



Emotional intelligence training and its implications for stress, health and performance

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Summary

This study builds on earlier work (Slaski & Cartwright, 2002), examining the role of Emotional Intelligence (EI) as a moderator in the stress process. A sample of UK managers (n = 60) were given training in emotional intelligence. Pre and post measures were taken relating to EI, stress and health and management performance. The study also incorporated a matched control group. It was found that training resulted in increased EI and improved health and well being. Copyright © 2003 John Wiley & Sons, Ltd.

Key Words

emotional intelligence; stress and health; secondary interventions

Introduction

As long ago as 1987, two of the most prominent researchers in the field of stress, Richard Lazarus and Susan Folkman, wrote:

‘Although we have usually referred to stress, coping theory and research, we think that we should now speak less of stress and more of emotion. Stress, which primarily concerns negative person–environment relationships, cognitive appraisals and emotional response states such as fear, anger, guilt and shame, fall under the larger rubric of emotion’ (Lazarus & Folkman, 1987).

To date, in emphasizing the subjective nature of stress, transactional theories (Cox, 1993), have highlighted the role of individual differences in understanding why some people cope and thrive better than others when exposed to similar circumstances. As a result, there have been numerous studies which have considered a range of personality variables and demographic factors which act to moderate the stress–strain relationship. Traditionally, research has investigated dispositional variables such as Type A behaviour (Friedman & Rosenman, 1974), positive and negative affectivity (Parkes, 1990), hardiness (Kobasa, 1979), optimism (Scheier & Carver, 1992) and Locus of Control (Spector & O’Connell, 1994). In addition to personality and dispositional variables, researchers have also considered behavioural moderators such as social support and coping strategies.

In response to Lazarus and Folkman’s (1987) comments, the emergent interest in the role of importance of emotions in affecting the way in which individuals appraise and respond to a

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potentially threatening event or situation, attention has been drawn to the concept of emotional intelligence as a potential moderating variable in the stress process. Emotional Intelligence (EI) has been the subject of much debate (e.g. Mayer, et al., 2000; Woodruffe, 2001), particularly as to whether it is a true form of intelligence, a cluster of personality traits (Davies, Stankov, & Roberts, 1998) or simply little more than interpersonal skills repackaged (Woodruffe, 2001). In addition, claims have been made that EI is crucially important to managerial and leadership success and to life success more generally (e.g. Bar-On, 1997; Goleman, 1995, 1998; D. Goleman, presentation at the 2nd International Competency Conference, London, 1997). Furthermore, unlike IQ which remains fairly stable throughout adult life, EI continues to develop with age and therefore can be learnt (Bar-On, 1997).

In an earlier recent study of over 200 UK retail managers (Slaski & Cartwright, 2002), it was found that individuals with high EI scores experienced less stress, had significantly better levels of health and well-being and were rated by their line managers as higher performers than those with moderate to low scores. Also, three recent empirical studies have shown that EI is strongly linked to Transformational Leadership (Barling, Slater, & Kelloway, 2000; Gardner & Stough, 2002; Palmer, Walls, Burgess, & Stough, 2000), a factor which is considered to impact on subordinate stress and performance (Sparks, Cooker, Fried, & Shirom, 1997).

Emotions and stress

Contemporary theories, such as cybernetic theory (Edwards, 1998), ethological theory (Schrbracq, Winnubst, & Cooper, 1996) and equilibrium theory (Hart, Griffin, Wearing, & Cooper, 1996) place emotions and self regulation at the centre of a dynamic process of stress. Emotions serve to draw attention resources to issues that in some way threaten the individual's integrity; whether that be physical, social or psychological. Emotions are also considered to be adaptive, as they protect the individual from physical harm, facilitate maintenance of self-identity in social settings and guide the individual toward the achievement of tasks and goals. The experience of stress is the manifestation of negative emotions triggered by danger, threat or challenge and which signal to the body the need to prepare for actions of

defence and protection. This was first described by Cannon (1931) as the 'flight or fight' response. As such, emotions are primarily drive signals (Oatley & Jenkins, 1998) and it is recognized that each interaction with the environment has emotional content because every action has 'survival' consequences on one level or another. Central to all behaviour is the overriding drive towards reducing aversive emotional experiences and stress, and the maintenance of an integrated 'self' (Damasio, 1994).

In summary, the link between EI and stress is founded on the notion that negative emotions and stress are the result of some dysfunctional relationship between aspects of the self and the environment, and that the ability (EI) to 'read' and manage emotions in the self and others is a moderator in this process. In essence, emotional intelligence is considered to account for individual differences in the capacity to process information of an emotional nature and to be able to relate these to wider cognitions. As such, EI is not about emotions *per se* but more about the way in which individuals effectively integrate emotions with thoughts and behaviour (Mayer, Salovey, & Caruso, 2000) and so can act to reduce aversive emotional experiences.

Mayer et al. (2000) define emotional intelligence as:

'an ability to recognize the meanings of emotions and their relationships and problem solve on the basis of them. Emotional Intelligence is involved in the capacity to perceive emotion, assimilate emotion-related feelings, understand the information of those emotions and manage them'.

For Mayer et al. (2000) EI is composed of the following discrete abilities (i) perception and expression of emotion; (ii) integrating emotion with thought; (iii) understanding and analysing emotion; and (iv) reflective regulation of emotion. This approach focuses on the fact that emotional intelligence corresponds to information processing capabilities of different areas of the brain (Morland, 2001).

Bar-On and Parker (2000) define EI as:

'a multifactorial array of interrelated emotional, personal and social abilities that influence our overall ability to actively and effectively cope with demands and pressures'.

These abilities include: (i) accurate self-appraisal; (ii) the ability to perceive and understand one's own emotions and the emotions of others; (iii) the ability to form and maintain intimate relationships; (iv) the ability to express and manage emotions; (v) the ability for self control; (vi) the ability to validate one's thinking and feeling; (vii) the ability to handle change and effectively solve problems. Such 'abilities' may be conceptualized more as emotional competence rather than an innate intelligence.

Whilst definitional differences are reflected in disagreement as to the precise model and measurement of emotional intelligence, there is general consensus that self-awareness is the cornerstone of emotional intelligence (Bar-On, 1997; Goleman, 1995) and that self-confidence and self-acceptance are key factors in its development. Through increased self-awareness, individuals are more able to detach themselves from events and regulate their emotions in order to prevent them from becoming 'immersed in' and 'carried away' by their emotional reaction. Therefore, developmental EI training may be a potentially effective technique for improving individual stress resilience.

Method

The aim of this study was to investigate whether emotional intelligence (EI) can be developed in managers, and if so, whether increased EI has a beneficial impact on health, well-being and performance. One hundred and twenty ($n = 120$) managers from a large UK retail chain volunteered for the study. Managers were allocated to either a training group or a control group. The training group ($n = 60$) attended a developmental EI training programme for 1 day per week over a 4-week period. The control group ($n = 60$) received no training at all. A repeated measures design was used and all participants completed measures prior to and 6 months following the completion of the programme. All participants were drawn from a wider population of middle managers. Both training and control groups were matched for age, gender, educational and marital status. In both groups the mean age was 37 years and males formed the majority (60 per cent). It was decided not to collect data immediately on completion of the training to give participants time to transfer and practice their learning into the workplace and also to avoid any 'Hawthorne' effect.

Measures

Personal and demographic data were collected relating to participants' age, gender, health and work status. In addition, participants completed the following pre-post training measures.

Emotional intelligence (EI). EI was measured using the Bar-On EQ-i (Bar-On, 1997). The measure consists of 133 items arranged on a 5-point response scale. Responses range from 'not true of me' (1) to 'true of me' (5). The measure yields an overall total EQ score which is composed of five scale scores described as (i) intrapersonal; (ii) interpersonal; (iii) adaptability; (iv) stress management; and (v) general mood. These scales can be further broken down into 15 subscales. The reliability and validity of the measure has been extensively examined, and is reported in detail in the *EQ-I technical manual* (Bar-On, 1997).

In addition to the Bar-On EQ-I, a further measure of emotional intelligence the EIQ (Dulewicz & Higgs, 1999, 2000) was used with the training group only. The EIQ is a subjective measure of emotional intelligence consisting of 69 items measuring the frequency of behaviour at work. Responses are taken on a 5-point response scale ranging from 'never' to 'always'. The measure yields an overall EI score which is composed of seven scale scores described as (i) self-awareness; (ii) emotional resilience; (iii) motivation; (iv) interpersonal sensitivity; (v) influence; (vi) decisiveness; and (vii) conscientiousness. Again, the reliability and validity of this instrument is discussed in the *EIQ technical manual* (Dulewicz & Higgs, 2000).

Whilst this measure was used only with the training group the researchers felt that in using both the EIQ and the EQ-i it would be possible to more accurately measure any development of emotional intelligence as a result of attending the programme.

General Health-GHQ 28. General health was measured using the 28-item General Health Questionnaire (GHQ 28; Goldberg & Hillier, 1979; Goldberg & Williams, 1998). Again, the questionnaire has established reliability and validity and is deemed highly suitable for use in non-clinical settings (Bowling, 1997). Responses are invited on a 4-point scale ranging from 'less than usual' to 'much more than usual'. Of the four possible ways of scoring this instrument

(Goldberg & Williams, 1998), for this study the simple Likert method (0–1–2–3) was chosen. The measure yields an overall health score (range 0–84) and is composed of four subscales described as somatic symptoms, anxiety and insomnia, social dysfunction and depression.

Psychological outcomes. Other psychological outcomes were measured using scales taken from the Queensland Public Agency Staff Survey (QPASS) developed by Hart et al. (1996) to investigate organizational stress and the quality of working life. The measure consisted of 20 items arranged on three subscales—psychological distress, morale and quality of working life. Responses to items are made on a 7-point scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (7).

Other measures. In addition to these outcome measures, stress was examined using a subjective measure. Participants were asked to rate themselves on a single scale ranging from 1 to 10 on how stressed their life is at this time, a score of 10 being extremely stressed.

Whilst it is acknowledged that subjective data such as this, has limited validity or reliability, it was felt that such an item could support other measures to build an overall image of well-being.

Finally, management performance was measured utilizing the 16 performance factors used by the organization in performance appraisal. The measure which was completed by the participant’s immediate line manager consists of 64 items rated on a 4-point response scale ranging from ‘rarely’ (1) to ‘most of the time’ (4). Thus each participant received a performance score ranging from 0–192. Typical of the 16 performance factors were: setting objectives, organizations and planning, influencing decision making etc.

In addition to the management performance measure, there was the opportunity to collect qualitative data from both the participant and their immediate line manager 6 months following the training.

The EI development programme

Managers taking part in the developmental programme attended for 1 day per week for a total of 4 days. There was a 1-week interval between

sessions to enable participants to practice and embed their learning from each session. Sessions were limited to a group size of 12. Therefore, five separate programmes were run to accommodate the 60 volunteer managers. The design of the programme was based on the advice suggested by Cherniss and Adler (2000) on the development of EI and sought to combine experimental methods and the development of insight, particularly into self constructs such as values, beliefs, expectations, goals and aspects of self-image.

For these reasons, much of the development of EI focused on developing self-awareness and detachment. Also, participants were instructed in techniques designed to (1) regulate emotions; (2) recognize emotions in others; and (3) understand the impact of one’s own behaviour on the emotion of others. A variety of training techniques was used, including short lectures, group discussions, role play and paired exercises involving the relating and sharing of emotional experiences. Participants also received one-to-one coaching feedback on the results of the EQ-i and were encouraged to maintain an ‘emotions diary’ throughout the duration of the training programme. The training was designed and delivered by one of the researchers together with two experienced external trainers.

Results

Independent *t*-tests showed that prior to training there were no significant differences between the training and the control group on any of the main research variables: emotional intelligence, general health, morale, distress, quality of work life, subjective stress and performance (Table I).

Of the 60 participants who began training, 52 complete sets of data were submitted 6 months after the training ended. Of the 60 participants in the control group, 49 submitted complete data 6 months after the training ended.

The EQ-i mean score for the training group increased by 5.2 points from 95.6 to 100.8 post training. Paired sample *t*-test found this increase to be significant (two-tailed $p < 0.001$). Scores on all subscales increased significantly with the exception of interpersonal factors. The EIQ mean score for the training group increased by 11.4 points from 256.6 to 268.0 post training. Paired sample *t*-test found this increase to be significant (two-tailed $p < 0.000$). Scores on all subscales increased significantly with the exception of deci-

Table I. Comparison of training and control group prior to training programme.

Variables	Training group (<i>n</i> = 56) mean	Control group (<i>n</i> = 51) mean	Two-tailed significance
Bar-On EQ-i	95.2	98.0	n.s.
GHQ 28	20.6	17.5	n.s.
Morale	56.6	59.4	n.s.
Distress	32.9	26.8	n.s.
QOWL	47.0	50.9	n.s.
Subjective stress	5.65	5.02	n.s.
Performance	60.0	57.2	n.s.

Table II. Paired sample *t*-tests for training group pre and post training (*n* = 52).

Variables	Mean score pre	Mean score post	Two-tailed significance
EQ-i	95.6	100.8	0.001
EIQ	256.6	268.0	0.000
GHQ 28	20.1	13.6	0.000
Morale	57.1	67.6	0.001
Distress	31.9	20.8	0.001
QOWL	45.9	52.5	0.020
Subjective stress	5.5	4.1	0.001
Performance	60.0	60.5	n.s.

Table III. Paired sample *t*-test for control group pre and post training (*n* = 49).

Variables	Mean score Pre	Mean score Post	Two-tailed significance
EQ-i	98.4	97.0	n.s.
GHQ 28	17.2	19.1	n.s.
Morale	60.0	54.3	0.021
Distress	25.7	33.3	0.019
QOWL	50.5	44.9	0.026
Subjective stress	5.1	5.6	n.s.
Performance	57.2	56.2	n.s.

siveness and conscientiousness. These results together with the other research variables are presented in Table II.

A test of correlation between the two measures of emotional intelligence, the EQ-i and the EIQ demonstrated a moderate but significant correlation between the two measures ($r = 0.633$). This suggests that each measure has adequate construct and concurrent validity.

The control group scores on the main research variables pre-post training are presented in Table

III. The control group mean score for emotional intelligence decreased slightly but not significantly over the 6-month period. However, morale, and quality of life scores were significantly poorer over time and distress had significantly increased, suggesting that this study took place in an organizational climate of increasing stress and falling morale.

In addition, to control for any differences between the training group and the control group prior to the programme, an analysis of covariance

Table IV. Analysis of covariance comparing pre and post scores for the training and control groups.

Variables	Range	Control group difference in mean pre-post scores	Training group difference in mean pre-post scores	Two-tailed significance
EQ-i	70–130	–1.4	5.2	0.000
GHQ 28	0–84	1.9	–6.5	0.000
Morale	0–100	–5.7%	10.5%	0.000
Distress	0–100	7.6%	–11.1%	0.000
QOWL	0–100	–5.6%	6.6%	0.002
Subjective Stress	1–10	0.5	–1.4	0.000
Performance	0–100	–1.0%	0.5%	n.s.

was conducted. Table IV shows the results of this analysis.

Overall, the results show that the developmental EI training programme did result in significant increases in emotional intelligence. This was captured by using two different measures of EI with the training group. Control group scores for EI remained constant. There was also a positive and significant effect on measures of health and well-being and these were substantiated by the qualitative data collected. However, there was no significant impact on performance. This may be in part attributable to the measure used, in that the organizational performance measured failed to capture some of the more emotion-based management competencies. Qualitative data collected from both trainees and line managers suggested that at least for some participants there was a noticeable improvement in their management performance.

Further research is needed to ascertain more conclusively whether EI is a moderator of stress or a consequence, i.e. distress negatively effects an individual's capacity to think and act in an emotionally intelligent way.

Conclusion

The results of this study are encouraging in suggesting that emotional intelligence can be taught, can be learnt and may be useful in reducing stress and improving health, well-being and performance. At an individual level of analysis, whilst the majority of the participants benefited from the programme and achieved gains in EI scores; others did not. However, this is no different from other forms of developmental training which

require individual effort and willingness to change. Similarly, it is impossible to identify specifically which aspects of the training were more effective in facilitating the developing of EI than others.

Clearly, the potential and effectiveness of EI training is a worthwhile area for future research with implications for selection and development as well as stress reduction.

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