Emotional expression and implications for occupational stress; an application of the Emotional Quotient Inventory (EQ-i)

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Abstract

The concept of emotional intelligence was examined in relation to the latitude permitted for emotional expressiveness and adaptation to occupational culture in three groups of helping professionals: police officers, child care workers, and educators in mental health care. A total of 167 individuals were administered the Emotional Quotient Inventory (EQ-i). There were no differences in the primary scales measuring various aspects of emotional intelligence between the two groups of care workers. There were differences between a combined care worker grouping and the police officers with the latter seeming more emotionally adaptable than the former. Whilst there were some overall gender differences, there were no gender by occupation interactions. There were also differences in terms of three higher order factors of the EQ-i with police officers achieving higher scores on positive affect and emotional stability than the care workers. Results are discussed in the light of differences in occupational cultures and methodological considerations. © 2000 Elsevier Science Ltd. All rights reserved.

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1. Introduction

This paper describes an application of a measure of emotional intelligence (Bar-On, 1997a,b) to the study of occupational stress. Marsella (1994, p. 164) suggests that stress involves an emotional reaction, especially a reaction involving the negative emotional states. This represents an expansion to investigative approaches of occupational stress. Briner (1996) argues expansions are necessary if questions are to be asked about the processes producing negative emotions and individuals' experiences of psychological distress as well as implicating work environments or situations as contributory factors of such distress.

Individuals' access to their feelings, the labelling of those feelings and use by them to guide behaviour were conceptualised by Gardner (1983) in terms of personal intelligences (comprised of "intrapersonal intelligence" and "interpersonal intelligence"). These notions were theoretical forerunners to the concepts of emotional literacy and emotional intelligence. Steiner (1984, p. 165) suggested that "to be emotionally literate we need to know both what it is that we are feeling and what the cause of our feelings are" Steiner further argued that emotional literacy is embedded in culture and is learned. Salovey and Mayer (1989/90) expand upon Gardner's work and defined emotional intelligence as the ability to perceive and express, assimilate, understand and manage emotions. Bar-On's (1997a,b) model of "noncognitive intelligence" appears to be the most comprehensive and inclusive conceptualisation of this construct. Noncognitive intelligence is defined as an array of emotional, personal, and social abilities and skills that influence an individual's ability to cope effectively with environmental demands and pressures. The key factors involved in this model include *intrapersonal capacity* (the ability to be aware and understand oneself, one's emotions and to express one's feelings and ideas), *interpersonal skills* (the ability to be aware of, understand and to appreciate others' feelings as well as to establish and maintain mutually satisfying and responsible relationships with others), *adaptability* (the ability to verify one's feelings with objective external cues and accurately size up the immediate situation, flexibly to alter one's feelings and thoughts with changing situations, and to solve personal and interpersonal problems), *stress management* strategies (the ability to cope with stress and to control strong emotions), and *motivational and general mood factors* (the ability to be optimistic, to enjoy oneself and others, and to feel and express positive feelings).

The relevance of these conceptualisations for the present paper is based on Barley and Knight's (1992) proposition that beliefs about emotional expressiveness are specific to particular occupational cultures. Callan (1989) states that an organisation's culture is that "web of ideas, symbols, values and beliefs about the world which its members hold in common and with reference to which experience is given meaning and value". Callan further suggests that occupational cultures provide both the rules which govern appropriate behaviour and theories of causation such as defining the circumstances for offering blame or praise for success or failure. Training and on the job experience socialises new members into their respective occupational cultures in such a way so as to define the latitude of acceptance of emotional expression which might expect to vary according to the underlying ethos of a particular work settings.

The three groups which are the focus of the present study namely police, child care workers and mental health educators, share some similarities but they are also distinctive.

Commonalties have to do with firstly the content of their work exposure which can be somewhat distressing; secondly care workers, educators and police officers are value driven having strong organisational cultures that are resistant to change (Thompson, Stradling, Murphy & O'Neill, 1996; Fielding, 1994); as public sector institutions they have in recent years undergone considerable externally enforced organisational change which has introduced a business ethos into managerial practices and resulted in perceived threats to individuals' sense of vocation (Cannan, 1994; O'Connor, 1992; Wigfield, 1996).

The occupational culture dictates the controlling of affective responses to tragic or violent circumstances, and it is in this domain where the occupations diverge. Police officers are expected to act personally not personally in dealing with distressing operational instances (Pogrebin & Poole, 1991, p. 396) with their effectiveness compromised if they fail to maintain this distinction. Emotional control is an important part of the officer's occupational identity both in terms of the public's expectation and demands of the informal culture. Their authority rests with the "suppression of affect" (Reisser & Geiger, 1984 p. 317). Care workers are expected to recognise, defuse and handle violence and strong emotion (Hester, 1994). There is also a gendered dimension to occupational socialisation whose influence affects men and women differently in the groups in the present study. On the one hand there is a perception that women police officers are best suited to deal with the "emotional labor" of police work which pushes them into the social services aspect of policing (Fielding & Fielding, 1992, p. 206). On the other hand, Kadushin (1976) describes the problems faced by men, as a gender minority, in social work and their apparent failure to meet expectations about caring and nurturance.

The aim of the present study is to examine the dimensions of emotional expressiveness within these different occupations. Given that (a) policing is dominated by men working within an organisation having masculinised occupational values whilst care work represents a feminine occupation with women as the gender majority, then policing as an occupation might be expected to be more emotionally constrained than that of care workers; (b) women generally are more emotionally expressive than men, then some gender differences and (c) gender/occupation interactions would be expected.

2. Method

2.1. Sample

A sample of 167 Ss from two distinct helping professions, (i) police officers at the middle management range ($n = 85$), and (ii) para professional personnel in mental health and child care professions ($n = 81$). Both groups were adults (18 years and over), fully employed and in colleges for continuing professional training programmes in their respective disciplines. They were both from the province of North-Rhine Westfalia in Germany. The para professional group were further subdivided in terms of their specialisation, that is those studying on a 3-year sandwich course in remedial, *mental health care* (working with mentally retarded individuals) entailing 3 seminar terms per annum each of 6–8 weeks duration, or on a full-time secondment training in remedial education, and individuals training in *child and adolescent care*

over a period of 3 years comprising 4 terms per annum of 6 weeks duration, or on a two year training as remedial educator (2 days teaching per week and 7 week seminars over a two year period).

2.2. Measures

The sample were administered an earlier version of the Emotional Quotient Inventory (EQ-i) in German. The published version of the EQ-i comprises 133 brief items and employs a five-point response format ranging from "very seldom or not true of me" to "very often true of me or true of me" (Bar-On, 1996). It takes an average of 40 minutes to complete this inventory. In contrast to the published version of the EQ-i, the earlier version employed in the present study includes 12 scales and not 15. The EQ-i is suitable for individuals 17 years of age and older.

The EQ-i measures *abilities* and *the potential for performance* rather than performance itself; it is *process-oriented*, rather than *outcome-oriented*. The version of the EQ-i which was employed in the present study assesses the emotional and social abilities and skills and a full description of the scales and exemplar items is given in Appendix A. Test–retest reliability refers to the stability of an instrument over time. Based on one study, the average stability coefficient is 0.85 after 1 month and 0.75 after 4 months (Bar-On, 1997a). These values mean that there is good consistency in the findings from one administration to the next, but the degree of correlation is not too high as to suggest that noncognitive intelligence is unchangeable. These reliability results suggest that while the EQ-i provides consistent results within and between administrations, it is also sensitive to changes in emotional and social functioning.

Also in the present study, the original correlation matrix of the primary scales was subjected to a PCA with varimax rotation to derive meaningful higher order factors having eigen values of >1.

3. Results

The sample comprised 72% men and 28% women, with a mean age of 33.2 years, and an average duration of 11.9 years of education. There is a much smaller percentage of women in policing (10%) than in the social work professions, mental health care 53% and child care 39%. A comparison of the mean age differences between groups revealed that police officers were somewhat older than their social work counterparts (M_{police} 35.68, SD 9.38; M_{social} 30.74, SD 5.86; t (152) = −3.99, $p < 0.001$).

A series of correlations was performed on the EQ-i scales (given in Appendix B). It is evident that there is a fairly high degree of interrelatedness between the various scales (including the FB scale which measures a tendency to make a "negative impression", the tendency to provide an exaggerated negative self-evaluation, in contrast to FG which is a "positive impression" or faking good scale designed to assess social desirability or response bias). Both FG and FB are not clinical scales, but validity scales which are theoretically unrelated to emotional intelligence. The magnitude of the correlation coefficients range from −0.72 (faking bad and reality testing) through +0.78 (interpersonal relationships and

happiness). The majority of the correlations are statistically significant ($p < 0.05$), and the mean value for the clinical scales is 0.45. Based on the coefficients that were obtained when the FG scale was correlated with the clinical scales, the social desirability or response bias of the EQ-i appears to be relatively low except for the Social Responsibility scale [R] = 0.28); the average correlation coefficient between the FG scale and the clinical scales is 0.08. The internal reliability of scales as measured by alpha coefficient is satisfactory, ranging from 0.66 for flexibility to 0.87 for self-regard.

Table 1 shows the statistically significant relationships between the primary EQ-i scales and demographic variables for the whole sample. Age appears the most discriminating demographic variable with education effects being minimal. Based on the results, it appears that older subjects are particularly better at reality testing, stress tolerance, and impulse control than younger subjects; older subjects also appear more responsible than younger ones. Table 2 provides more detail for the gender effects. These indicate that there are no significant differences between males and females on overall emotional intelligence. However, it appears that women have significantly better interpersonal skills than men while the latter have better stress tolerance and perhaps impulse control than their female counterpart. This trend between males and females is confirmed by results in other countries.

Interactions between occupation and gender were also examined and the F-tests for individual scales were all non significant ($p > 0.05$). Moreover, emotional scale profiles did not show a significant gender by occupational group effect (Wilks $\lambda = 0.97$, $F(12,142) = 0.43$, $p > 0.05$).

Comparisons between individual primary scales and the three occupational groupings are given in Table 3. In light of the fact that the results in the above table indicate there to be no significant difference on the EQ-i scale scores between the mental health educators and the child care social workers, it was decided to combine both types of social workers for further analyses (unless otherwise specified). Based on the present study, police officers appear to be more adaptable on a daily basis than social workers. Their enhanced ability to accurately focus

Table 1
Demographic variables: age, gender and education(al) duration

		Age	Gender	Education (years)
Problem solving	PS	0.21**[a]	−0.06	0.06
Self regard	SR	0.19*	−0.08	0.09
Interpersonal relationships	IR	−0.08	0.15*	−0.01
Social responsibility	RE	0.23**	−0.08	−0.17*
Independence	IN	0.20*	−0.01	0.01
Self-actualisation	SA	−0.03	0.08	0.15
Assertiveness	AS	0.16*	−0.08	−0.01
Flexibility	FL	0.01	−0.07	0.04
Happiness	HA	0.01	0.05	−0.03
Stress tolerance	ST	0.35***	−0.17*	−0.03
Impulse control	IC	0.25**	−0.15(*)	−0.06
Reality testing	RT	0.29***	−0.13	−0.09

[a] *$p < 0.05$, **$p < 0.01$, and ***$p < 0.001$.

Table 2
A cross-gender comparison of primary scale scores on the EQ-i

Scale	p-level	Males ($N = 113$)	Females ($N = 44$)
PS	0.53	33.3	32.8
SR	0.37	33.6	32.7
IR	**0.06***	**34.0**	**35.6**
RE	0.77	35.6	35.8
IN	0.93	34.4	34.3
SA	0.30	35.4	36.2
AS	0.34	32.9	32.0
FL	0.28	30.9	31.7
HA	0.49	36.5	37.1
ST	**0.04***	**33.2**	**31.3**
IC	**0.06***	**33.8**	**31.9**
RT	0.132	33.6	32.2
PW	0.641	407.0	403.6

and size up the immediate situation (RT, $F = 23.77$) and efficiency in dealing with problems (PS, $F = 12.88$) serves them well in adapting to dynamically changing situations as they arise. This ability could possibly be related to a greater intrapersonal capacity based on a more accurate self regard in comparison to social workers (SR, $F = 8.77$). Moreover, they are more assertive (AS, $F = 11.86$) and better able to cope with stress than social workers (ST, $F = 8.05$). Lastly, it is interesting that they appear to feel a part of and identify more with the community in which they live and work (RE, $F = 7.19$) and are more satisfied with what they are doing (SA, $F = 6.98$) than social workers based on the sample studied.

Higher order factors derived from the primary EQ-i scales are indicated in Table 4.

Table 3
Between group comparison on the emotional intelligence primary scales

	Police officer		Mental health		Child care		$F(1,163)$	pol vs MH	MH vs CC	pol vs CC
	M	SD	M	SD	M	SD		F	F	F
PS	34.64	3.93	31.06	4.44	32.27	4.18	12.88***	24.27***	1.46	7.98**
SR	34.93	4.92	31.18	5.40	32.30	5.56	8.77***	16.78***	0.80	5.69*
IR	35.24	4.81	33.29	4.36	34.37	3.79	2.99	5.59*	1.26	0.82
RE	36.84	4.17	34.61	4.35	33.97	4.02	7.19***	8.57**	0.44	10.48**
IN	35.23	4.39	33.96	4.16	33.27	3.87	2.87	2.67	0.55	4.58*
SA	36.70	4.06	34.06	4.59	34.97	3.74	6.98**	12.58**	0.84	4.40*
AS	34.24	4.69	30.20	5.21	32.03	4.39	11.86***	22.36***	2.63	5.32*
FL	31.43	4.64	30.27	3.49	31.60	4.55	1.36	2.27	2.17	0.04
HA	37.97	4.61	34.41	5.04	36.13	4.75	8.87***	17.43***	2.30	3.38
ST	34.07	4.49	30.86	5.28	31.33	5.31	8.05**	14.24***	0.15	7.48**
IC	34.03	4.42	31.65	6.61	32.23	6.51	4.04*	2.67	0.15	3.69
RT	35.38	4.45	29.98	4.92	31.83	4.38	23.77***	43.88***	2.90	14.49**

Table 4
Higher order factors of EQ-i

		Factor I (positive affect)	Factor II (stability)	Factor III (social conformity)
Problem solving	PS		+0.57	
Self regard	SR	+0.72		
Interpersonal relationship	IR	+0.84		
Social responsibility	RE			+0.54
Independence	IN	+0.51		
Self-actualisation	SA	+0.76		
Assertiveness	AS	+0.81		
Flexibility	FL	+0.55		
Happiness	HA	+0.82		
Stress tolerance	ST		+0.63	
Impulse control	IC		+0.85	
Reality testing	RT		+0.77	
Positive impression	FG			+0.90
Negative impression	FB		−0.77	

Three interpretable factors were extracted with eigenvalues exceeding unity. The first factor (eigenvalue = 6.55, % var. 46.8) had high loadings on interpersonal relationship, assertiveness, self-actualisation, happiness, self-regard, independence and flexibility scales and seems associated with positive affect (α coefficient = 0.89). The second factor (eigenvalue = 1.67, % var. = 12.0) was a bipolar dimension ranging from "negative impression" (FB) to problem solving, stress tolerance, impulse control and reality testing, and has been labelled emotional stability (α coefficient = 0.86). A third factor interpretable as social desirability (eigenvalue = 1.11, % var. = 7.9) comprised the two scales, social responsibility and impression management (faking good, FG): α coefficient is relatively low at 0.44.

A between occupational group (social workers vs police) using the higher order factors, positive affect, stability and social conformity was conducted. The covariates age and gender

Table 5
Mean scores for social workers and police on higher order factors

	Positive affect Mean	Stability Mean	Social conformity Mean
Social workers (*n* = 81)	228.2	142.6	56.7
Police officers (*n* = 85)	246.2	159.4	58.8
F(1,148)	15.8***	23.8***	2.48 n.s.

were adjusted for, since age in particular seems related to many of the primary scales. The results are displayed in Table 5.

4. Discussion

In the present study two broad occupational groupings, policing and care work, were presented as having the common elements of being person centred and vocational but which have rather different informal cultures, in part due to their respective gender orientations and skewed sex ratios. Results indicate that on most of the primary measures of emotional intelligence, police officers score statistically significantly higher than either of the care worker practitioner groups. The finding that the care worker subgroups did not differ is consistent with previous studies, e.g. Kirkcaldy, Thome and Thomas (1989).

Police officers scored significantly higher than the combined care worker practitioner groups in terms of positive affect and emotional stability, although not social conformity. These results imply that the police officers were more aware of themselves and of others, were more adaptable in general, coped better and positively enjoyed their work more than their care worker colleagues. This may be a reflection of the greater variability of work tasks required of policing and possible differences in training to prepare staff for operational tasks. Hart et al. (1994) suggest that police officers stabilise their emotional responses in terms of routine operational deployments. They are only thrown out of balance if the tasks they are asked to perform are unusual and deviate from the norm. If these tasks are appraised as threatening, then emotional reactions are experienced as negative and stressful. If on the other hand, the task is dealt with well, then the emotional response is experienced as positive, e.g. construed as excitement, and this actually enhances perceived quality of life. The occupational culture dictates tasks that are considered exciting. Research by Carlson and Lester (1980) shows how police officers subvert procedures, such as leaving off their bullet proof vests or carrying guns off duty, as thrill and adventure seeking behaviour. This search for hedonistic excitement, which is not characteristic of care working, is given full expression in the war stories and boasting about exploits (Fielding, 1994). The care worker practitioners appear to interpret threats in their workloads as emotional challenges, which as Hester (1994) points out they subvert by using denial and minimalisation strategies.

Personnel in both police and care work settings exhibited similar levels of social conformity. This latter finding may be attributable to common features of the occupational culture discussed earlier: a resistance to change, strong external pressures for managerial reform, perceived threats to the vocational status of the work.

There were some overall gender differences, in that women appeared to possess better developed interpersonal skills than men, whilst men seemed more able to withstand adverse events and stressful situations as well as exhibiting greater ability to control their emotions than women. These findings accord with research in which women seem inclined to capitalise on the opportunities for social interaction with a relatively large

social network which increases their sense of well-being and happiness at work (Rose, 1995). However, there were no significant gender/occupation interactional effects. The possible interpretation for this is that the potency of socialisation into the occupational culture overcomes or masks gender differences.

Some methodological limitations should be taken into account with respect to the present results. Firstly, there may have been a measurement artefact through inadequate matching in terms of individual difference variables (although our findings of between occupational group differences persisted even after partialing out the potentially confounding effects of age, gender and education). Secondly, whilst organisational stressors may be similar between the groups, i.e. poor support, inadequate communication, job underload or overload, shortage of resources, operational stressors are likely to be occupation specific. These may in turn be reflected in differences in emotional coping. Thirdly, there is the issue of relative effect size (strength of association), although others have argued that the practical implications of findings are frequently underestimated because of low coefficients of generalisability (cf. Rosenthal & Rubin, 1986). Fourthly, social desirability responding may have distorted the results. However, judging by the magnitude of the correlation coefficients between faking good (supposedly assessing impression management) and the primary scales of emotional intelligence, there was little evidence of dissimulation. Conversely, the faking bad scale was consistently and significantly associated with the primary scales, but as witnessed by the factorial analyses, it seems to be akin to ''emotional dysfunctioning'', rather than a substantive trait (as appears the case with faking good). Indeed the factorial analyses extracts underlining dimensions (metafactors) not unlike positive and negative affect (with high internal consistency).

The question of the direction of causality remains speculative and requires better controlled, longitudinal prospective studies. It may be that selective pressures are operative here, or that certain personalities gravitate towards these occupations. Certainly, it seems probable that emotionally less stable individuals will tend to avoid occupations such as policing which entails relatively high risks of physical injury, which other psychosocial occupations do not. However, there is no consistent evidence to support the notion of a 'police personality' as such, rather the occupational culture is found to influence the working behaviour of the officer (see Brown & Campbell, 1994, for a discussion of this).

This study relies on subjective self report data. However, given the difficulties of obtaining access to these 'real world' samples (see Brown & King, 1998 for a discussion of this problem) and the exploratory nature of the present study, the findings represent an important preliminary step in discussion of the application of the concept of emotional intelligence and provides further validation of the measuring instrument. Future studies would profit from use of additional measures to cross-validate findings in order to assess what facets of individual differences (elements of non-cognitive processing), the emotional scales truly assess. Specific measures, which may be related to emotional intelligence, worth exploring are locus of control and Type A-B behaviour which have been more thoroughly investigated with helping professions, particularly police officers e.g. Kirkcaldy, Furnham and Cooper (1994), Kirkcaldy, Cooper and Ruffalo (1995).

Appendix A. Details of the EQ-i subscales

Self Regard (SR) — the ability to be aware of, understand, accept and respect oneself, e.g. Looking at both my good points and bad points, I feel good about myself.

Assertiveness (AS) — the ability to express feelings, beliefs, and thoughts and defend one's rights in a nondestructive manner, e.g. When I'm angry with others, I can tell them about it.

Independence (IN) — the ability to be self-directed and self-controlled in one's thinking and action and to be free of emotional dependency, e.g. I seem to need other people more than they need me.

Self-Actualization (SA) — the ability to realize one's potential capacities, e.g. I try to continue and develop those things that I enjoy.

Social Responsibility (RE) — the ability to demonstrate oneself as a cooperative, contributing, and constructive member in one's social group, e.g. I like helping people.

Interpersonal Relationship (IR) — the ability to establish and maintain mutually satisfying relationships that are characterized by emotional closeness, intimacy, and by giving and receiving affection, e.g. My close relationships mean a lot to me and to my friends.

Reality Testing (RT) — the ability to assess the correspondence between what is experienced and what objectively exists, e.g. I can easily pull out of daydreams and tune into the reality of the immediate situation.

Flexibility (FL) — the ability to adjust one's emotions, thoughts, and behavior to changing situations and conditions, e.g. It's easy for me to adjust to new conditions.

Problem Solving (PS) — the ability to identify and define problems as well as to generate and implement potentially effective solutions, e.g. When trying to solve a problem, I look at each possibility and then decide on the best way.

Stress Tolerance (ST) — the ability to withstand adverse events, stressful situations, and strong emotions without falling apart by actively and positively coping with stress, e.g. I know how to deal with upsetting problems.

Impulse Control (IC) — the ability to resist or delay an impulse, drive, or temptation to act, and to control one's emotions, e.g. I tend to explode with anger easily.

Happiness (HA) — the ability to feel satisfied with one's life, to enjoy oneself and others, and to have fun and express positive feelings, e.g. I am satisfied with my life.

Appendix B. Correlation matrix for EQ-i content and validity scales

	FG	FB	PS	SR	IR	RE	IN	SA	AS	FL	HA	ST	IC	Mean	α
FG															
FB															
PS	06	−42												33.1	0.75
SR	09	−47	45											33.3	0.87
IR	07	−31	32	55										34.5	0.75
RE	28	−40	39	*20*	42									35.6	0.68
IN	−00	−29	46	52	25	30								34.5	0.75
SA	−16	−37	56	60	60	31	51							35.6	0.75
AS	−07	−36	46	61	65	29	49	58						32.6	0.81
FL	10	−26	42	46	43	33	42	48	41					31.1	0.66
HA	07	−43	39	68	70	35	43	65	58	47				36.6	0.82
ST	*21*	−51	56	70	39	38	63	49	56	47	53			32.6	0.85
IC	*19*	−58	36	30	07	45	27	24	08	31	18	45		33.1	0.83
RT	17	−72	54	58	39	51	48	46	50	46	52	68		33.1	0.78

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