Exploring emotional intelligence, mood regulation, and reflective coping in a clinical population

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Emotional intelligence (EI) is the ability to carry out accurate reasoning about emotions and to use emotions and emotional knowledge to enhance thought (Mayer & Salovey, 1995). This study extends similar investigations into the relationship between EI and Mood Regulation (MR), in particular those affected with mood problems. Furthermore, influence of Experiential Avoidance (EA) and Reflective Coping (RC) was also considered. Ninety-five participants who were currently experiencing some form of mood disorder were recruited through mental health support forums. They completed questionnaires measuring EI, MR, EA, and RC in an online survey. Correlational and multiple regression analyses indicated that overall associations were found between EI and mood MR. However, unlike previous works, an association was found between the personality variable EA and MR. This suggests that clinical interventions aimed at reducing EA may be of a particular benefit to people currently experiencing mood problems.

Keywords: emotional intelligence, experiential avoidance, mood regulation, reflective coping
BACKGROUND

The present work sets out to investigate two major classes of hypotheses. First, it investigated to what extent the relationship was between EI and MR was, in particular concerning those who have mood problems. Secondly it considered that EA and RC may be a predictor of MR.

Emotional intelligence and mental health

Ciarrochi, Deane, and Anderson (2002) explored whether EI is distinctive in understanding the relationship between stress and mental health. They thought that those individuals who are skilful at regulating their own and others’ emotion will be able to cope themselves for the effects of stress, and in turn will report less depression, hopelessness, and thoughts of suicide. Ciarrochi et al. (2002) also looked at whether those who scored highly in the ‘emotion perception’ aspect of EI would be more influenced by stress than those who had a low perception. Schutte et al. (1998) self-report measure of EI was used to assess ‘emotion perception’ and ‘emotion management and Multifactor Emotional Intelligence Scale (MEIS) by Mayer, Salovey, Caruso (1997), which was used as it has been shown to be reliable and relatively independent of verbal IQ. There has previously been some evidence to show that some forms of emotional intelligence can help an individual better manage their emotions For instance, it has been investigated whether EI moderates the relationship between an experimentally induced mood and model-based judgemental biases and mood management (Ciarrochi, Chan, & Caputi, 2000). It has been found that individuals with a high EI reported being in a more positive mood, suggesting that highly emotionally people are better at managing their emotions than those who are of a lower EI.

Emotional intelligence and mood disorders

EI has been linked to mood disorders such as borderline personality disorder (Gardner & Qualter, 2009). Levine, Marziali, and Hood (1997) reported that individuals with borderline personality disorder (BPD) have deficits in self-reporting emotional awareness and integration. Studies have also investigated at trait abilities in relation to BPD but as of yet, there are not many reports on the ability of EI with BPD. However, EI ability models associated with self-reported anxiety (Bastian, Burns, & Nettelbeck, 2005) and schizotypal personality (Aguirre, Sergi, & Levy, 2008) suggesting a link between mental health.

Gardner and Qualter (2009) conducted a study that looked into the emotion management aspect of EI in individuals with BPD. It is observed that BPD is characterised by impulsive behaviour, unstable self-image and interpersonal relationships, and extreme difficulties in emotion and management (Links, Heslegrave, & Reekum, 1999). The study revealed that for ability EI showed that individuals with BPD have poor ability to understand their emotions suggesting that they are of low EI.

Measuring emotional intelligence

Multiple approaches to measuring EI have been developed based on two differing conceptions as to its meaning. Firstly, EI has been defined as a specific ability. This approach focuses on a particular set of skills that are deemed fundamental to EI (Salovey & Mayer, 1990). A second, mixed model approach more broadly defines EI as ‘emotionally and socially intelligent behaviour’ (Bar-On, 2004). When assessing a person’s EI using this approach, one or more attributes of EI are measured and then other scales (i.e., happiness, stress tolerance, and self-regard) are included in the overall assessment (Bar-On, 1997). This work focuses on the first of these two approaches: specific ability.

Measuring EI as a specific ability requires further understanding of the complexities of this definition. Mayer, Salovey, and Caruso’s (1997) definition of EI considers a person’s ability to reason about, perceive and understand emotions to assist thought and ultimately to reflect on and regulate emotions in order to ‘promote emotional and intellectual growth’. They developed a model called ‘The Four-
Branch Model of Emotional Intelligence, which focuses on four abilities: (i) accurately perceiving emotion; (ii) using emotions to facilitate thought; (iii) understanding emotion; and, (iv) managing emotion.

Exploration of the specific ability definition through a four-branch model was used by Schutte et al. (1998) as the basis of a 62-item self-report measure of EI. Factor analysis on these 62 items resulted in a one-factor solution of 33 items and covered the following categories: appraisal and expression of emotion in the self and others; regulation of emotion in the self and others; and, utilisation of emotions in problems solving.

Salovey and Mayer (1995) developed Trait Meta Mood Scale (TMMS) by asking 200 individuals to respond to items by Mayer, Mamberg & Volanth (1988). Items fitted into five sections: clarity of emotional perception; strategies of emotional regulation; integration of feelings; attend to emotions; and, attitudes about emotion. Half of the items were phrased positively and half negatively. Items that referred to strategies of emotional regulation looked at to what degree do individuals moderate their moods.

**Experiential avoidance and reflective coping**

The Acceptance and Action Questionnaire (AAQ) developed by Hayes et al. (2004) is the most widely used measure of experiential avoidance, which refers to an attempt or desire to suppress unwanted private experiences. These can include emotions, thoughts and bodily sensations. Experiential avoidance is thought to be an important cause of psychological distress in effectiveness (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Therefore, greater levels of the AAQ-II scores should be related to greater emotional distress such as worse general mental health, as well as higher levels of depression, anxiety, and stress (Bond & Donaldson-Feilder, 2004). A meta-analysis that used the AAQ found outcomes for depression, anxiety, general mental health, job satisfaction, future work absence and future job performance, and has even shown these effects after controlling for emotional intelligence.

In respect to RC, emotional support-seeking and RC are scales of Proactive Coping Inventory (PCI) by Greenglass, Schwarzer, Jakubiec, Fiksenbaum, and Taubert (1999). Throughout this study, emotional support-seeking and RC will be referred to as RC. The PCI revealed that it was negatively associated with depression, and data thus suggested that depression is less likely an outcome if an individual takes initiative when confronting a problem and turns obstacles into positive experience rather than trying to suppress it.

This study aims to extend existing research into the relationship between EI and mood regulation targeting a clinical population suffering from mood problems. This is because within this population a stronger relationship between these two personality variables are expected. Furthermore, this work will also consider the influence of EA and RC, alongside EI on mood regulation.

More specifically, the following correlational hypotheses are sought:

1. EA and effective mood regulation are negatively correlated whereas EI and RC will be positively correlated with MR.
2. All four personality variables will be correlated with self-rated therapy success. EI, effective MR and RC will be positively correlated with therapy success whereas EA will be correlated negatively.

A further aim of this work is to build an optimal prediction model for MR and therapy success using the previous personality variables as predictors.
METHODOLOGY

Participants

Ninety-five participants, 22 males (23.2%) and 73 females (76.8%) have taken part. The target population of this study were adults who had a mood disorder. Participants were recruited from online advertisements posted on mental health charity, support forums, and Facebook groups and were thus regarded as a self-selected opportunity sample.

Design

A web-based survey was employed to examine the relationships between the personality variables, which were investigated using self-report questionnaires to be completed online. A web-based survey design was deemed to be an appropriate method of data collection as it enabled a specific population to be targeted.

Measures

Participants completed a brief questionnaire (developed for this study) about relevant background information, including their sex, age, current employment status, what mood disorder they had and for how long they had been suffering from their mood disorder, and treatment they received and if it was successful or not. Following this, four standardised questionnaires were administered.

The Schutte Self-Report Emotional Intelligence Test (SSEIT; Schutte et al., 1998) was used to measure general emotional intelligence using four subscales: appraisal and expression of the self and others (e.g., ‘Emotions are one of the things that make my life worth living.’); regulation of emotion (e.g., ‘I seek out activities that make me happy.’); and, utilisation of emotion (e.g., ‘I motivate myself by imagining a good outcome of tasks I take on.’). Individuals responded using a five-point scale. The scores are summed to produce scale scores ranging from 33 – 165 that quantify an individual’s EI. The higher the score is, the higher the individual’s EI. Schutte et al. report an adequate internal consistency reliability ($r = 0.87$ to $0.90$) and acceptable test-retest reliability.

The Trait Meta Mood Scale (TMMS; Salovey et al., 1995) was utilised as a measure of mood. This scale contains 30 items that will find individual differences in the way people attend to their moods and emotions, being able to discriminate clearly among them, and regulate them. Scores are summed to produce scale scores ranging from 30–150, participants with a high score may want to, but fail to attend to their moods and emotions and thus be unable to discriminate between them and regulate them. The internal consistency estimates for subscales were all above $.85$, and the test-retest correlations $.60$ to $.83$ (Fernández-Berrocal, Extremera, & Ramos, 2004).

The ten-item Acceptance and Action Questionnaire-II by Bond et al. (2011) was used as a measure of experiential avoidance. Respondents were asked to rate the degree to which each statement applies to them using a seven-point Likert scale. Three items were reversed scored and then ten items were summed to give a total score ranging from 10–70. Higher scores indicate greater levels of EA. The AAQ-II has demonstrated good internal consistency (alpha coefficient mean of 0.84). It also has good test-retest reliability of 0.81 and 0.79 for twelve and three months, respectively (Lewis & Naugle, 2017).

Proactive Coping Inventory (PCI; Greenglass et al., 1999) was used to gauge RC. PCI is an inventory to assess skills in coping with distress, as well as those that promote greater well-being and greater satisfaction with life. RCS, which is a subscale of PCI, is an 11-item scale which describes simulation and contemplation about a variety of possible behavioural alternatives by comparing their imagined effectiveness and includes brainstorming, analysing problems and resources, and generating
hypothesised plans of action (Greenglass et al., 1999). Items are then summed to give a total score ranging from 16–112. RCS has good internal consistency with Cronbach’s alpha of .79.

Procedure

Ten online mental health forums and Facebook groups were contacted via personal message or email asking for permission to advertise the study on their forums or Facebook page. When permission was granted, a brief advert was placed on the forum or Facebook page containing a link to the study website, Bristol Online Survey. Once potential participants had accessed the link, they were presented with information about the study and asked to confirm their informed consents to participate. The questionnaires were then presented in order of demographic questions, self-reported EI, TMMS, EA, and RC.

RESULTS

Descriptive statistics for the four personality variables can be seen in Table 1 and box plots can be found in Figure 1. As can be seen, the distribution of scores for EI is slightly positively skewed, with the other personality variables nearly symmetrical.

To investigate whether there might be group differences on the four scales as a result of a participant’s gender, a series of independent samples t-tests were computed with gender as the independent variable and each of the four scales as the dependent variables. The results showed that there were no significant differences between males and females and their scores for each of the four personality variables, EI $t(93) = –0.157, p = 0.876$; MR $t(93) = –0.432, p = 0.667$; EA $t(93) = –0.747, p = 0.457$; and, RC $t(93) = 0.305, p = 0.761$.

Table 1
Descriptive statistics for the four personality traits

<table>
<thead>
<tr>
<th>Scale</th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional intelligence</td>
<td>95</td>
<td>55</td>
<td>144</td>
<td>110.94</td>
<td>19.099</td>
<td>0.388</td>
<td>0.241</td>
</tr>
<tr>
<td>Mood Regulation</td>
<td>95</td>
<td>67</td>
<td>131</td>
<td>98.60</td>
<td>15.576</td>
<td>0.083</td>
<td>–0.697</td>
</tr>
<tr>
<td>Experiential Avoidance</td>
<td>95</td>
<td>14</td>
<td>68</td>
<td>45.91</td>
<td>12.324</td>
<td>–0.356</td>
<td>–0.248</td>
</tr>
<tr>
<td>Reflective Coping</td>
<td>95</td>
<td>21</td>
<td>104</td>
<td>62.05</td>
<td>18.142</td>
<td>–0.009</td>
<td>–0.062</td>
</tr>
</tbody>
</table>
Figure 1. Box plots for the total scores for Emotional Intelligence, Mood Regulation, Experiential Avoidance, and Reflective Coping

Relationships among the four personality variables were investigated using Pearson’s correlation coefficient. As clearly demonstrated by Table 6 and Figures 2–4, the results suggested linear relationships.

Table 2
Correlation matrix for the four personality variables

<table>
<thead>
<tr>
<th>Scale</th>
<th>Reflective Coping</th>
<th>Mood Regulation</th>
<th>Emotional Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential Avoidance</td>
<td>-.542**</td>
<td>-.660**</td>
<td>-.621**</td>
</tr>
<tr>
<td>Reflective Coping</td>
<td>--</td>
<td>.520**</td>
<td>.554**</td>
</tr>
<tr>
<td>Mood Regulation</td>
<td>--</td>
<td>--</td>
<td>.718**</td>
</tr>
</tbody>
</table>

** p<.001

Figure 2. Scatter plot showing the relationship between EA and EI
To examine mean differences between the length of a participant's illness and level of education, in relation to the four personality variables, eight one-way ANOVA tests were carried out with length of illness and education as independent variables.
Results indicated that only one of the ANOVAs was significant: education and RC, $F(3, 93) = 3.164, p < .05$ with an effect size of 0.934 indicating that 9% of the variability in level of education can be explained by RC. Furthermore, there was a significant outcome between education and EA, $F(3, 93) = 2.279, p < .05$, with 9.3% variability. Bonferroni correction revealed a significant difference between RC and participants whose highest level of education was either secondary, ($M = 55.93, SD = 14.77$) or a postgraduate degree, ($M = 71.43, SD = 19.53$) with a mean difference of 15.5.

There were no significant differences between length of illness and any of the four personality variables which were: RC, $F(1, 93) = .002, p > .05$; EA, $F(1, 93) = .002, p > .05$; MR, $F(1, 93) = .760, p > .05$; and, EI, $F(1, 93) = .552, p > .05$. There were also no significant differences between educational attainment and MR, $F(3, 93) = 2.279, p > .05$; and educational attainment and EI, $F(3, 93) = 1.827, p > .05$.

### DISCUSSION
This study attempted to find out to what extent MR dependent on EI, RC, and EA in a population suffering from mood problems. EA is capturing the ability to suppress unwanted private experiences, and RC refers to how he proactive individual takes responsibility for making things happen, for example, using his initiative when confronting a problem and turning an obstacle into a positive experience.

The main aim of this research was to extend similar studies into the relationship between EI and MR, in particular concerning mood problems. Mayer and Salovey (1995) reported that individuals with high EI reported experiencing a more positive mood, thus suggesting that people who suffer negative mood states find it difficult to regulate their mood may have lower EI. In addition, it was considered that EA and RC may be a predictor of MR.

Overall, associations were found between EI and MR. However, unlike previous works, an association was found between the prediction variable EA and MR.

**Correlational and multiple regression analyses**

A series of correlational analyses were conducted to see if there were any relationships between the four personality variables, and to identify if any of the personality variables were predictors of EI and MR. It was hypothesised that EI would have a positive relationship with the personality variable MR. As suggested by Mayer & Salovey (1995), EI should be positively associated with adaptive emotion management, and thus essentially an emotionally intelligent individual would be able to successfully monitor, evaluate, and change their moods. In line with this view, results of the correlational analyses showed that EI was significantly positively associated with MR. Bond and colleagues (2011) suggested that greater levels on the AAQ will show greater levels of emotional distress and in agreement with this data, provided a novel finding. Results showed that EA was significantly associated with MR. Consequently, individuals who experienced high levels of avoidance showed greater levels of emotional distress such as anxiety and generally a worse mental health. This demonstrates that these individuals were less likely to effectively regulate their mood. Furthermore, RC showed a significant positive association with EI suggesting that individuals who are deemed to have a higher EI can efficiently cope psychologically with a negative or stressful life event.

To investigate the predictive power of the three personality variables, with respect to MR, a multiple regression analyses was performed. RC did not make a unique contribution to the model and was therefore removed. In the final model, which explained a large amount of 58% of the variance of mood regulation, EI turned out to be a strong positive predictor whereas EA was a moderate negative predictor. Previous research have shown that a relationship between EI and MR exists, but as of yet no research has considered also the contribution of EA as a predictor of MR. With this in mind, it seems promising to think about training programmes or psychological interventions that enhance EI in the mood disorder population. Similarly, therapeutic measures should be considered that effectively reduce the amount of EA.

**The relationship between success rate of treatment and each of the four personality variables**

It was validated by a substantial correlation that each of the personality variables had a significant relationship between the success rates of treatment. EI and RC showed a positive correlation between the success rates of treatment, which indicates that, those individuals who scored highly on the EI and RC scale also rated their treatment to be more successful. In regards to EI this supports both (Schutte, et al., 1998; Salovey & Mayer, 1990) views of EI. Both studies found that high scores on their scale point towards a high EI and individuals would thus be able to reason, perceive, and understand their
emotions and ultimately reflect on and regulate emotions in order to ‘promote emotional growth’. Only individuals who had rated their treatment as successful would be able to do this, suggesting that those who have a low EI would have rated their treatment unsuccessful.

As one would expect MR showed a substantial correlation and suggests that an individual who experiences their feelings clearly are inclined to be less depressed that those who experience conflicting feelings towards a person or thing. Moreover, those who experienced higher levels of EA rated their treatment to be less successful that those who experienced lower levels of EA. This can be supported by the results from the correlation matrix, which showed that there was a highly significant negative correlation between EA and MR. Previous research has not investigated this relationship and these results advise individuals who are frequently trying to avoid particular private experiences are failing to comprehend their feelings clearly, and as a result, are poor at monitoring, evaluating, and regulating them.

The relationship between age and four personality variables

With respect to age, results found that there was no correlation between RC and EI. MR had a significant positive relationship with age. This indicated that as participants age, the better they were at regulating their emotions. This may be because older participants may have received more successful therapy than their younger counterparts. Furthermore, older participants had a significant negative correlation with EA. Again, this may suggest that they had received more successful therapy in their lifetime that younger participants.

Discussion on additional findings

In addition to the correlation and multiple regression analyses, additional analyses were carried out. These examined gender differences on the personality variables, and group differences based on length of illness and education level with the four personality variables.

Gender differences on the personality variables

Interestingly, there were no significant gender differences on any of the personality variables. This was surprising as the sample was heavily biased toward females, with quite small difference. The lack of gender differences could be due to a number of reasons, not least the heavy gender bias. If individual problem types have been investigated instead, it is possible that differences between male and female participants would have been illuminated.

Group differences on length of illness and education level with the four personality variables

With regards to any group differences on the length of an individual's illness and their education level with any of the four personality variables, one-way ANOVA revealed that the only significant difference was between education and RC. However, there was a borderline significant difference between education and EA. Post hoc analyses revealed that these differences were between individuals whose highest level of education was either secondary or a completion of master's degree. This is an interesting finding as it suggests that individuals who left school between the ages of 16–18 experience higher levels of avoidance and also those individuals around the age of 25, which in turn may suggests that those individuals are unwilling to remain in contact with particular private experience and do what they can to alter the frequency of these experiences.
CONCLUSION

The present study argued that it is sensible to apply the concept of emotional intelligence, mood regulation, experiential avoidance, and reflective coping in a clinical population. In spite of the popular approach to emotion, where it is often discussed in terms of adaptation, more cognitively inclined emotion and emotional regulation may be assessed in a clinical population. A fair amount of psychological research was taken into account. However, unlike earlier works, an association was observed between the personality variables of EA and MR. For instance, studies conducted with nurses or nursing students have shown that EI is a skill that minimises the negative stress consequences. The work examined the role of perceived emotional intelligence (PEI) measured by the Trait Meta-Mood Scale, in the use of stress-coping strategies, in the quantity and quality of social support and in the mental health of nursing students. The results indicated positive correlations between clarity and social support, social support and repair, and social support and mental health. Hierarchy regression analysis pointed out that clarity and emotional repair are predictors of social support, and emotional repair is the main predictor of mental health (Montes-Berges & Augusto, 2007). These results show the importance of PEI in stress coping within the nursing framework. It therefore suggests that clinical interventions aimed at reducing EA may be of a particular benefit to people who are currently experiencing mood problems. For instance, an earlier study (Relojo, Pilao, & dela Rosa, 2015) observed that although no significant relationship has been observed, it is argued that findings from this study will highlight the need for teacher-training programmes to raise awareness of the emotional demands of teaching and consider ways to enhance emotion regulation skills inexperienced as well as recently qualified teaching staff. Indeed this is an emerging notion that needs to be considered in future research.

References


