

Emotional intelligence of mental health nurses

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Aims. The aim of this study is to gain insight into the level of emotional intelligence of mental health nurses in the Netherlands.

Background. The focus in research on emotional intelligence to date has been on a variety of professionals. However, little is known about emotional intelligence in mental health nurses.

Method. The emotional intelligence of 98 Dutch nurses caring for psychiatric patients is reported. Data were collected with the Bar-On Emotional Quotient Inventory within a cross-sectional research design.

Results. The mean level of emotional intelligence of this sample of professionals is statistically significant higher than the emotional intelligence of the general population. Female nurses score significantly higher than men on the subscales Empathy, Social Responsibility, Interpersonal Relationship, Emotional Self-awareness, Self-Actualisation and Assertiveness. No correlations are found between years of experience and age on the one hand and emotional intelligence on the other hand.

Conclusions. The results of this study show that nurses in psychiatric care indeed score above average in the emotional intelligence required to cope with the amount of emotional labour involved in daily mental health practice.

Relevance to clinical practice. The ascertained large range in emotional intelligence scores among the mental health nurses challenges us to investigate possible implications which higher or lower emotional intelligence levels may have on the quality of care. For instance, a possible relation between the level of emotional intelligence and the quality of the therapeutic nurse–patient relationship or the relation between the level of emotional intelligence and the manner of coping with situations characterised by a great amount of emotional labour (such as caring for patients who self-harm or are suicidal).

Key words: emotional intelligence, mental health nurses, mental health nursing, nurse–patient relationship, psychological and social coping

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Introduction

Mental health care practice needs nurses and social workers who are capable of establishing meaningful nurse–patient relationships (Akerjordet & Severinsson 2004, Megens & van Meijel 2006, Edward & Warelow 2007, Hurley & Rankin 2008). However, the specific problems and behaviours of psychiatric patients, such as depression, anxiety, delusions, aggression, resistance, suicide, self-harm and mistrust, can cause severe emotional stress for nurses, who

may even experience burnout when they must deal too often with feelings of anger, pity, fear, irritation and impatience. These emotions of nurses and the resulting behaviours may affect the quality of their relationship with the patients, especially in terms of communication, interaction, therapeutic collaboration and outcomes of treatment (Akerjordet & Severinsson 2004, Megens & van Meijel 2006). Mental health nurses perform a great deal of ‘emotional labour’ in their daily practice (Mann & Cowburn 2005). According to Hochschild (1983), emotional labour is about regulation of

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emotional expressions and feelings as part of the paid work role; managing emotions in specific situations in such a way that it will benefit either the situation as such or the patient. To perform this, emotional labour Cognitive intelligence (IQ) alone is not sufficient. Emotional intelligence (EQ) combines emotion with intelligence. It refers to the ability to use emotions as a support in problem-solving and decision-making, as well as helping one to live a fulfilled life (Mayer & Salovey, 1995). It is also an essential factor in the process of coping with the intense emotional situations that occur in the daily work of mental health nurses and therefore supportive in performing emotional labour (Mayer *et al.* 2001, McQueen 2004, Megens & van Meijel 2006, Augusto & Montes-Berges 2007, Edward & Warelow 2007).

Emotional intelligence

The concept of emotional intelligence is relatively young. Three trends can be distinguished in literature; the Ability Model by Salovey and Mayer, the Trait Model by Goleman and the Mixed Model by Bar-On.

Salovey and Mayer were the first to introduce the concept of emotional intelligence. In 1990, they defined emotional intelligence as 'the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions' (Mayer *et al.* 2001). They divided emotional intelligence into four areas of skills: (1) perceiving emotions, (2) using emotions to facilitate thoughts, (3) understanding emotions and (4) managing emotions in a way that enhances personal growth and social relations.

Goleman (1996) popularised the construct. He is the most prominent representative of the Trait Model, where emotional intelligence is defined as a combination of personality traits.

Bar-On (1997) defined emotional intelligence as 'an array of non-cognitive capabilities, competencies and skills that influence one's ability to succeed in coping with environmental demands and pressures'. As an intermediate model, this Mixed Model is based on the premise that emotional intelligence and emotional skills develop over time, change throughout the course of life and can improve via training and remediation. The main tool in most of today's research on emotional intelligence is the Emotional Quotient Inventory (EQ-i) (where the emotional intelligence score is measured as EQ), a self-report questionnaire which divides emotional intelligence into five components (composite scales) and 15 sub-components (content subscales) (Bar-On 1997).

We conclude that emotional intelligence is of great importance to the ability to cope with the intense emotional situations which mental health nurses encounter in their

daily work (Mayer *et al.* 2001, McQueen 2004, Megens & van Meijel 2006, Augusto & Montes-Berges 2007). In fact, emotional intelligence is a prerequisite of key nursing skills like sensitivity, empathy, creativity, self-awareness, self-control and assertiveness.

Nonetheless, little is known in the Netherlands about emotional intelligence in mental health care workers. The focus in research on emotional intelligence to date has been on a variety of other professional groups, such as managers, teachers, recruiters and policemen (Derksen 1999). Of the overall group of health care professionals, only medical doctors and psychologists have been the subject of general research on emotional intelligence. There is one study on emotional intelligence in the context of nursing, with the group of nurses analysed there being confined to nurses tending to people with mental retardation and severe behaviour problems (Gerits *et al.* 2004). In this present exploratory study, we have expanded the group to mental health nurses in the Netherlands.

Method

Design

A cross-sectional, hypothesis-testing research design was used as the basis for this study.

Hypotheses

EQ in general

Considering the amount of emotional labour required in psychiatric care, mental health nurses should have an above-average EQ. This led to the following hypothesis: the mean level of emotional intelligence in mental health nurses is significantly higher than that of the general population.

EQ and gender differences

Based on general differences in gender – noted by Derksen *et al.* (1997) and by Derksen *et al.* (2002) – we expected to find significant differences in EQ between male and female mental health nurses, both on the EQ total score and on the composite scales and content subscales (Table 1). We were specifically interested in differences emerging from the Stress Management Composite Scale. Based on gender specificities, male nurses were expected to perform better in coping with stressful situations than their female counterparts. Furthermore, it was evident from research among various groups of professionals (Derksen 1999) that females scored higher on interpersonal aspects such as Empathy, Social Responsibility and Interpersonal Relationships.

Table 1 Bar-On Emotional Quotient Inventory

Total EQ	
Composite scales	Content subscales
Intrapersonal EQ	Self-regard
	Emotional self-awareness
	Assertiveness
	Independence
Interpersonal EQ	Self-actualisation
	Empathy
	Social responsibility
Adaptability EQ	Interpersonal relationship
	Reality testing
	Flexibility
Stress management EQ	Problem-solving
	Stress tolerance
	Impulse control
General mood EQ	Optimism
	Happiness

Therefore, our hypotheses were: (1) there are significant differences in EQ between male and female mental health nurses on both the EQ total score and on the composite scales and content subscales and (2) males score significantly higher on the Stress Management Composite Scale than females, and females have significantly higher scores on the Empathy, Social Responsibility and Interpersonal Relationships Subscales of the Interpersonal Composite Scale than their male counterparts.

EQ and setting

A great deal of emotional labour is required in situations marked by high levels of daily and interactional stress (Mann & Cowburn 2005). Considering the frequency and intensity of emotional and social contacts between nurses and patients in a clinical setting, our assumption was that inpatient care was more stressful than outpatient care. To cope with the emotional labour involved, we hypothesise that mental health nurses in inpatient settings score significantly higher on the Stress Management Composite Scale than their colleagues working in outpatient settings.

EQ, age and experience

Previous research has shown that a relationship exists between EQ and age (Derksen 1999): people between 30–60 years of age show higher EQ levels than the age groups under 30 and over 60. Our assumption was that this finding would also be valid for the group of mental health nurses. Also, in addition to age, years of experience appear to have an impact on the level of emotional intel-

ligence (Humpel & Caputti 2001). We expected to find a significant positive correlation between EQ and years of experience. Both assumptions led towards the following hypothesis: a significant positive correlation exists between years of experience and age on the one hand and emotional intelligence on the other.

Participants

In 2007, a total of 19 500 nurses were active in Dutch mental health practice (LEVV 2008), which equals 14% of the overall population of (practising) Dutch nurses.

For sampling purposes, the researchers resorted to the population of nurses (*n* = 750) in one large Dutch institute for psychiatric care. The institute is located in the middle of the country and comprises both rural and urban districts.

To include nurses with daily face-to-face contacts with patients, we first excluded nurse managers. Because one of our hypotheses focused on the difference between in- and outpatient settings, we subsequently excluded nurses in day care centres. Previous research (Derksen 1999) revealed that there was no clear relationship between EQ and the level of education. Therefore, we included the remaining population (*n* = 689) without making any further distinction between educational levels.

The remaining population (female, *n* = 470 and male, *n* = 219; inpatient care, *n* = 547 and outpatient care, *n* = 142) was divided into four strata: (1) inpatient care + male; (2) inpatient care + female; (3) outpatient care + male and (4) outpatient care + female. To compare the four strata, each stratum was to comprise at least 25 participants (Baarda *et al.* 2003). This small sample size was sufficient because stratification leads to relatively high homogeneity in the sample (Polit & Beck 2004). To ensure a total sample of at least 100 participants, taking into account a potential 30% non-response rate, we included 40 participants in each stratum. Through systematic sampling (Polit & Beck 2004) – establishing a sampling interval width for each of the strata and selecting every *k*th case from the individual group lists – 160 respondents were randomly selected, i.e. 40 for each stratum.

Data were collected between February–March 2007. Of the overall sample size, 98 mental health nurses responded (response rate: 61.3%). Table 2 shows that the sample was equally divided in terms of gender and setting. The participants’ educational levels were as follows: 46.3% had followed basic vocational training as a psychiatric nurse; the remaining 53.7% had completed an advanced training course. The average age of the 98 participants was 43 (SD

Table 2 Sample

	Men	Women	Total
Inpatient care	23	27	50
Outpatient care	25	23	48
Total	48	50	98

8.57); their average number of years of experience in mental health care was 17.3 (SD 9.5).

Instrument

The Dutch version of the Bar-On EQ-i (Bar-On 1997, Derksen *et al.* 1997) was used in this study to measure emotional intelligence. Compared to other EQ instruments, the Bar-On EQ-i is the instrument with the best psychometric properties available in the Dutch language. Table 1 presents the composite scales and content subscales of the Bar-On EQ-i. In addition to these (sub)scales, two validity scales were used to identify overly positive or overly negative self-representations. A response-consistency score card was employed to indicate the validity of the results.

The Bar-On EQ-i contains 133 numbered statements in the form of sentences such as 'I know how to stay calm in difficult situations'. The response categories range from 1 (never)–5 (very often). Completion of the Bar-On EQ-i takes 30–40 minutes. Similar to IQs, EQ raw scores are converted to standard scores with 100 as the mean. The interpretation of the total score is shown in Table 3.

There is evidence in support of the reliability and validity of the inventory. The average Cronbach's alpha (reliability index that estimates the internal consistency) has been found to range from 0.69–0.86 for the different subscales. The inventory's stability was evaluated by test–retest reliability. Average coefficients after one and four months were found to be 0.85 and 0.75, respectively. The construct validity was examined in 16 countries and support has been found for the

Table 3 Interpretation total scores Bar-On Emotional Quotient Inventory

130+	Extremely high
120–129	Very high
110–119	High, well-developed emotional intelligence (EI)
90–109	Average, adequate EI
80–89	Low, underdeveloped EI
70–79	Very low
< 70	Extremely low

Derksen (1999).

Bar-On EQ-i to cover a broad range of related emotional constructs (Dawda & Hart 2000).

Data collection

All participating nurses received a letter where they were asked to take part in this cross-sectional study. The letter contained information about the aim of the study, the research methods, the selection method and issues such as confidentiality, voluntary consent and contact information. Participants who completed and returned the Bar-On EQ-i were considered to have given informed consent. Social desirability bias was minimised by emphasising anonymity and confidentiality in the data analysis. The non-response rate was limited through the use of reminders. Most nurses who were unwilling to respond made this clear by sending a return email. All other non-responders were approached separately by email with the request to state why they were unwilling to cooperate.

Data analysis

The scores on the Bar-On EQ-i were validated by filtering for unanswered questions, consistency (Inconsistency Index > 12), positive impression (Positive Impression Score > 130) and negative impression (Negative Impression Score > 130). Subsequently, raw scores were converted to standard scores to make interpretation feasible. Next, data were analysed on the basis of descriptive statistics. For a comparison between the average scores within and between the various groups, *t*-tests, Mann–Whitney *U*-tests and one-way ANOVA were computed. Bivariate correlations and multiple regressions were computed between EQ on the one hand and age and years of experience on the other. For all tests, an alpha of 5% was established.

Results

EQ in general

Hypothesis

The mean level of emotional intelligence in mental health nurses is significantly higher than that of the general population.

The mean EQ total of the sample was 108.76 (SD 11.58, range = 80–136). Comparing this score with the mean EQ of the Dutch population (100), we concluded that nurses working in psychiatric care scored significantly higher than this average ($t = 7.48$, $df = 97$, $p < 0.001$). Because the male–female ratio in the sample was disproportionate, we

weighted the data of these two subgroups to achieve the best estimate for the overall population values. The weighted mean EQ total of the sample was 109.74. This finding supports the hypothesis that mental health nurses score significantly higher on EQ than the average population.

EQ and gender differences

Hypothesis

There are significant differences in EQ between male and female mental health nurses on both the EQ total score and on the composite scales and content subscales. Males score significantly higher on the Stress Management Composite Scale than females, and females have significantly higher scores on the Empathy, Social Responsibility and Interpersonal Relationships Subscales of the Interpersonal Composite Scale than their male counterparts (Table 1).

No significant differences in the EQ total score were found between male and female nurses (Table 4). However, some interesting differences were found at the level of the composite scales and content subscales. Contrary to what was expected, the scores of male and female nurses on the Stress Management Composite Scale were almost equal. The

results (Table 4) revealed no significant differences between the two genders. This part of our hypothesis was invalidated. However, compared with their male colleagues, female nurses did score significantly higher on both the Interpersonal Composite Scale and the Interpersonal Relationships Subscale. The difference in score found on the Social Responsibility Subscale was not statistically significant. Finally, as shown in Table 4, female nurses also scored significantly higher than their male colleagues on the Emotional Self-awareness Subscales.

EQ and setting

Hypothesis

Mental health nurses in inpatient settings score significantly higher on the Stress Management Composite Scale than their colleagues working in outpatient settings.

To test this hypothesis, we compared the mean EQ scores between the two groups. No significant difference, however, was found for this specific EQ composite scale ($t = -0.19$, $df = 96$, $p = 0.853$). Therefore, no support was found for our hypothesis that mental health nurses working with inpatients are more intelligent in handling Stress Management than their colleagues in outpatient care.

Table 4 EQ total, composite scales and content subscales/male and female

Scale	Male		Female		t	df	p
	Mean	SD	Mean	SD			
Total	107.15	12.64	110.30	10.36	-1.35	96	0.181
Intrapersonal	105.60	11.58	109.16	10.26	-1.61	96	0.111
Emotional self-awareness	107.85	10.31	116.88	8.56	-4.69	96	0.000*
Assertiveness	105.79	10.84	108.62	12.21	-1.21	96	0.228
Self-regard	104.33	10.93	102.92	10.26	0.66	96	0.511
Self-actualization	100.88	13.33	105.08	12.31	-1.62	96	0.108
Independence	102.52	12.16	102.18	9.48	0.15	96	0.878
Interpersonal	102.52	9.55	108.80	9.42	-3.28	96	0.001*
Empathy	100.10	8.39	103.22	10.48	-1.63	96	0.107
Interpersonal relationship	105.17	9.80	111.86	9.24	-3.48	96	0.001*
Social responsibility	97.79	10.21	101.86	10.01	-1.95	96	0.054
Adaptability	105.35	14.01	107.78	10.06	-0.98	96	0.329
Problem-solving	100.54	8.86	99.60	9.98	0.49	96	0.622
Reality testing	106.10	13.62	109.38	11.15	-1.30	96	0.197
Flexibility	105.38	15.48	107.88	10.57	-0.93	96	0.354
Stress management	112.21	12.89	109.60	10.51	1.10	96	0.276
Stress tolerance	110.38	11.63	107.94	8.88	1.16	96	0.248
Impulse control	108.67	11.65	106.98	11.89	0.71	96	0.480
General mood	104.27	13.05	107.60	10.07	-1.41	96	0.162
Happiness	103.63	13.38	106.76	11.09	-1.26	96	0.211
Optimism	104.00	11.52	106.66	9.68	-1.24	96	0.220

n = 48 male and 50 female.

*p < 0.05.

EQ, age and experience

Hypothesis

A significant positive correlation exists between years of experience and age on the one hand and emotional intelligence on the other.

First, we compared the mean EQ total scores to test whether nurses between 30–60 years of age showed higher EQ levels than nurses under 30. Because the two groups were unequally matched (<30 years, $n = 8$ /30–60 years, $n = 90$), a z -score was computed. No significant differences were found ($z = -0.41$, $p = 0.68$). Therefore, we found no support for our hypothesis that mental health nurses between 30–60 years of age are more intelligent, emotionally, than their younger or older colleagues. To test whether a high level of emotional intelligence correlates with work experience, we computed the correlations for the EQ total and the years of experience. No significant correlation was found ($r = 0.022$, $p = 0.831$). This hypothesis was invalidated, as well. Finally, to determine whether the emotional intelligence in mental health nurses increased according to age and experience, we applied multiple regression. The regression analysis showed no significant results ($F = 0.278$, $df = 2$, $p = 0.758$) which underscored the previous finding that there is no relationship between EQ, age and experience among nurses in psychiatric care.

Discussion

To establish a meaningful nurse–patient relationship, nurses must be able to manage and monitor both their own emotions and those of others. Therefore, a high level of emotional intelligence will generally be required to cope with the amount of emotional labour involved in daily mental health practice. The results of this study show that nurses in psychiatric care in the Netherlands are indeed of above-average emotional intelligence.

Although no significant differences between men and women were found on the EQ total score, the composite scale profiles showed some interesting gender differences. In contrast with the general finding by Derksen (1999) that men are better at stress management than women, we found no significant difference between male and female nurses in this study. The average scores on the Stress Management Composite Scale showed high and well-developed stress management skills for both genders. In other words, the genders are equally able to control a situation by undertaking appropriate action and neither gender gets overwhelmed by anxiety, uncertainty, frustration or anger. Mann and Cowburn (2005) discuss the relationship between professional acting and

stress management with reference to Hochschild's concepts of Deep Acting and Surface Acting (Hochschild 1983). Deep Acting means that a professional recognises his/her own experiences and inner feelings in a given situation and is able to manage and display the related emotions according to his/her own preferences. In Surface Acting, on the other hand, the management of personal behaviour dominates the expression of personal feelings. In Surface Acting, control of emotions and behaviour is more important than the expression of personal feelings. Mann and Cowburn (2005) concluded that Surface Acting and stress were positively correlated. The fact that in our study mental health nurses appeared to have well-developed stress management skills suggests that they use Deep Acting as their dominant method of performing emotional labour.

In our study, the female nurses scored significantly higher on the Emotional Self-awareness Subscale scale than their male counterparts. This score is in line with the findings of Derksen (1999) and suggests that compared to male nurses, female nurses in psychiatric care are better capable of recognising and understanding their own feelings. By contrast, Gerits *et al.* (2004) concluded in their study on emotional intelligence in nurses caring for people with mental retardation and accompanying severe behaviour problems that there was no significant difference between male and female nurses on this Emotional Self-awareness Subscale (Gerits *et al.* 2004). They did, however, observe that male nurses scored significantly higher on the Intrapersonal Composite Scale and the Assertiveness and Self-regard Subscales. In our study, no such differences were found. Considering the finding by Derksen (1999) that men scored (slightly) higher on the Assertiveness Content Subscale, we were amazed to find no significant difference between male and female nurses in our study.

In line with the findings of Derksen (1999), female nurses scored higher on the Interpersonal Composite Scale and the Interpersonal Relationships Content Subscale. This indicates that female nurses in this study are, generally, of higher Emotional intelligence when it comes to interpersonal relations than their male counterparts. Female nurses specifically tend to be better at establishing and maintaining satisfying relationships (Derksen 1999, Gerits *et al.* 2004).

Finally, in contrast to Humpel and Caputti (2001) and Derksen (1999), we found no correlation between EQ, age and years of experience among nurses in psychiatric care. One reason for this finding might be that psychiatric care attracts people who are by nature of above-average emotional intelligence when embarking on a career in psychiatry. However, emotional intelligence is not a static feature of nurses; it can be developed and trained over time (Bar-On

1997). Evans and Allen (2002), Freshwater and Stickley (2004) and Hurley and Rankin (2008) support this by stating that integrating emotional intelligence into nursing education provides nurses with a greater opportunity to understand themselves and the way where they develop relationships with others. These studies imply that although mental health nurses may have high EQ levels in and of themselves, that trait should not be taken for granted. Instead, training and developing EQ should be incorporated into nursing curricula to improve the level of EQ in school. This may benefit therapeutic relationships in later professional life and add to better outcomes of nursing care.

Limitations

Non-response bias is a limitation of this study. Reasons for not completing the inventory were: no faith in the usefulness of the study, no time to answer the inventory because of heavy workloads and no appreciation for the information letter. We assume that the reasons and non-response rate (32.5%) may have affected the EQ scores, whether positively or negatively. For example, the stated reason of 'having no time because of heavy workloads' may well form an indication that these persons would have scored lower on the Empathy and Social Responsibility Subscales. Non-inclusion of this lower score in our study may have had a positive effect on the EQ total score. Conversely, the same reason can also be interpreted as assertiveness, triggering a higher score on the Assertiveness and Independence Subscales. Non-inclusion of this score may have affected the EQ total score in a negative way.

To compare different variables in this study, we used stratified sampling. Based on the four strata, we were able to draw conclusions about the differences in gender and setting, but because of the disproportional stratified sampling, these conclusions cannot be generalised automatically to the total population. The strength of this study lies in the generalisability of the overall (EQ total) findings. In light of the number of respondents, the response rate and the geographical spread, we had access to a representative sample whose characteristics are, with a fair amount of certainty, comparable with those of the population of the institute as well the Dutch population of mental health nurses.

Conclusions and recommendations to clinical practice

At the heart of the present study lies the level of emotional intelligence possessed by mental health nurses in the Netherlands. As expected and as is necessary to cope with the intense emotional situations occurring in daily mental health practice,

mental health nurses in the Netherlands have an above-average level of emotional intelligence. As argued before, we recommend that training and developing EQ should be incorporated into nursing curricula to improve the level of EQ. This may benefit therapeutic relationships in later professional life and add to better outcomes of nursing care.

Although no correlation was found between EQ, age and years of experience and the mean EQ level was above average, we did find a large range in the EQ total scores (range = 80–136). Because we do not know the exact implications that higher or lower EQ levels may have for the quality of a therapeutic relationship, we recommend that this relation be examined in greater depth in future nursing research. We also recommend follow-up research to clarify the meaning of emotional intelligence in situations that are marked by a great amount of emotional labour, such as the caring for patients who self-harm or are suicidal.

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Contributions

Study design: LvD; data collection and analysis: LvD and manuscript preparation: LvD, BvM and JD.

Conflict of interest

Authors have no financial or personal interests in products, technology of methodology mentioned in this manuscript.

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