significant suggesting equal variances in scores for males and females on each variable. All results from the independent samples t-test are presented below in table 2. No statistically significant differences were observed between males and females on any of the dependent variables. The results are in contradiction to the first hypothesis of the study and indicate that within the current sample there is no difference between males and females on levels of negative mental health.
Table 2

*Gender differences on indicators of negative and positive mental health*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Loneliness</strong></td>
<td>Males</td>
<td>38</td>
<td>37.68</td>
<td>11.84</td>
<td>1.44</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>44</td>
<td>33.93</td>
<td>11.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Psych Distress</strong></td>
<td>Males</td>
<td>38</td>
<td>11.45</td>
<td>5.89</td>
<td>-0.80</td>
<td>.43</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>44</td>
<td>12.68</td>
<td>7.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Happiness</strong></td>
<td>Males</td>
<td>38</td>
<td>32.37</td>
<td>6.45</td>
<td>-1.15</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>44</td>
<td>34.05</td>
<td>6.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Satisfaction</strong></td>
<td>Males</td>
<td>38</td>
<td>19.71</td>
<td>6.62</td>
<td>-1.69</td>
<td>.10</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>44</td>
<td>22.14</td>
<td>6.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Optimism</strong></td>
<td>Males</td>
<td>38</td>
<td>20.26</td>
<td>4.70</td>
<td>-0.15</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>44</td>
<td>20.43</td>
<td>5.45</td>
<td></td>
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</tr>
</tbody>
</table>
Multiple Regression Analyses for Negative Mental Health Outcomes

The second objective of this study was to investigate the predictions of REBT’s theory of psychopathology by investigating if the irrational belief processes (demandingness, catastrophizing, low frustration tolerance, and depreciation) can significantly predict levels of loneliness and psychological distress respectively. Prior to carrying out the multiple regression analysis it was necessary to first check the assumption of multicollinearity by carrying out a Pearson product-moment correlation analysis.

Results of the correlation analysis between the predictor variables in the model found that there were no correlations that suggested the presence of multicollinearity (Tabachnick & Fidell, 2007). All correlations between the predictor variables were positive, and statistically significant and ranged from weak ($r = .28, n = 82, p = .01$) between demandingness and depreciation beliefs, and moderately-strong ($r = .68, n = 81, p < .0005$) between low frustration tolerance beliefs and catastrophizing beliefs (see Table 3 for full results).
Table 3

*Correlations between loneliness, psychological distress, and the irrational beliefs*

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Loneliness</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Psych Distress</td>
<td>.63***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Demandingness</td>
<td>.21</td>
<td>.13</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Catastrophizing</td>
<td>.46***</td>
<td>.52***</td>
<td>.49***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. LFT</td>
<td>.24*</td>
<td>.36**</td>
<td>.52***</td>
<td>.68***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6. Depreciation</td>
<td>.60***</td>
<td>.61***</td>
<td>.28*</td>
<td>.55***</td>
<td>.41***</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. Statistical significance: *p < .05; **p < .01; ***p < .001

With respect to the first regression model explaining levels of loneliness, table 3 indicates that catastrophizing, low frustration tolerance, and acceptance beliefs were all positively, and statistically significantly associated with loneliness, and these correlations ranged from weak to moderate. These results indicate that the data is suitable for conducting multiple regression analysis.

Given that there were no a priori assumptions about the order of entry of variables into the model a direct method was utilised. The REBT model of loneliness was statistically significant, F(4, 76) = 12.18, p < .0005, and found to explain 39.1% variance in levels of loneliness. Inspection of the standardized beta values indicated that two of the four variables in the model made a unique, statistically significant contribution to the prediction of loneliness. Depreciation beliefs (beta = .50, p <
.0005) were the strongest predictor of loneliness, followed by catastrophizing beliefs (beta = .28, p = .04). These results indicate that higher levels of depreciation beliefs, and higher levels of catastrophizing beliefs, predict higher levels of loneliness.

The second regression model sought to investigate the predictive utility of the REBT model of psychopathology to predict psychological distress. As detailed in table 3, three of the four irrational beliefs were significantly associated with the criterion variable. These correlations were all positive, and moderate-to-strong in nature. Again this suggests that the data is suitable for multiple regression analysis to be carried out.

Results found that the REBT model of psychological distress was statistically significant, F(4, 76) = 14.93, p < .0005, and explained 44% of variance in distress levels. Inspection of the standardized beta values indicated that two of the four variables in the model made a unique, statistically significant contribution to the prediction of psychological distress. Once again, depreciation beliefs (beta = .47, p < .0005) were the strongest predictor of distress, followed by catastrophizing beliefs (beta = .32, p = .02). These results indicate that higher levels of depreciation beliefs, and higher levels of catastrophizing beliefs, predict higher levels of psychological distress.
Multiple Regression Analyses for Positive Mental Health Outcomes

The third objective of this study was to investigate the predictions of REBT’s theory of psychological health by investigating if the rational belief processes (preferences, non-catastrophizing, high frustration tolerance, and acceptance) can significantly predict levels of happiness, satisfaction with life, and optimism respectively. Prior to carrying out the three multiple regression analyses it was necessary to first check the assumption of multicollinearity by carrying out a Pearson product-moment correlation analysis.

Results of the correlation analysis between the predictor variables in the model found that there were no correlations that suggested the presence of multicollinearity (Tabachnick & Fidell, 2007). All correlations between the predictor variables were positive, and statistically significant and ranged from weak ($r = .27, n = 81, p = .01$) between preference and acceptance beliefs, and moderate ($r = .56, n = 82, p < .0005$) between high frustration tolerance beliefs and preference beliefs (see Table 6 for full results).
Table 4

*Correlations between happiness, satisfaction with life, optimism and the rational beliefs*

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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</thead>
<tbody>
<tr>
<td>1. Happiness</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Satisfaction</td>
<td>.72***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Optimism</td>
<td>.61***</td>
<td>.55***</td>
<td>1</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Preferences</td>
<td>.02</td>
<td>.00</td>
<td>.11</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Non-Catastrophizing</td>
<td>.15</td>
<td>.20</td>
<td>.24*</td>
<td>.45***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. HFT</td>
<td>.09</td>
<td>.14</td>
<td>.25*</td>
<td>.56***</td>
<td>.48***</td>
<td>1</td>
<td></td>
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<tr>
<td>7. Acceptance</td>
<td>.53***</td>
<td>.46***</td>
<td>.52***</td>
<td>.27**</td>
<td>.48***</td>
<td>.43***</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. Statistical significance: *p < .05; **p < .01; ***p < .001

With respect to the first regression model explaining levels of happiness, the correlation analysis found that only acceptance beliefs were associated with happiness ($r = .53$, $n = 81$, $p < .0005$). Although only 1 of the 4 predictor variables were associated with the criterion, all variables were retained for the regression analysis as the objective is to test the predictive utility of REBT theory.

Given that there were no a priori assumptions about the order of entry of variables into the model a direct method was utilised. The REBT model of happiness was statistically significant, $F(4, 76) = 8.40$, $p < .0005$, and found to explain 30.6% variance in levels of happiness. Inspection of the standardized beta values indicated
unsurprisingly that only acceptance beliefs (beta = .63, p < .0005) were a significant predictor of happiness. This result indicates that acceptance is a strong predictor of levels of happiness, and increased levels of acceptance predict higher levels of happiness.

The next regression model sought to investigate the predictive utility of the REBT model of psychological health to predict satisfaction with life. As detailed in table 6, the correlation analysis found again that only acceptance beliefs were associated with satisfaction with life (r = .46, n = 81, p < .0005). Although only 1 of the 4 predictor variables were associated with the criterion, all variables were retained for the regression analysis as the objective is to test the predictive utility of REBT theory.

Given that there were no a priori assumptions about the order of entry of variables into the model a direct method was utilised. The REBT model of satisfaction with life was statistically significant, F (4, 76) = 5.59, p = .001, and found to explain 22.7% of variance in levels of satisfaction with life. Inspection of the standardized beta values indicated that again only acceptance beliefs (beta = .48, p < .0005) were a significant predictor of levels of satisfaction with life. This result indicates that acceptance is a moderate predictor of levels of satisfaction with life, and increased levels of acceptance predict higher levels of satisfaction with life.

The final regression model sought to investigate the predictive utility of the REBT model of psychological health to predict levels of optimism. As detailed in table 6, the correlation analysis found that non-catastrophizing (r = .24, n = 82, p = .03), high frustration tolerance (r = .25, n = 82, p = .02), and acceptance beliefs (r = .52, n = 81, p < .0005) were associated with levels of optimism. This indicates that the data was suitable for multiple regression analysis to be conducted.
Given that there were no a priori assumptions about the order of entry of variables into the model a direct method was utilised. The REBT model of optimism was statistically significant, $F(4, 76) = 7.22$, $p = .001$, and found to explain 27.5% of variance in levels of optimism. Inspection of the standardized beta values indicated that yet again only acceptance beliefs (beta = .51, $p < .0005$) were a significant predictor of levels of optimism. This result indicates that acceptance is a moderate predictor of levels of optimism, and increased levels of acceptance predict higher levels of optimism.
Discussion

The primary objective of this piece of work was to evaluate the predictions of REBT theory in the context of both negative and positive mental health outcomes. REBT theory is well situated to investigate these dual outcomes as it specifies both a model of psychopathology and a model of psychological health. Traditionally, REBT researchers have followed the general trend in clinical psychology to understand how dysfunctional cognitive processes can influence psychopathological outcomes. This was a core objective of the current project however a novel and unique approach was taken by investigating the predictions of REBT’s theory of psychopathology to understand levels of loneliness, a psychological phenomenon previously ignored by the REBT community. This project also hoped to stimulate a new area of research in the REBT field by investigating the predictive utility of REBT’s theory of psychological health to understand positive mental health outcomes. To date, no empirical work has been conducted to evaluate the ability of REBT theory to explain positive mental health outcomes. This study was an effort to initiate an program of research in the REBT field to bridge the gap between the fields of clinical psychology and positive psychology.

The first aim of this study was to investigate whether there were any statistically significant differences between males and females on levels of negative (loneliness and psychological distress) and positive (happiness, optimism, and satisfaction with life) mental health outcomes. It was hypothesised that females would display significantly higher levels of negative mental health compared to men. Results of the independent samples t-tests failed to detect any statistically significant differences between the genders. These results stand in contradiction to the first hypothesis of the project and previous studies suggesting that women tend to display
higher levels of negative mental health (Nolen-Hoeksema, 1991). Given the lack of research regarding gender differences in positive mental health, this was an exploratory element of the study and current findings suggest males and females are unlikely to differ in markers of positive mental health.

A possible influential factor in these results would be related to the small sample size. To account for the limitations of this study it is recommended for future analysis that larger sample sizes be used to increase the reliability and generalizability of current findings.

The second research aim of this study was to investigate the predictions of REBT’s theory of psychopathology by investigating if the irrational belief processes (demandingness, catastrophizing, low frustration tolerance, and depreciation) could significantly predict levels of loneliness. Prior to the current study, no research had been carried out to investigate whether irrational beliefs as defined by REBT theory are important cognitive constructs in the prediction of loneliness. The results of the analysis provided general support for the predictions of REBT theory. The model was found to explain a substantial percentage of variance in levels of loneliness, and two of the irrational belief processes were identified as important predictors of levels of loneliness. Specifically, depreciation beliefs were identified as the strongest predictor of loneliness. Previous empirical work has identified depreciation beliefs as the strongest predictor of depression (Soloman et al., 2003), anxiety (David, Schnurr, Belloui, 2000), and posttraumatic stress responses (Hyland et al., 2013). The current findings add important information to the REBT literature with regards to the role of depreciation beliefs in the prediction of another important psychopathological response. Catastrophizing beliefs were also identified as important predictors in the experience of loneliness. This result is interesting as other REBT theorists have
suggested that catastrophizing beliefs have an important role to play in anxiety disorders (David et al., 2002) however current results have now provided initial evidence that this cognitive process is also important in understanding feelings of loneliness.

The current results are important and informative beyond the contribution they make to the REBT literature, as these results suggest there is an important connection between how a person evaluates their environment and how lonely one feels. Traditionally loneliness has been viewed as a psychological process which consequently impacts upon ones cognitive processes (Cacioppo & Hawkley, 2009), however current results suggest that how one thinks may in fact predict how lonely one feels. Specifically, the more negative a view one takes of oneself and the more catastrophic one is in how they evaluate the world the more likely they are to experience loneliness. This opens up the exciting possibility that clinical strategies can be developed which target these thinking process in order to alleviate feelings of loneliness. Needless to say, these findings and recommendations should be interpreted cautiously given the cross-sectional nature of the research design therefore it is impossible to ascertain whether the cognitive processes are causal mechanisms in the development of loneliness. Current results are however interesting and worthy of further study in future research efforts.

Further support for the REBT model of psychopathology was obtained by the results which demonstrated the irrational belief processes were capable of explaining a high percentage of variance in general psychological distress. Previous empirical studies testing the REBT model of psychopathology have not examined the role of the irrational beliefs in predicting general psychological distress, therefore current results add additional, if somewhat unsurprising, data to the existing REBT literature. The
results of the current analysis add further evidence of the importance of depreciation beliefs in the prediction of psychopathology, as again depreciation beliefs were identified as the strongest predictor of psychological distress. Catastrophizing beliefs were likewise a significant predictor of greater levels of psychological distress. Current results therefore suggest that clinical strategies to reduce generalised psychological distress would be more effective if they specifically target these dysfunctional belief processes.

Positive psychology has emerged in recent years as a very dynamic and effective therapeutic approach which was built on the works of Rogers and Maslow and it focuses on the positive emotions, and positive character traits (Seligman & Csikszentmihalyi, 2000). The scientific findings from positive psychology are proposed to supplement other therapeutic models which focus on human suffering and distress. Findings from this study show how REBT has the potential to substantially add to the field of positive psychology by identifying cognitive processes that can contribute to positive mental health (Seligman et al., 2005). The findings from this study indicated that acceptance is a strong predictor of levels of happiness, and increased levels of acceptance predict higher levels of happiness. Studies have shown that individuals with higher levels of acceptance, in other words, individuals who have a more accepting view of themselves, have a significant advantage in acting in a more psychologically advantageous way to traumatic events (Hyland, in press).

Analyses revealed that depreciation beliefs were the strongest predictor of distress. It can be stated that depreciation beliefs are a counterpart of acceptance and from this
study it can be concluded that instead of taking the more traditional therapeutic route of just focusing on changing negative beliefs, it could be very beneficial for the therapist to bolster such practices by focusing on raising an individualises levels of acceptance.

This study was not without limitations. It was cross-sectional in nature and it is difficult to pinpoint causal factors. Another limitation was sample size and nationality of sample. Due to the Irish sample it is difficult to know if these results would generalise for other populations.
Conclusion

The findings within this study have revealed findings of clinical significance. Positive psychology along with other therapeutic models can use the REBT model to complement their efforts in relieving clients from their tendency to engage with irrational beliefs and simultaneously implement the strategy of bolstering their acceptance of oneself.
References


APPENDIX

The Attitudes and Belief Scale-2 Abbreviated Version (ABS2-AV)

INSTRUCTIONS: Below are a list of statements which will examine certain attitudes and beliefs you may hold. For each item, please indicate whether you;

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B SOMEWHAT DISAGREE</th>
<th>C</th>
<th>D SOMEWHAT AGREE</th>
<th>E STRONGLY AGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STRONGLY DISAGREE</td>
<td>NEUTRAL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. It's unbearable being uncomfortable, tense or nervous and I can't stand it when I am. A B C D E

2. If important people dislike me, it is because I am an unlikable bad person. A B C D E

3. It's unbearable to fail at important things, and I can't stand not succeeding at them. A B C D E

4. It is unfortunate when I am frustrated by hassles in my life, but I realize it's only disappointing and not awful to experience hassles. A B C D E

5. I must do well at important things, and I will not accept it if I do not do well. A B C D E
6. I do not like to be uncomfortable, tense or nervous, but I can tolerate being tense.

7. When life is hard and I feel uncomfortable, I realize it is not awful to feel uncomfortable or tense, only unfortunate and I can keep going.

8. I can't stand being tense or nervous and I think tension is unbearable.

9. If I do not perform well at tasks that are very important to me, it is because I am a worthless bad person.

10. I do not want to fail at important tasks but I realize that I do not have to perform well just because I want to.

11. It's awful to be disliked by people who are important to me, and it is a catastrophe if they don't like me.

12. It's essential to do well at important jobs; so I must do well at these things.

13. Sometimes I think the hassles and frustrations of everyday life are awful and the worst part of my life.

14. I want to perform well at some things, but I do not have to do well just because I want to.

15. It's bad to be disliked by certain people, but I realize it is only unfortunate to be disliked by them.
16. I get distressed if I'm not doing well at important tasks, but I can stand the distress of failing at important tasks.

17. I want to do well at important tasks, but I realize that I don't have to do well at these important tasks just because I want to.

18. It's only frustrating not doing well at some tasks, but I know I can stand the frustration of performing less than well.

19. When people I like reject me or dislike me, it is because I am a bad or worthless person.

20. When people whom I want to like me disapprove of me, I know I am still a worthwhile person.

21. Even when my life is tough and difficult, I realize that I am a person who is just as good as anyone else even though I have hassles.

22. I must be successful at things that I believe are important, and I will not accept anything less than success.

23. If loved ones or friends reject me, it is not only bad, but the worst possible thing that could happen to me.

24. When my life becomes uncomfortable, I realize that I am still a good person even though I am uncomfortable.
Indicate how often each of the statements below is descriptive of you.

1 = “I never feel this way”
2 = “I rarely feel this way”
3 = “I sometimes feel this way”
4 = “I often feel this way”

1. I am unhappy doing so many things alone 1 2 3 4
2. I have nobody to talk to 1 2 3 4
3. I cannot tolerate being so alone 1 2 3 4
4. I lack companionship
5. I feel as if nobody really understands me
6. I find myself waiting for people to call or write
7. There is no one I can turn to
8. I am no longer close to anyone
9. My interests and ideas are not shared by those around me
10. I feel left out
11. I feel completely alone
12. I am unable to reach out and communicate with those around me
13. My social relationships are superficial
14. I feel starved for company
15. No one really knows me well
16. I feel isolated from others
17. I am unhappy being so withdrawn
18. It is difficult for me to make friends
19. I feel shut out and excluded by others
20. People are around me but not with me
General Health Questionnaire

We want to know how your mental health has been in general over the last few weeks. Please read the questions below and each of the four possible answers. Circle the response that best applies to you. Thank you for answering all the questions.

Have you recently.....

1. been able to concentrate on what you’re doing?

<table>
<thead>
<tr>
<th>better than usual</th>
<th>same as usual</th>
<th>less than usual</th>
<th>much less than usual</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
</tbody>
</table>

2. lost much sleep over worry?

<table>
<thead>
<tr>
<th>Not at all no</th>
<th>more than usual</th>
<th>rather more than usual</th>
<th>much more than usual</th>
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<tbody>
<tr>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
</tbody>
</table>

3. felt that you are playing a useful part in things?

<table>
<thead>
<tr>
<th>more so than usual</th>
<th>same as usual</th>
<th>less so than usual</th>
<th>much less than usual</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
</tbody>
</table>
4. felt capable of making decisions about things?

more so than usual   same as usual   less than usual   much less than usual
(0)   (1)   (2)   (3)

5. felt constantly under strain?

Not at all   no more than usual   rather more than usual   much more than usual
(0)   (1)   (2)   (3)

6. felt you couldn’t overcome your difficulties?

Not at all   no more than usual   rather more than usual   much more than usual
(0)   (1)   (2)   (3)

7. been able to enjoy your normal day to day activities?

more so than usual   same as usual   less than usual   much less than usual
(0)   (1)   (2)   (3)
8. been able to face up to your problems?

more so than usual  same as usual  less than usual  much less than usual
(0)  (1)  (2)  (3)

9. been feeling unhappy or depressed?

Not at all  no more than usual  rather more than usual  much more than usual
(0)  (1)  (2)  (3)

10. been losing confidence in yourself?

Not at all  no more than usual  rather more than usual  much more than usual
(0)  (1)  (2)  (3)

11. been thinking of yourself as a worthless person?

Not at all  no more than usual  rather more than usual  much more than usual
(0)  (1)  (2)  (3)

12. been feeling reasonably happy, all things considered?
<table>
<thead>
<tr>
<th>more so than usual usual</th>
<th>same as usual</th>
<th>less than usual</th>
<th>much less than usual</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
</tbody>
</table>
INSTRUCTIONS:

Below are a number of statements about happiness. Would you please indicate how much you agree or disagree with each by entering a number alongside it according to the following code:

1 = strongly disagree
2 = moderately disagree
3 = slightly disagree
4 = slightly agree
5 = moderately agree
6 = strongly agree

1. I don’t feel particularly pleased with the way I am 1 2 3 4 5 6

2. I feel that life is very rewarding 1 2 3 4 5 6

3. I am well satisfied about everything in my life 1 2 3 4 5 6

4. I don’t think I look attractive 1 2 3 4 5 6

5. I find beauty in some things 1 2 3 4 5 6

6. I can fit in everything I want to 1 2 3 4 5 6

7. I feel fully mentally alert 1 2 3 4 5 6

8. I do not have particularly happy memories of the past 1 2 3 4 5 6
The Satisfaction with Life Scale

DIRECTIONS: Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neither Agree or Disagree
5 = Slightly Agree
6 = Agree
7 = Strongly Agree
1 In most ways my life is close to my ideal.

2 The conditions of my life are excellent.

3 I am satisfied with life.

4 So far I have gotten the important things I want in life.

5 If I could live my life over, I would change almost nothing.
The Life Orientation Test

DIRECTIONS: Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

1 = I disagree a lot
2 = I disagree a little
3 = I neither agree nor disagree
4 = I agree a little
5 = I agree a lot

_____ 1 In uncertain times, I usually expect the best.

_____ 2 If something can go wrong for me, it will.

_____ 3 I'm always optimistic about my future.

_____ 4 I hardly ever expect things to go my way.

_____ 5 I rarely count on good things happening to me.

_____ 6 Overall, I expect more good things to happen to me than bad.