

Correlates of trait emotional intelligence: results from Canadian and Scottish groups

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Abstract

Emotional intelligence (EI), personality, alexithymia, life satisfaction, social support and health related measures were assessed in Canadian ($N=500$) and Scottish ($N=204$) groups. EI was found to be negatively associated with alexithymia and alcohol consumption and positively associated with life satisfaction and social network size and quality. In order to clarify the multivariate associations amongst the measures used, regression analyses were performed. The results show that EI is more strongly associated than personality with social network size, but social network quality, alcohol consumption and health status are more strongly related to personality. The EI measures used had good psychometric properties, but more work is required to investigate the existence of other variables which associate more strongly with trait EI than with personality.

1. Introduction

The study of emotional intelligence (EI) is currently a topic of considerable interest and activity within individual differences research. The reasons for this interest are two-fold. Firstly, the idea that people differ in measurable ways in their emotional skills is an interesting idea in its own right, suggesting the opening up of an area of individual differences assessment not currently covered by existing measures of intelligence and personality. Secondly, emotional intelligence is expected to be linked to a range of theoretically interesting outcomes. The enhanced interpersonal skills of high-EI individuals would be expected to be associated with outcomes such as better social and personal relationships, whilst intrapersonal aspects of EI such as mood regulation would be expected to link to, for example, higher levels of life satisfaction and lower levels of depression.

There is some uncertainty and controversy about EI assessment and validity; whilst the idea of EI is an appealing one, additional work on its psychometric properties and predictive validity is required. Currently EI is characterised by some researchers as an ability, involving the cognitive processing of emotional information, which is accordingly most appropriately measured by performance tests. An alternative proposal is that EI should be regarded as a dispositional tendency like personality which can be assessed by self-report questionnaire. A detailed discussion of EI measurement and problematic features associated with both approaches is given by Roberts, Zeidner and Matthews (2001) and Matthews, Zeidner & Roberts (2002). It is not currently clear if the two measurement methods actually assess the same construct, and in this context Petrides and Furnham (2001) have suggested the terminology 'ability EI' and 'trait EI' to distinguish the two measurement approaches. In the present work the focus is on trait EI. The problematic aspects of EI assessment by questionnaire include questions about the extent to which an individual's self-reported EI relates to their real-world emotional skills, and the large correlations found between trait EI measures and personality (this second point is discussed in more detail below). Nonetheless, this method of EI assessment seems likely to continue to be widely used because of the straightforward nature of questionnaire compared to task-based assessment, and the possibilities for unsupervised use (e.g. in postal surveys). In the remainder of this introduction we briefly review what is currently known about the associations between trait EI and other measures, including those which might be regarded as outcomes of EI, and suggest some possibilities meriting further study.

EI has been found to be associated with a range of outcomes which in a broad sense can be regarded as relating to quality of life. The associations which have been found are theoretically reasonable, with plausible links either to the interpersonal aspects of EI which would be expected to be associated with better quality of social interactions, or to intrapersonal aspects such as mood regulation. Findings include positive associations with life satisfaction and social network size and quality, and negative associations with loneliness (Ciarrochi, Chan & Bajgar, 2001; Dawda & Hart, 2000; Palmer, Donaldson & Stough, 2002; Saklofske, Austin & Minski, 2003; Schutte et al., 1998). Trait EI measures and alexithymia have been found to be strongly negatively correlated (Dawda & Hart, 2000; Parker, Taylor & Bagby, 2001;

Saklofske *et al.*, 2003; Schutte *et al.*, 1998) which is again theoretically interpretable given that alexithymia is defined by the features of difficulty identifying feelings, difficulty describing feelings and externally-oriented thinking, which are clearly closely related to the low pole of EI.

The possibility of associations between EI and health status and health behaviours is an interesting one which has not been widely studied. Given the existence of intrapersonal EI subcomponents related to emotion management, it seems reasonable to assume that high EI would be associated with better stress management and lower levels of psychological distress. Trait EI has been found to be negatively correlated with psychological distress (Slaski & Cartwright, 2002) and depression (Dawda & Hart, 2000; Schutte *et al.*, 1998). Interpersonal and intrapersonal aspects of EI may also be relevant to health behaviours, with high-EI individuals possibly having more positive interactions with health information providers and being more able to resist peer pressure in connection with risky health behaviours; the latter mechanism has been proposed by Trinidad and Johnson (2002) to explain negative associations found between EI and smoking and alcohol consumption in adolescents. Higher EI has also been found to be related to willingness to seek professional and non-professional help for personal-emotional problems, depression and suicidal ideation. (Ciarrochi & Deane, 2001).

Considering the five-factor model of personality, trait EI measures have generally been found to have large significant correlations with Extraversion (E) and Neuroticism (N) (with positive and negative signs respectively) whilst smaller significant positive correlations with Openness (O), Agreeableness (A) and Conscientiousness (C) have also been found (Dawda & Hart, 2000; Petrides & Furnham, 2001; Saklofske *et al.*, 2003; Schutte *et al.*, 1998). The correlations with E and N are not surprising given that these traits are well known to be associated with the regulation of positive and negative mood respectively, and that mood regulation is an aspect of the conceptualisation of trait EI (Bar-On, 2000). Overlap between aspects of trait EI and facets of O, A and C, for example feelings, actions and ideas (O), trust and tender mindedness (A) and competence and dutifulness (C), leading to scale-level associations, would also be expected (McCrae, 2000). These relationships with personality do however raise the question of the distinctness of trait EI from the personality domain. One approach to this problem is to examine the incremental validity of trait EI over personality in the prediction of outcomes of the type discussed above. In this context, trait EI has been shown to have incremental validity in the prediction of life satisfaction, loneliness and depression-proneness (Palmer *et al.*, 2002; Saklofske *et al.*, 2003). The factor-analytic studies of Petrides and Furnham (2001) also provide evidence for the discriminant validity of trait EI by locating a distinct EI factor in the factor spaces defined by both the Eysenck personality scales and the five-factor model scales.

The present study was designed to assess associations between EI at both the scale and sub-scale level and a range of theoretically linked variables (alexithymia, life satisfaction, social network size and quality). Some health-related measures were also included. Personality was assessed in order to be able to examine the issue of incremental validity of EI as a predictor discussed above. The EI measures used were the short Bar-On EQ-i (Bar-On, 2002) and a modified version of the Schutte *et al.* (1998) EI scale (Austin, Saklofske, Huang & McKenney, in press), allowing

comparisons of the properties of these two measures. Data were obtained from both Scottish and Canadian samples, allowing some group comparisons.

2. Method

2.1 Participants

Participants for this study were recruited in Canada and Scotland. The Canadian group consisted of 500 undergraduate students attending the University of Saskatchewan, 169 males, 329 females (two participants did not give gender information). The mean age was 22.8 years, (standard deviation 6.0 years). The Scottish group ($N = 204$) comprised 180 members of the Edinburgh Psychology Department's adult volunteer panel, 34 undergraduate Psychology students from Edinburgh University and 30 undergraduate students from Glasgow Caledonian University. This group contained 44 males and 156 females (four participants did not give gender information). The mean age of the group was 43.9 years (standard deviation 19.8 years).

2.2. Materials

2.2.1. Modified Schutte EI scale (EIS).

A revised version of the 33-item scale of Schutte *et al.* (1998) was constructed in which reversed wordings were devised for nine of the original 30 forward-keyed items. In addition, eight new items were included. The resulting 41-item scale had 20 forward-keyed and 21 reverse-keyed items. This scale is described in more detail elsewhere (Austin *et al.*, in press).

2.2.2. Short form Bar-On EQ-i (EQ-i:S, Bar-On, 2002).

This 51-item scale provides a measure of total EI (designated as Emotional Quotient, EQ) and the five composite scales of Intrapersonal EQ (associated with awareness of one's own feelings and positivity), Interpersonal EQ (interpersonal/social skills), Adaptability EQ (ability to cope flexibly with everyday problems), Stress Management EQ and General Mood EQ (happiness and optimism). Scores can also be obtained for Positive Impression, a social desirability measure. This measure provides a short form of the original 133-item EQ-i (Bar-On, 1996). Satisfactory psychometric properties have been reported in the technical manual accompanying the EQ-i:S and by Austin *et al.* (in press); these results offer support for the short scale as a satisfactory substitute for the EQ-i when time constraints may limit the use of the longer questionnaire.

2.2.3. Personality Mini-Markers.

This 40-item scale of trait-descriptive adjectives provides scores (eight items per dimension) on the personality dimensions of Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Intellect/Openness/Imagination (Saucier, 1994). The fourth factor was reverse-scored in this study to give a Neuroticism measure.

2.2.4. *The NEO Five Factor Inventory: Form S* (NEO-FFI; Costa & McCrae, 1988).

This is a 60-item questionnaire measuring the personality dimensions of Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness; there are twelve questions for each dimension.

2.2.5. *Alexithymia*.

The Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994) is a 20-item scale which can be scored to give a total alexithymia score and also sub-scale scores on three dimensions (Factor I, difficulty identifying feelings; Factor II, difficulty describing feelings; Factor III, externally-oriented thinking).

2.2.6. *Life satisfaction*.

The Temporal Satisfaction with Life Scale (TSWLS; Pavot, Diener, & Suh, 1998) is a 15-item scale that provides a total life satisfaction score and also three sub-scales relating to past satisfaction with life, concurrent life satisfaction, and future expectation of life satisfaction

2.2.7. *Social support*.

The short three-item version of the Social Support Questionnaire (Sarason, Sarason, Shearin & Pierce, 1987) was used. This scale consists of three two-part items. The first part of each item assesses the number of people considered by the respondent to provide particular types of social support whilst the second part assesses the degree of satisfaction/dissatisfaction with the support received. Totals for perceived level of support (sum of the number sub-items) and overall satisfaction with/perceived quality of social support (sum of the satisfaction sub-items) are calculated separately.

2.2.8. *Health-related information*.

Participants were asked how many units of alcohol they consumed per week, whether they felt their health was above average, below average or average compared to others of the same age and sex, and how many times they had visited their family doctor in the last six months.

2.3 *Procedure*

Because of considerations of questionnaire length, different sub-groups in the study completed sub-sets of the above measures. The relevant *N* values for each analysis are given in the results section. The Canadian undergraduate participants completed questionnaires during regularly scheduled class periods, as did some of the Scottish undergraduates. Some Scottish undergraduates were also approached out of class (e.g. in canteen areas) by an investigator and invited to participate in the study and fill in a questionnaire. The majority of the Scottish volunteer panel members were sent a questionnaire by post with a reply-paid envelope for return. A smaller number of this group were either given the questionnaire and reply-paid envelope

whilst attending a volunteer recruitment fair or received the questionnaire after responding to a participant recruitment advertisement.

3. Results

3.1. Factor structure of the EI scales

A previous factor analysis of the Canadian sample data resulted in a three-factor structure for the EIS (Austin et al., in press). In the present study the factor structure for the smaller Scottish group was also examined. The scree diagram for this group suggested the extraction of four factors. The first three factors were similar to those previously found in the Canadian group; the fourth, smallest factor had a small number of high loading items which were negatively worded and mostly with pessimistic content (e.g. 'I generally don't expect good things to happen'). In view of the similarity of the three Canadian factors and the first three Scottish factors, three factors were extracted for the whole sample; these factors explained 30.2% of the variance and were similar to those reported previously for the Canadian group and were given the same names: Appraisal of Emotion, Utilisation of Emotion and Optimism/Mood Regulation. An oblique rotation was used, since these EI subcomponents would be expected to be positively correlated. The respective reliabilities of the scales were 0.79, 0.67, 0.74 (the calculation for the second factor takes into account the unexpected negative loading for item 26; this item was re-keyed before entry into the reliability calculation).

The factor structure and scale reliabilities for the EQ-i:S were also examined. The reliabilities were Interpersonal 0.78, Intrapersonal 0.79, Adaptability 0.79, Stress Management 0.79, General Mood 0.83, Positive Impression 0.61, Total EI 0.87; these values are all good apart from Positive Impression, for which the reliability falls below the commonly accepted minimum of 0.7. There were insufficient data for the Scottish group to allow separate factor analyses for the two nationality groups, so results are presented for the combined sample. Examination of the scree diagram clearly indicated a six-factor solution; these factors explained 44.4% of the variance, with factors clearly identifiable as corresponding to the scale structure of the instrument emerging. The percentage variance explained by the individual factors was General Mood 17.4%, Stress Management 7.2%, Adaptability 5.8%, Interpersonal 5.6%, Intrapersonal 4.3%, Positive Impression 4.2%. The factor structure was essentially in keeping with the theoretical sub-scale structure derived by Bar-On (1996, 2002), with only three items having their highest loading on a scale other than that indicated by the scoring key. These were the Stress Management items 13, 16 and 46, which loaded on the General Mood scale.

3.2. Correlations between EI scores and other measures

A preliminary examination of correlations where data were available for both nationalities showed that these were similar in magnitude for both groups; accordingly only whole-sample correlations are presented. Tables 1 and 2 show correlations between EI and TAS scales and subscales and personality traits. Table 3 shows correlations between EI and personality and social support, life satisfaction and the health-related measures. In table 1 it can be seen that the two EI measures are

significantly positively correlated with each other and significantly negatively correlated with TAS score, as has been found in previous studies (e.g. Parker *et al.*, 2001; Saklofske *et al.*, 2003). The two five-factor model personality measures show generally similar correlations with EI, with the main findings, as in previous work (e.g. Saklofske *et al.*, 2003) being significant positive correlations between EI scales and Extraversion, Openness, Agreeableness and Conscientiousness and a significant negative correlation with Neuroticism.

For the measures which could be regarded as outcomes of EI and personality, social network size can be seen to be positively correlated with EI, Extraversion and Agreeableness and negatively correlated with Neuroticism, whilst social network quality is positively correlated with EI, Agreeableness, and (NEO) Extraversion and negatively correlated with Neuroticism. Life satisfaction is positively correlated with EI, (NEO) Extraversion and (NEO) Conscientiousness and negatively correlated with Neuroticism. Alcohol consumption can be seen to be negatively associated with EI and Agreeableness. Self-reported above-average health is associated with low Neuroticism and high Extraversion scores.

Tables 1, 2, & 3 near here

3.3. Modelling

The previous results show a fair degree of intercorrelation amongst EI measures, personality other measures. In order to establish whether EI or any of its subcomponents has effects when personality trait levels are controlled for, partial correlation and regression analyses were performed. Complete data for all variables were only available for a small subgroup ($N = 86$). All partial correlations were found to be non-significant except for social support network size with EIS and Appraisal of Emotions ($r = 0.25, 0.21, p = 0.018, 0.045, N = 86$). Two sets of regression models were run, one set with EIS score and personality as predictors and the other with EIS factor scores and personality as predictors. Whilst issues of causality cannot be rigorously investigated in a cross-sectional study, the regression procedure is useful to clarify the multivariate relationships in the data, and in the case of behavioural outcomes such as alcohol consumption, the role of dispositional tendencies as predictors would appear to be plausible. For the first set of models the significant predictors were found to be (coefficient sign in brackets). Social network size: EIS(+), social network quality: N(-), alcohol consumption: E(+) and for the second set, social network size: Appraisal of Emotions(+), social network quality: no predictors reached significance, alcohol consumption: E(+), Optimism/Mood regulation (-).

4. Discussion

This study investigated associations between EI and a range of variables theoretically linked to it: alexithymia, life satisfaction, social network size and quality and health measures. Two EI measures were used, a short version of the Bar-On EQ-i (Bar-On, 2002) and a modified version of Schutte *et al.*'s (1998) EI scale (EIS; Austin *et al.*, in press). Negative correlations were found between EI and alexithymia scores, as in previous studies (Parker *et al.*, 2001; Saklofske *et al.*, 2003). Positive associations between EI and life satisfaction were found, consistently with previous studies (Palmer *et al.*, 2002; Saklofske *et al.*, 2003). EI was positively associated with

social network size and quality and negatively associated with alcohol consumption. EI and the other measures all showed significant associations with personality. In order to assess the relative contributions of EI and personality, partial correlations and regression models were carried out. The results suggest that EI is related to social network size, social network quality is most closely related to Neuroticism. At the subscale level the regression models showed that social network size is strongly associated with the Appraisal of Emotions EI subscale, which is related to the ability to understand others' emotions. By contrast, alcohol consumption was most strongly related to the Optimism/Mood Regulation scale; this can be interpreted in terms of individuals who are skilled at regulating their emotions having less need to rely on alcohol as a means of, for example, stress reduction.

This study also investigated the psychometric properties of the EIS and EQ-i:S. In terms of factor structure these scales differ in the number and nature of their sub-components. In particular, Bar-On's EI model does not contain an analogue of the EIS Utilisation of Emotions factor. The differences are not surprising given that these scales were derived from different underlying theoretical perspectives on EI. Schutte *et al.* (1998) derived their model from a formulation (Salovey & Mayer, 1990) containing components of appraisal, expression, regulation and utilisation of emotion, which do not exactly map on to Bar-On's EI components. There are however in addition differences in the reliability and replicability of the two factor structures. The analyses presented here show that the EQ-i:S factor structure derived from the present data fits well with its assumed structure, and that all sub-scales other than PI have good reliability. By contrast the factor structure of the EIS appears problematic and not totally well-defined. Studies of the 33-item version of this scale have suggested a four-factor structure, but with the Utilisation of Emotions factor being of low reliability (Ciarrochi, Deane & Anderson, 2002; Petrides & Furnham, 2000; Saklofske *et al.*, 2003). Although the modified 41-item version is very close in content to the 33-item original, only three factors replicated and the Utilisation factor, although specifically targeted by the inclusion of additional items (Austin *et al.* in press) remained of low reliability. At this point a conservative view would be that only the Optimism/Mood Regulation and Appraisal of Emotion factors should be regarded as established. At the scale level the indications for use of the EIS scale are more encouraging; overall EI measured by this scale is reliable and correlates highly with EI measured by the EQ-i:S and the associations between EI scores and both personality and outcome measures are similar for the two scales. These findings suggest that the EIS provides a valid and useful public domain overall EI measure but that more work is needed on this scale to enable it to be usable with confidence for the assessment of EI sub-components.

The relative strength of association of trait EI and personality with measures such as social support requires further investigation. Previous studies (Palmer *et al.*, 2002; Saklofske *et al.*, 2003) have shown that EI has some incremental validity in the prediction of outcomes such as self-reported life satisfaction and loneliness; the finding for social network size suggests that it would be promising to investigate the relative contributions of EI and personality to other outcomes closely related to interpersonal/relationship skills such as career success and marital relationship duration and quality.

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References

- Austin, E. J., Saklofske, D. H., Huang, S. H. S & McKenney, D. (In press). Measurement of Trait Emotional Intelligence: Testing and Cross-Validating a Modified Version of Schutte et al's (1998) measure. *Personality and Individual Differences*.
- Bagby, R. M., Parker, J. D. A., & Taylor, G. J. (1994). The twenty-item Toronto Alexithymia Scale-I: Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research*, 38, 23-32.
- Bar-On, R. (1996). *The Emotional Quotient Inventory (EQ-i): A test of emotional intelligence*. Toronto: Multi-Health Systems.
- Bar-On, R., (2000). Emotional and social intelligence: insights from the Emotional Quotient Inventory. In R. Bar-On & J. D. A. Parker (Eds.). *The Handbook of Emotional Intelligence* (Pp363-388). San Francisco: Jossey-Bass
- Bar-On, R., (2002). *Bar-On EQ-i:S Technical Manual*, Toronto: Multi-Health Systems.
- Ciarrochi, J., Chan, A. Y. C. & Bajgar, J. (2001). Measuring emotional intelligence in adolescents. *Personality and Individual Differences*, 31, 1105-1119.
- Ciarrochi, J. V. & Deane, F. P. (2001). Emotional competence and willingness to seek help from professional and nonprofessional sources. *British Journal of Guidance and Counselling*, 29, 233-246.
- Ciarrochi, J., Deane, F. P. & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and Individual Differences*, 32, 197-209.
- Costa, P. T. & McCrae, R. R. (1988). *The NEO PI/FFI manual supplement*. Odessa, FL: PAR.
- Dawda, D. & Hart, S. D. (2000). Assessing emotional intelligence: reliability and validity of the Bar-On Emotional Quotient Inventory (EQ-i) in university students. *Personality and Individual Differences*, 28, 797-812.
- Matthews, G., Zeidner, M. & Roberts, R. D. (2002). *Emotional intelligence. Science and Myth*. Cambridge, MA: Bradford.
- McCrae, R. R. (2000). Emotional intelligence from the perspective of the five-factor model of personality. In R. Bar-On & J. D. A. Parker (Eds.), *Handbook of emotional intelligence* (pp. 263-276). San Francisco: Jossey-Bass.

- Palmer, B., Donaldson, C. & Stough, C. (2002). Emotional intelligence and life satisfaction. *Personality and Individual Differences, 33*, 1091-1100.
- Parker, J. D. A., Taylor, G. J. & Bagby, R. M. (2001). The relationship between emotional intelligence and alexithymia. *Personality and Individual Differences, 30*, 107-115.
- Pavot, W., Diener, E., & Suh, E. (1998). The Temporal Satisfaction with Life Scale. *Journal of Personality Assessment, 70*, 340-354.
- Petrides, K. V. & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*, 425-448.
- Roberts, R. D., Zeidner, M. & Matthews, G. (2001). Does emotional intelligence meet traditional standards for an intelligence? Some new data and conclusions. *Emotion, 1*, 196-231.
- Saklofske, D. H., Austin, E. J. & Minski, P. S. (2003). Factor structure and validity of a trait emotional intelligence measure. *Personality and Individual Differences, 34*, 1091-1100.
- Salovey, P. & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality, 9*, 185-211.
- Saucier, G. (1994). Mini-Markers: A brief version of Goldberg's unipolar Big-Five markers. *Journal of Personality Assessment, 63*, 506-516.
- Sarason, I. G., Sarason, B. R., Shearin, E. N. & Pierce, G. R. (1987). A brief measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships, 4*, 497-510.
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences, 25*, 167-177.
- Slaski, M. & Cartwright, S. (2002). Health, performance and emotional intelligence: an exploratory study of retail managers. *Stress and Health, 18*, 63-68.
- Trinidad, D. R. & Johnson, C. A. (2002). The association between emotional intelligence and early adolescent tobacco and alcohol use. *Personality and Individual Differences, 32*, 95-105.

Table 1. Correlations between EI, alexithymia and personality

| | EIS | EQ-i:S | TAS |
|--------|----------------|----------------|----------------|
| EQ-i:S | 0.67*** (455) | | |
| TAS | -0.57*** (465) | -0.64*** (470) | |
| N | -0.31*** (288) | -0.55*** (169) | 0.27*** (179) |
| E | 0.45*** (285) | 0.30*** (164) | -0.26** (174) |
| O | 0.21*** (291) | 0.25** (169) | -0.20** (179) |
| A | 0.58*** (293) | 0.55*** (168) | -0.31*** (178) |
| C | 0.10 (291) | 0.33** (166) | -0.26** (178) |
| NEON | -0.47*** (55) | -0.62*** (57) | 0.38** (58) |
| NEOE | 0.45** (55) | 0.53*** (57) | -0.25 (58) |
| NEOO | 0.20 (56) | -0.01 (57) | -0.36** (58) |
| NEOA | 0.23 (56) | 0.46*** (56) | -0.20 (57) |
| NEOC | 0.44** (56) | 0.59*** (57) | -0.22 (58) |

Sample sizes are given in brackets. EIS = Schutte scale EI score, TASTOT= Toronto Alexithymia Scale full-scale score, N=Neuroticism, E = Extraversion, O = Openness, A =Agreeableness, C= Conscientiousness, Mini-Markers scale. NEON, NEOE, NEOO, NEOA, NEOC are the corresponding traits measured by the NEO-FFI. * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$.

Table 2. Correlations between EI and TAS sub-scales and personality.

| | App | Util | Opt | Inter | Intra | Adapt | SM | GM | PI | DIF | DDF | EOT |
|-------------------------------|----------|----------|----------|----------|----------|---------|----------|----------|----------|----------|----------|----------|
| Correlations with Minimarkers | | | | | | | | | | | | |
| N | -0.37*** | 0.44*** | -0.30*** | -0.28*** | -0.35*** | -0.22** | -0.58*** | -0.47*** | -0.32*** | 0.44** | 0.20** | -0.07 |
| E | 0.38*** | -0.03 | 0.37*** | 0.36*** | 0.50*** | 0.04 | 0.05 | 0.41*** | 0.04 | -0.10 | -0.33*** | -0.11 |
| O | 0.13* | 0.08 | 0.20** | 0.23** | 0.27*** | 0.24** | 0.02 | 0.12 | 0.02 | 0.02 | -0.17* | -0.36*** |
| A | 0.42*** | 0.19** | 0.52*** | 0.71*** | 0.21** | 0.26*** | 0.42*** | 0.30*** | 0.19** | -0.22** | -0.30*** | -0.23** |
| C | 0.14* | -0.18** | 0.01 | 0.17* | 0.23** | 0.30*** | 0.28*** | 0.16* | 0.00 | -0.30*** | -0.11 | -0.11 |
| Correlations with NEO | | | | | | | | | | | | |
| N | -0.61*** | 0.74*** | -0.32* | -0.28* | -0.65*** | -0.17 | -0.41** | -0.82*** | -0.28* | 0.60*** | 0.29* | -0.02 |
| E | 0.42** | -0.51*** | 0.52*** | 0.27* | 0.57*** | 0.23 | 0.22 | 0.73*** | 0.07 | -0.33** | -0.37** | 0.07 |
| O | 0.13 | 0.38** | 0.04 | 0.26* | 0.08 | -0.01 | -0.19 | -0.07 | -0.07 | -0.01 | -0.25 | -0.61*** |
| A | 0.30* | -0.09 | 0.07 | 0.42** | 0.10 | 0.21 | 0.51*** | 0.24 | 0.11 | -0.25 | -0.12 | -0.13 |
| C | 0.29* | -0.32* | 0.59*** | 0.33** | 0.36** | 0.34** | 0.44** | 0.38** | -0.13 | -0.18 | -0.20 | -0.14 |

Sample sizes range from 285-291 for EIS/Minimarkers correlations, 174-187 for EIB, TAS/Minimarkers, 55-62 for EIS, EIB/NEO. Schutte sub-scales: App = Appraisal of Emotions, Util = Utilisation of Emotion, Opt = Optimism/Mood Regulation. Bar-On sub-scales: Inter = Interpersonal, Intra = Intrapersonal, Adapt = Adaptability, SM = Stress Management, GM = General Mood, PI = Positive Impression. TAS sub-scales: DIF = Difficulty Identifying Feelings, DDF = Difficulty describing Feelings, EOT = Externally-Oriented Thinking. N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness. * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$.

Table 3. Correlations between EI, personality and other variables.

| | EIS | EIB | N | E | O | A | C | NEON | NEOE | NEOO | NEOA | NEOC |
|---------|------------------|------------------|-------------------|-----------------|----------------|-----------------|----------------|------------------|-----------------|---------------|--------------|---------------|
| SSN | 0.36*** (425) | 0.27*** (318) | -0.27** (126) | 0.28** (125) | 0.03 (125) | 0.28** (127) | 0.14 (128) | -0.18 (60) | 0.15 (60) | 0.04 (61) | 0.14 (60) | 0.10 (61) |
| SSSATIS | 0.17** (404) | 0.25*** (303) | -0.44*** (118) | 0.17 (118) | -0.01 (117) | 0.21* (119) | 0.18 (120) | -0.23 (52) | 0.33* (52) | -0.05 (53) | 0.09 (53) | 0.02 (53) |
| TSTOT | 0.30*** (501) | 0.33*** (388) | -0.19** (210) | 0.19** (209) | -0.05 (210) | 0.17* (212) | -0.01 (211) | -0.67*** (62) | 0.48*** (62) | -0.05 (63) | 0.16 (62) | 0.26* (63) |
| ALC | -0.19* (115) | | 0.07 (210) | 0.10 (128) | -0.08 (127) | -0.19* (129) | -0.10 (130) | | | | | |
| HEALTH | -0.02 (120) | | -0.22** (133) | 0.19* (133) | -0.04 (133) | -0.10 (135) | 0.11 (136) | | | | | |
| GP | -0.03 (117) | | 0.16 (130) | -0.03 (130) | -0.02 (129) | -0.03 (131) | -0.16 (132) | | | | | |

Sample sizes are given in brackets. EIS = Schutte scale EI score, N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness, Mini-Markers scale. NEON, NEOE, NEOO, NEOA, NEOC are the corresponding traits measured by the NEO-FFI. SSN = social network size, SSSATIS = satisfaction with social network, TSTOT = Temporal Satisfaction With Life Scale total score, ALC = units of alcohol per week, HEALTH = self-rated health compared to similar others, GP = number of visits to family doctor in last 6 months. * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$.