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A Pedi Translation of the Bar-On Emotional Quotient Inventory: Youth Version

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ABSTRACT

The Bar-On Emotional Quotient Inventory was translated into Pedi, and then submitted to an expert in Pedi to check the language before being administered to 30 Grade 9 Pedi first-language students to identify potentially vague instructions and/or items. 800 students in Grades 9 and 11 in schools in the Sekhukhuneland, Nebo and Apel regions of the Limpopo Province of South Africa completed the English and Pedi versions of the inventory in 2004. The mean age in Grade 11 was 18.3 yrs ($SD = 1.84$), and Grade 9 16.2 yrs ($SD = 1.64$). Whereas unsatisfactory reliabilities of the anticipated factors were obtained, exploratory factor analysis with oblique (direct oblimin) rotation yielded a factor structure that did not correspond satisfactorily with the factor structure yielded by a North American sample. More research is needed before the Bar-On Emotional Quotient Inventory: Youth Version (English and Pedi version) can be used in South Africa.

Numerous variables have been shown to be related to achievement at school and the tertiary level, including motivation, teachers' expectations, cultural background and parental attitudes, and they contribute to the difference between achievers and nonachievers (Maree and Ebersöhn, 2002; Maree and Eiselen, 2004). This article addresses a vital aspect of the challenge to

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optimise achievement in life: the root of problems also, perhaps particularly, falls outside the cognitive field. A stable affect should support cognitive achievement (Maree and Steyn, 2004). Students' feelings, the way in which they experience their significant others, and their circumstances at home, play a significant role in their eventual academic achievement and achievement in life (Maree, Pretorius and Eiselen, 2003).

Clearly, a number of interrelated factors play a role in success. Intelligence or IQ on its own only predicts 20% of the variance in achievement (Goleman, 1996). Goleman (1996) maintains that emotional intelligence (including abilities such as self-motivation, persistence in the face of failure, impulse control and gratification delay, mood regulation, empathy, and the ability to hope and to prevent sadness or distress from interfering with one's thinking process) is a more powerful predictor of achievement and success than IQ. Furthermore, positive feedback and encouragement, others who have high expectations of one and who inspire one, all appear to make contributions towards helping a person to achieve as she or he could achieve (Eloff, Maree and Miller, 2006).

Mehrabian (2000) states that the term emotional intelligence is used widely to explain unique differences linked to life success, not expressly assessed with conventional intelligence measures. The concept of emotional intelligence is defined as the ability

to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and hope (Goleman, 1996, p. 34).

Kapp (2000) defines emotional intelligence as that factor which motivates one to perform, and to display behaviours such as one's will, determination, creativity, impulse control, social skill, empathy, insight and integrity.

Mayer and Salovey (1993), Goleman (1996) and Bar-On (1996) supplied adequate proof of the positive correlation between emotional intelligence and achievement. Bar-On (De Beer, 2002) elaborated on these views and confirmed that emotional intelligence addresses the less cognitive part of intelligence, which is associated with understanding oneself and other persons, relating to others, and adapting to and coping with one's direct environment. Furthermore emotional intelligence reveals a person's common sense and capacity to relate well to the world.

Hui and Triandis (1985) assert that it is essential to establish

whether a construct has a similar meaning in different cultures (conceptual and functional equivalence). Secondly, the concept has to be measured by the same instrument to make meaningful comparisons across cultures. Lastly, the instruments used in different cultures have to be identical (items should mean the same thing to subjects in different cultures) (Van der Vijver and Leung, 1997; Petrides and Furnham, 2000; Weems and Onwuegbuzie, 2001). Otherwise direct comparison of test results is meaningless. Here, we describe the translation of a questionnaire to measure Pedi-speaking students' emotional intelligence. In a pioneering project, the first of its kind in Southern Africa, the Bar-On Emotional Quotient Inventory: Youth Version was administered to a group of Grade 9 and 11 students in South Africa in both their first language (Pedi) and their second language (English). Since we believe that it is extremely important that translations of frequently used instruments should be developed to ensure the availability of South African versions of these instruments as well as representative norm groups, our main aim was to determine the underlying theoretical and empirical dimensions of emotional intelligence as measured by the Pedi translation of the Bar-On Emotional Quotient Inventory: Youth Version. Secondly, we intended to question the use of an internationally developed questionnaire which does not provide for the potential influences of the context (South African) within which it was going to be used. For this reason, the data were analyzed and attention was focused on the factor structure of both the translated questionnaire and the original version to investigate the underlying theoretical and empirical dimensions of emotional intelligence as measured by the two inventories.

METHOD

Respondents

The population was defined as all students in secondary schools with an enrolment of at least 400 in Grades 9 and 11 in the Sekhukhuneland, Nebo and Apel regions of the Limpopo Province. The native language was Pedi. Whereas these adolescents speak Pedi as a home language, they are schooled in English. However, code switching (English to Pedi and *vice versa*) occurs routinely, and these adolescents read and write in both languages.

Students ($N = 800$) were chosen from 10 randomly selected schools. 80 students per school were selected. Girls and boys in

each grade were selected randomly and proportionally to obtain at least ten students for each sex per grade per school. Of learners, 693 (87%) completed all items of the English and Pedi versions of the Bar-On Emotional Quotient Inventory. Of these, 46.6% were male and 49.5% were in Grade 9. The mean age of the learners was 16.8 years ($SD = 1.97$).

Assessment instrument

The Bar-On Emotional Quotient Inventory: Youth Version (Bar-On and Parker, 2000a; 2000b).

This inventory is a self-report measure of emotionally and socially intelligent behaviour, which provides an estimate of one's underlying emotional and social intelligence. It was developed over a period of 17 years, normed in North America ($N = 9,172$) and has 60 items. These items are distributed over seven scales (Intrapersonal Relationships, Interpersonal Relationships, Stress Management, Adaptability, General Mood, Positive Impression, and Total EQ). Based on responses from 9 172 children and adolescents, the inventory has proved to be suitable for use in the case of American and Canadian children aged seven to 18 years (Bar-On and Parker, 2000b). Validation of the inventory on North American samples suggests that the Bar-On Emotional Quotient Inventory: Youth Version has excellent psychometric properties and identifies core features of emotional intelligence in children (Bar-On and Parker, 2000b). The factor structure of the instrument was examined using exploratory factor analysis. **Four** empirical factors (**Intrapersonal**, **Interpersonal**, **Stress Management** and **Adaptability**) emerged from the principal components analysis (varimax rotation) (Bar-On and Parker, 2000b). Reliability coefficients for the different fields of the questionnaire ranged from .65 to .90. Sample items from each of the seven scales are provided in Table 1.

The four primary factors (Intrapersonal, Interpersonal, Stress Management and Adaptability, comprising 40 items, which jointly measure Total EQ) as well as general Mood (14 items, which does not form part of the total EQ score) were used in this investigation. Based on the recommendation of the developer of the test (Bar-On), Positive Impression (six items) was not considered. Items are anchored by a five-point scale with a textual response format ranging from 1 = Very seldom or Not true of me to 5 = Very often true of me or True of me. A list of the inventory's items is found in the instrument's technical

TABLE 1
Sample item from each factor

Factor	Sample item from each area
1. Intrapersonal	It is easy to tell people how I feel
2. Interpersonal	I care what happens to other people
3. Stress management	I can stay calm when I am upset
4. Adaptability	It is easy for me to understand new things
5. General mood	I am happy
6. Positive impression	I like everyone I meet

manual (Bar-On and Parker, 2000b). The subject's responses render a total emotional intelligence score and seven composite scale scores. The inventory includes a scale that assesses item response consistency (designed to identify random responses).

Procedure

Permission was requested and obtained in writing from the education departments as well as from the sample of randomly selected schools in 2003 to conduct the research and publish the findings. Permission was also obtained from parents for their children to participate in the study. Respondents were given the option of not participating in the study, and all signed informed assent forms, while all parents/guardians signed informed consent forms. Schools were contacted in mid-February 2004. All 800 students completed the inventory during a period of three days in March 2004. Testing for research purposes was explained to headmasters and parents. Prior to the administration of the inventory, testees were allowed to ask questions about the items. Test administrators (*id est*, Prof. Maree, a psychologist and trained EQ administrator and Dr. Molepo), assured testees that their responses would be treated with confidentiality and that their anonymity would be safeguarded at all times. The test administrators explained to the respondents how to complete the inventory. Completion of the test took about 35 minutes. In view of the fact that the inventory may have aroused questions and anxieties, testees were encouraged to make an appointment with

the test administrators to discuss their feelings and the questions. Testees were assured that general feedback on the results would be provided within two months. Feedback was subsequently provided approximately five weeks after the initial assessment. The English version of the questionnaire was administered first. We waited until *all* students had completed the English version of the test, after which students were given a 15-minute break before the Pedi version was administered.

The translated version of the inventory was submitted to an expert in Pedi for assessment. In the assessment of the items, attention was given to clarity, uniqueness, unambiguousness, the use of words with the exact meaning and equivalence of the English statements. The inventory was adjusted further on the basis of the comments from the expert. The translator was specifically requested to take care that the adaptation did not change the purpose of the questions asked. The translated inventory was then back-translated, after which all items were checked *again* by the translator and our Pedi expert. It was subsequently administered to 30 Grade 9 Pedi first-language students to identify potentially vague instructions and/or items. Testees were requested to circle the numbers of, and to underline phrases and words contained in the items they did not understand. On the basis of the testees' reactions with respect to the items, the formulation of a number of items was further amended.

LIMITATIONS OF THE STUDY

This was a limited local study and the findings have limited generalization. Furthermore, we realize that since the English and Pedi versions of the instruments were not administered in a split half manner, order effects may be present here.

RESULTS

Statistical analysis

The STATISTICA data analysis software system version 7.1 (StatSoft, 2006) and the *CEFA: Comprehensive exploratory factor analysis* (Browne, Cudeck, Tateneni and Mels, 1998) was used in analyzing the data.

Reliabilities and confirmatory analysis of theoretical dimensions

We first conducted confirmatory factor analysis (Statsoft, 2006). The proposed five-factor structure of the Bar-On Emotional Quotient Inventory (Interpersonal, Intrapersonal, Stress Management, Adaptability, and General Mood) was tested on the data from both the English and Pedi versions of the questionnaire. This was done by calculating reliabilities for the factors (measured by Cronbach's Alpha) (Hair, Black, Babin, Anderson and Tatham, 2006) and by performing confirmatory factor analysis to assess how well the model fitted the data. The results appear in Table 2. In the case of the English data, the reliabilities of four of the factors did not reach the 0.70 threshold while two did not reach the 0.60 threshold, and in the case of the Pedi data three did not reach the 0.70 threshold and two did not reach the 0.60 threshold. In both languages the General Mood factor had the highest reliability. The results of the confirmatory factor analysis show that although almost all loadings were statistically significant (mainly due to the large sample) they were generally not very high. Large portions of the variance of the items could not be explained by the factors as was evident from the sizable unique variances (English: 32 are > 0.80 ; Pedi: 26 are > 0.80). Correlations between the five factors appear in Table 3, whereas goodness-of-fit indices appear in Table 4. Correlations were, in general, statistically significant. The Root Mean Square Error of Approximation (RMSEA) is at an acceptable level to indicate a close fit ($p \leq .05$) but the Tucker Lewis Index or Non-normed Fit Index (NNFI) and Comparative Fit Index (CFI) indicate that the fit is not good (both are substantially smaller than 0.90) (Kenny, 2003).

Exploratory factor analysis

Since the inventory was implemented for the first time, exploratory factor analysis was conducted because the anticipated structure did not fit our data and we were interested in finding out which structure would actually emerge from the data. Twelve of the 60 items in the inventory were negatively phrased (items 6, 15, 21, 26, 28, 35, 37, 46, 49, 53, 54, and 58). The scores for these items were inverted (denoted*) prior to conducting any statistical analyses (Bar-On, personal communication, 2006; Schepers, 2004). Secondly, we omitted the six Positive Impression scale items (8,

TABLE 2

Confirmatory factor analysis: factor loadings, unique variances and Cronbach coefficients alpha

Factor	ENGLISH				PEDI		
	Item no.	Factor loading	Unique variance	α	Factor loading	Unique variance	α
Intrapersonal (Intra)	7	0.45	0.80	0.30	0.56	0.68	0.44
	17	0.53	0.72		0.59	0.65	
	28*	-0.25	0.94		-0.22	0.95	
	31	0.56	0.68		0.60	0.64	
	43	0.55	0.70		0.72	0.49	
	53*	-0.27	0.93		-0.22	0.95	
Interpersonal (Inter)	2	0.42	0.82	0.64	0.36	0.87	0.69
	5	0.32	0.90		0.38	0.86	
	10	0.04	1.00		0.22	0.95	
	14	0.60	0.64		0.47	0.78	
	20	0.48	0.77		0.48	0.77	
	24	0.16	0.98		0.36	0.87	
	36	0.31	0.90		0.37	0.86	
	41	0.45	0.80		0.54	0.71	
	45	0.23	0.95		0.36	0.87	
	51	0.62	0.62		0.49	0.76	
	55	0.32	0.90		0.33	0.89	
59	0.10	0.99	0.31	0.91			
Stress management (SM)	3	-0.19	0.97	0.37	0.09	0.99	0.58
	6*	0.26	0.93		0.25	0.94	
	11	-0.21	0.96		0.19	0.96	
	15*	0.24	0.94		0.29	0.92	
	21*	0.45	0.80		0.39	0.85	
	26*	0.35	0.88		0.43	0.81	
	35*	0.37	0.86		0.53	0.72	
	39	-0.22	0.95		-0.05	1.00	
	46*	0.28	0.92		0.49	0.76	
	49*	0.27	0.93		0.26	0.93	
	54*	0.44	0.81		0.57	0.68	
58*	0.31	0.91	0.48	0.77			

Table 2 continued

Factor	Item no.	ENGLISH			PEDI		
		Factor loading	Unique variance	α	Factor loading	Unique variance	α
Adaptability (Ad)	12	0.39	0.85	0.66	0.52	0.73	0.73
	16	0.38	0.86		0.41	0.84	
	22	0.37	0.86		0.50	0.75	
	25	0.39	0.85		0.34	0.88	
	30	0.48	0.77		0.57	0.67	
	34	0.38	0.85		0.49	0.76	
	38	0.42	0.83		0.52	0.73	
	44	0.49	0.76		0.47	0.78	
	48	0.39	0.85		0.48	0.77	
	57	0.33	0.89		0.37	0.86	
General mood (GM)	1	0.33	0.89	0.83	0.41	0.83	0.77
	4	0.56	0.68		0.50	0.75	
	9	0.54	0.71		0.54	0.71	
	13	0.30	0.91		0.39	0.85	
	19	0.48	0.77		0.42	0.83	
	23	0.55	0.70		0.31	0.91	
	29	0.51	0.74		0.46	0.78	
	32	0.47	0.78		0.45	0.80	
	37*	0.31	0.91		0.13	0.98	
	40	0.67	0.56		0.60	0.64	
	47	0.56	0.68		0.50	0.75	
	50	0.61	0.63		0.50	0.76	
	56	0.67	0.56		0.55	0.70	
60	0.67	0.56	0.54	0.71			

Criterion for minimal factor loadings: loading < .25

* Inverted items

Values in bold: $p \leq .05$

18, 27, 33, 42 and 52), since these items are indicators of "faking good" that were artificially tacked on to the other items and have nothing at all to do with Prof. Bar-On's conceptualization of the EI construct.

Acting on the advice of the developer of the questionnaire, Prof. Reuven Bar-On, we first limited our factor extraction down to five. Table 5 shows how much variance is explained by the

TABLE 3

Intercorrelations (r) of factors for English and Pedi versions:
confirmatory factor analysis

Factor	ENGLISH					PEDI				
	Intra	Inter	SM	Ad	GM	Intra	Inter	SM	Ad	GM
Intra	–					–				
Inter	0.59	–				0.56	–			
SM	-0.26	0.21	–			-0.02	0.11	–		
Ad	0.71	0.73	-0.03	–		0.54	0.57	0.06	–	
GM	0.49	0.94	0.34	0.68	–	0.44	0.81	0.28	0.53	–

Values in bold: $p \leq .05$

TABLE 4

Goodness-of-fit indices

	NNFI	CFI	RMSEA
English	0.775	0.785	0.041
Pedi	0.742	0.754	0.043

factors. Tables 6 and 7 contain the factor loadings and Table 8 contains the intercorrelations between the five factors in English and Pedi respectively (Statistica, 2006). The scree plots (Figures 1 and 2) did not clearly indicate how many factors existed. They rather suggested a range of possibilities, namely three to five factors. However, the eigenvalues at that point were still larger than one and the percentage variance explained less than 30%. An oblique rotation, direct oblimin, was used to improve interpretation (Browne, et al., 1998; Hair et al., 2006). The rationale behind using an oblique rotation and not an orthogonal rotation was the following: Since one expects the different factors measured by the instrument – sub-domains of the overall EQ – to be related, allowance should be made for this to feature in the results. An orthogonal rotation forces the factors to be uncorrelated, and this was undesirable in the current case, since a total EQ score is, after all, calculated by adding all of the first 40 items of the questionnaire.

TABLE 5

Table of variance explained (first 20 eigenvalues)

	ENGLISH			PEDI		
	Eigenvalue	% Variance explained	Cum. % variance explained	Eigenvalue	% Variance explained	Cum. % variance explained
1	7.96	14.74	14.74	7.40	13.70	13.70
2	3.20	5.92	20.66	3.22	5.96	19.66
3	1.80	3.34	24.00	2.19	4.05	23.71
4	1.57	2.90	26.90	1.70	3.15	26.86
5	1.41	2.61	29.52	1.58	2.93	29.79
6	1.31	2.43	31.95	1.42	2.64	32.42
7	1.30	2.40	34.35	1.33	2.46	34.88
8	1.26	2.33	36.67	1.29	2.40	37.28
9	1.25	2.31	38.98	1.24	2.29	39.57
10	1.19	2.21	41.19	1.15	2.14	41.71
11	1.14	2.11	43.30	1.14	2.11	43.82
12	1.12	2.08	45.38	1.10	2.04	45.86
13	1.07	1.99	47.37	1.05	1.94	47.80
14	1.05	1.94	49.30	1.04	1.93	49.73
15	1.01	1.87	51.18	1.03	1.91	51.64
16	0.99	1.82	53.00	1.00	1.84	53.48
17	0.97	1.80	54.80	0.97	1.80	55.29
18	0.95	1.77	56.56	0.96	1.78	57.07
19	0.92	1.71	58.27	0.94	1.74	58.82
20	0.92	1.70	59.97	0.91	1.69	60.51

Once again, on the advice of Prof. Bar-On (2006), we subsequently limited our factor extraction (oblique rotation, direct oblimin) to four factors (after eliminating the 14 General Mood items, viz. 1, 4, 9, 13, 19, 23, 29, 32, 37, 40, 47, 50, 56 and 60). We did this to try and see

what makes the best conceptual sense ... [this should] 'hopefully' give you the best 'theoretical' fit of a four-factor concept of EI for children (Intrapersonal, Interpersonal, Stress Management, and Adaptability). General mood does not really form a part of EQ; it is a facilitator of emotional intelligence (*id est*, it facilitates the other factorial components of emotional intelligence) (Bar-On, 2006, personal communication).

Table 9 shows how much variance is explained by the factors. Tables 10 and 11 contain the factor loadings and Table 12 the

TABLE 6

Factor loadings (direct quartimin rotation): five factors: English

Factor	Item no.	FACTOR				
		1	2	3	4	5
Intrapersonal	7	0.21	0.07	0.37	0.05	-0.02
	17	0.11	0.20	0.34	0.04	0.05
	28*	0.00	-0.17	-0.08	0.19	-0.05
	31	0.21	0.18	0.24	-0.01	0.14
	43	0.02	0.24	0.40	0.03	0.11
	53*	-0.02	-0.09	-0.24	0.19	-0.04
Interpersonal	2	0.30	0.17	0.10	-0.10	0.06
	5	0.19	0.03	0.05	-0.01	0.22
	10	-0.08	0.04	0.23	-0.10	0.1
	14	0.54	0.08	-0.04	0.04	0.04
	20	0.47	-0.03	0.07	0.01	0.06
	24	0.00	-0.11	0.05	0.02	0.49
	36	0.25	0.10	0.11	-0.05	-0.02
	41	0.37	0.03	0.21	0.05	0.04
	45	0.10	-0.07	0.02	-0.08	0.41
	51	0.66	-0.09	0.05	0.03	0.01
	55	0.19	0.06	0.05	-0.14	0.22
	59	-0.07	0.08	0.06	-0.14	0.27
Stress management	3	-0.11	-0.09	0.16	0.00	0.34
	6*	-0.02	-0.07	0.09	0.36	-0.12
	11	-0.04	0.02	0.09	-0.08	0.30
	15*	-0.09	-0.05	-0.12	0.27	-0.07
	21*	0.36	0.01	-0.30	0.22	0.11
	26*	0.09	0.05	-0.08	0.23	-0.15
	35*	0.01	0.06	0.03	0.47	-0.01
	39	-0.06	0.05	0.12	-0.07	0.25
	46*	0.09	-0.03	-0.20	0.18	0.11
	49*	0.12	-0.07	-0.03	0.18	-0.23
	54*	0.08	0.05	-0.11	0.30	-0.15
58*	-0.08	-0.02	0.07	0.49	0.04	

Table 6 continued

Factor	Item no.	FACTOR				
		1	2	3	4	5
Adaptability	12	0.08	0.37	-0.12	0.06	0.07#
	16	0.12	0.37	-0.06	-0.01	-0.04
	22	-0.01	0.44	0.09	-0.09	-0.06
	25	0.08	0.13	0.08	0.08	0.31
	30	0.08	0.48	0.13	-0.00	-0.08
	34	-0.10	0.44	0.00	-0.03	0.10
	38	-0.02	0.37	0.07	0.05	0.14
	44	0.14	0.25	-0.00	0.10	0.26
	48	0.07	0.34	0.15	0.04	-0.05
	57	-0.02	0.14	-0.13	-0.03	0.49
General mood	1	0.36	-0.09	0.09	-0.10	0.12
	4	0.62	0.08	-0.03	-0.14	-0.13
	9	0.46	0.15	-0.20	-0.04	0.07
	13	0.16	0.07	-0.02	0.04	0.24
	19	0.33	0.08	0.01	0.05	0.26
	23	0.52	0.09	-0.02	-0.00	-0.03
	29	0.29	0.24	-0.12	0.08	0.20
	32	0.35	0.15	0.14	-0.05	0.10
	37*	0.27	-0.02	0.05	0.27	-0.04
	40	0.71	-0.04	0.02	0.03	-0.06
	47	0.54	-0.05	0.08	0.01	0.13
	50	0.55	0.04	0.01	-0.00	0.09
	56	0.67	0.03	-0.05	0.04	-0.04
60	0.62	0.03	-0.00	0.05	0.03	

Loadings of 0.30 and higher are in bold

* inverted items

intercorrelations between the four factors in English and Pedi respectively. Once again the scree plots (Figures 3 and 4) suggest a possible range of factors and not a single number.

It is clear from Tables 6, 7, 10 and 11 that a large number of items do not load higher than 0.3 on any given factor. The factor structures obtained in the current study do not correspond satisfactorily with the original factor structure, based on an analysis of data obtained from a North American sample. Some

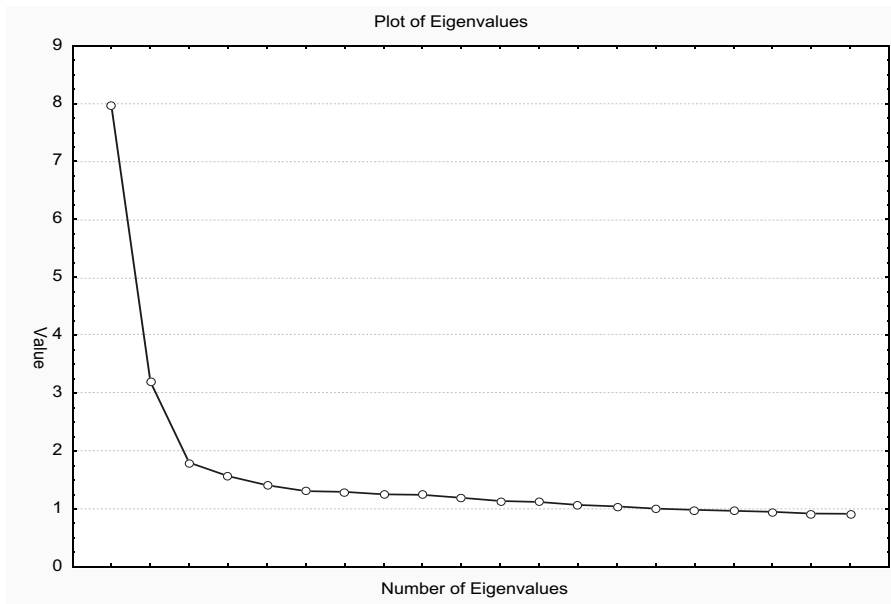


Figure 1. Scree plot (first 20 eigenvalues) – English: (direct quartimin rotation): five factors

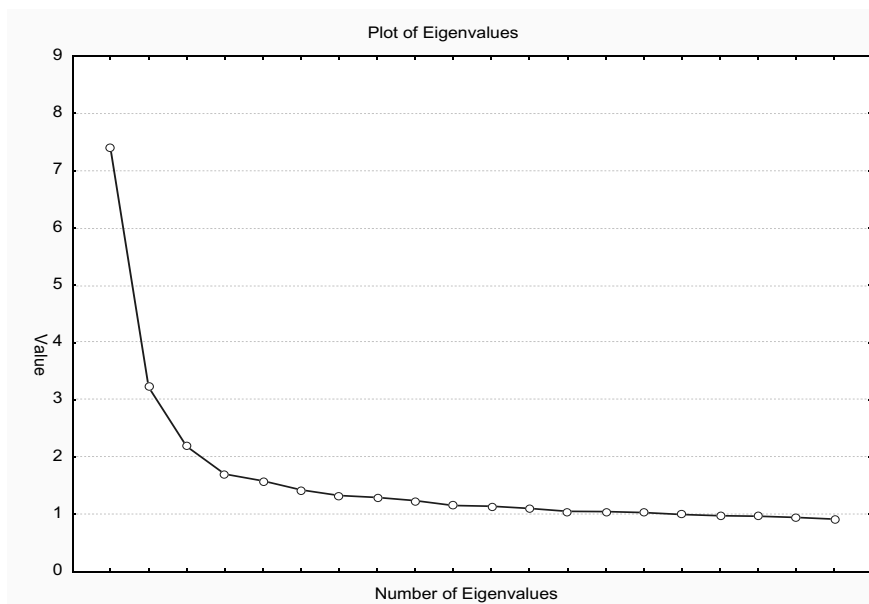


Figure 2. Scree plot (first 20 eigenvalues) – Pedi: direct quartimin rotation): five factors:

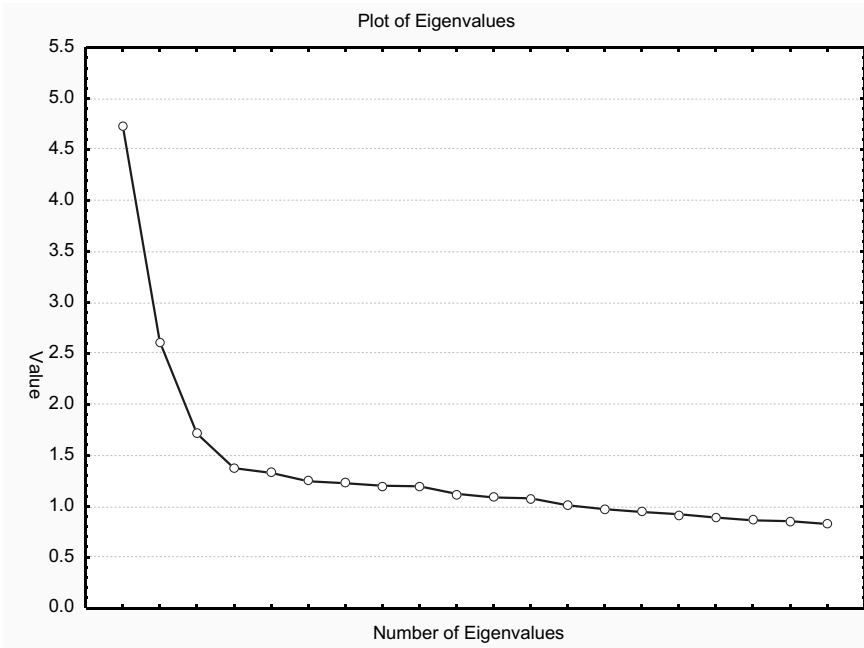


Figure 3. Scree plot (first 20 eigenvalues): four factors (without general mood factor): English

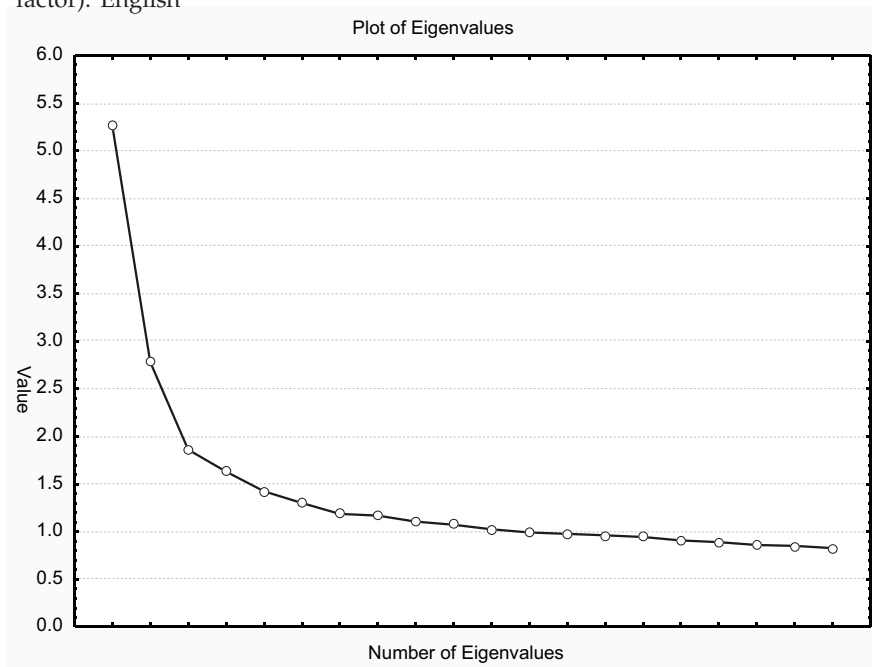


Figure 4. Scree plot (first 20 eigenvalues): four factors (without general mood factor): Pedi

TABLE 7

Factor loadings (direct quartimin rotation): Pedi

Factor	Item no.	FACTOR				
		1	2	3	4	5
1	7	0.06	-0.08	0.09	0.61	0.06
	17	0.01	0.03	-0.02	0.61	-0.04
	28*	-0.06	-0.04	0.23	-0.13	-0.01
	31	0.10	0.09	-0.05	0.50	0.01
	43	-0.01	0.09	-0.00	0.64	0.04
	53*	0.06	-0.10	0.30	-0.19	0.04
2	2	0.09	0.04	-0.01	0.17	0.31
	5	0.01	0.07	0.03	0.14	0.42
	10	-0.15	0.03	-0.03	0.13	0.45
	14	0.49	-0.03	0.02	0.04	0.05
	20	0.43	-0.05	-0.02	0.05	0.09
	24	0.26	0.04	0.03	0.06	0.14
	36	0.11	0.01	-0.03	0.11	0.33
	41	0.34	-0.03	0.01	0.19	0.19
	45	0.24	0.06	-0.05	-0.02	0.21
	51	0.57	-0.11	-0.02	-0.01	0.04
	55	0.19	0.14	-0.13	0.02	0.09
	59	0.04	0.14	-0.16	0.03	0.31
3	3	0.16	0.14	-0.01	0.01	0.15
	6*	0.08	-0.03	0.22	-0.15	-0.02
	11	0.39	0.13	0.03	0.00	-0.01
	15*	0.02	-0.03	0.30	-0.09	-0.17
	21*	0.35	0.01	0.28	-0.12	0.07
	26*	0.23	-0.01	0.35	-0.06	-0.04
	35*	-0.12	0.06	0.59	0.05	0.02
	39	0.04	0.09	-0.08	0.05	0.09
	46*	0.01	0.00	0.52	0.01	0.01
	49*	-0.01	-0.01	0.30	-0.08	-0.03
	54*	-0.00	-0.00	0.57	0.02	0.02
	58*	0.07	0.00	0.45	0.12	-0.14

Table 7 continued

Factor	Item no.	FACTOR				
		1	2	3	4	5
4	12	0.03	0.52	0.06	0.05	-0.06
	16	0.15	0.23	0.01	0.14	0.05
	22	-0.10	0.52	0.00	0.04	0.05
	25	0.01	0.24	-0.03	0.02	0.22
	30	-0.05	0.55	0.01	0.04	0.07
	34	0.07	0.51	-0.03	-0.01	-0.08
	38	0.15	0.47	0.05	-0.00	-0.02
	44	0.10	0.42	-0.09	0.02	0.03
	48	-0.07	0.44	0.06	0.09	0.07
	57	0.14	0.27	-0.08	-0.11	0.27
5	1	0.37	-0.09	-0.06	0.18	0.01
	4	0.52	0.02	0.01	0.04	-0.04
	9	0.48	0.02	-0.02	0.07	0.03
	13	0.27	0.11	0.02	0.05	0.12
	19	0.30	0.11	0.04	-0.05	0.21
	23	0.21	-0.01	0.03	0.10	0.15
	29	0.32	0.16	0.08	-0.10	0.28
	32	0.33	-0.01	-0.00	0.07	0.21
	37*	0.08	-0.03	0.34	-0.12	0.14
	40	0.57	-0.00	0.03	-0.00	0.09
	47	0.47	0.07	0.05	0.07	-0.09
	50	0.46	0.15	-0.03	-0.02	-0.03
	56	0.60	0.07	-0.02	0.02	-0.18
60	0.51	0.04	-0.02	0.07	-0.02	

Loadings of 0.30 and higher are in bold

* inverted items

factors showed fairly strong intercorrelations (larger than 0.25) (Tables 8 and 11), serving as justification for using oblique rather than orthogonal rotation.

Some of the proposed factors were realized to some extent from the exploratory analyses. In the five-factor solution (English) the Adaptability and General Mood factors seemed to be present while in the Pedi data the Intrapersonal, Stress Management, Adaptability and General Mood factors were present to some

TABLE 8

Intercorrelations (r) of factors for English and Pedi versions:
five factors

Factor	ENGLISH					PEDI				
	1	2	3	4	5	1	2	3	4	5
1	-					-				
2	0.48	-				0.32	-			
3	0.03	0.19				0.14	0.00	-		
4	0.24	-0.03	-0.17	-		0.28	0.39	-0.03	-	
5	0.27	0.31	0.14	-0.02		0.22	0.30	-0.04	-0.27	

TABLE 9

Variance explained (first 20 eigenvalues)

	ENGLISH			PEDI		
	Eigen-value	% Variance explained	Cum. % variance explained	Eigen-value	% Variance explained	Cum. % variance explained
1	4.74	11.85	11.85	5.27	13.17	13.17
2	2.61	6.53	18.39	2.78	6.96	20.12
3	1.71	4.29	22.67	1.86	4.65	24.78
4	1.37	3.43	26.11	1.63	4.07	28.85
5	1.33	3.32	29.43	1.43	3.56	32.41
6	1.24	3.11	32.54	1.30	3.25	35.67
7	1.23	3.06	35.60	1.19	2.97	38.63
8	1.20	3.00	38.60	1.17	2.92	41.56
9	1.19	2.99	41.59	1.11	2.77	44.33
10	1.12	2.80	44.39	1.07	2.69	47.01
11	1.08	2.71	47.10	1.03	2.56	49.57
12	1.08	2.69	49.79	0.99	2.49	52.06
13	1.01	2.52	52.31	0.98	2.44	54.50
14	0.97	2.43	54.74	0.96	2.41	56.91
15	0.94	2.36	57.10	0.95	2.36	59.27
16	0.92	2.30	59.40	0.91	2.27	61.54
17	0.89	2.22	61.63	0.89	2.23	63.77
18	0.86	2.16	63.78	0.86	2.16	65.93
19	0.85	2.14	65.92	0.85	2.13	68.06
20	0.83	2.07	67.99	0.83	2.07	70.12

TABLE 10

Factor loadings (direct quartimin rotation): four factors: English

Factor	Item no.	FACTOR			
		1	2	3	4
1	7	0.42	0.02	-0.02	0.08
	17	0.44	0.06	0.04	0.02
	28*	-0.19	0.00	-0.06	0.19
	31	0.35	0.20	0.10	-0.05
	43	0.57	-0.13	0.11	0.08
	53*	-0.26	0.09	-0.07	0.15
2	2	0.27	0.24	0.04	-0.09
	5	0.08	0.21	0.21	-0.01
	10	0.21	-0.19	0.18	-0.06
	14	0.10	0.55	0.04	0.03
	20	0.06	0.44	0.04	-0.04
	24	-0.05	-0.00	0.49	0.04
	36	0.18	0.21	-0.03	-0.07
	41	0.20	0.37	0.01	-0.01
	45	-0.05	0.12	0.44	-0.06
	51	0.04	0.60	-0.01	-0.04
	55	0.09	0.23	0.21	-0.16
59	0.07	-0.02	0.27	-0.13	
3	3	0.06	-0.18	0.34	0.04
	6*	0.02	-0.02	-0.13	0.33
	11	0.10	-0.09	0.27	-0.06
	15*	-0.17	0.07	-0.11	0.20
	21*	-0.18	0.50	0.07	0.19
	26*	-0.00	0.14	-0.16	0.23
	35*	0.09	0.06	-0.02	0.46
	39	0.15	-0.11	0.26	-0.04
	46*	-0.16	0.20	0.08	0.17
	49*	-0.03	0.08	-0.24	0.17
	54*	-0.07	0.21	-0.16	0.25
58*	0.05	-0.04	0.05	0.51	
4	12	0.19	0.24	0.03	0.04
	16	0.29	0.16	-0.07	0.01
	22	0.39	0.08	-0.08	-0.10
	25	0.16	0.15	0.29	0.06
	30	0.45	0.17	-0.11	-0.04
	34	0.29	0.07	0.07	-0.05
	38	0.30	0.09	0.11	0.01
	44	0.16	0.29	0.25	0.05
	48	0.36	0.13	-0.05	-0.00
	57	-0.00	0.11	0.46	-0.02

Loadings of 0.30 and higher are in bold

* inverted items

TABLE 11

Factor loadings (direct quartimin rotation): four factors: Pedi

Factor	Item no.	FACTOR			
		1	2	3	4
1	7	-0.08	0.09	0.03	0.64
	17	0.01	-0.01	-0.01	0.58
	28*	-0.02	0.22	-0.06	-0.15
	31	0.09	-0.04	0.09	0.48
	43	0.05	-0.01	-0.01	0.68
	53*	-0.08	0.29	0.10	-0.17
2	2	0.16	-0.06	0.13	0.22
	5	0.20	-0.05	0.15	0.20
	10	0.16	-0.12	-0.06	0.22
	14	0.01	0.04	0.51	0.03
	20	-0.03	-0.03	0.54	0.05
	24	0.10	0.02	0.32	0.07
	36	0.11	0.09	0.21	0.18
	41	0.03	-0.02	0.42	0.22
	45	0.14	-0.06	0.27	0.03
	51	-0.06	-0.01	0.56	-0.00
	55	0.20	-0.13	0.20	0.02
59	0.25	-0.20	0.12	0.07	
3	3	0.20	-0.01	0.17	0.04
	6*	0.00	0.23	0.05	-0.16
	11	0.16	0.08	0.35	-0.01
	15*	-0.06	0.32	-0.07	-0.11
	21*	0.06	0.29	0.36	-0.11
	26*	0.02	0.37	0.23	-0.09
	35*	0.06	0.57	-0.08	0.05
	39	0.11	-0.09	0.11	0.06
	46*	0.00	0.51	0.02	0.03
	49*	-0.02	0.29	-0.00	-0.08
	54*	0.02	0.55	-0.01	0.03
58*	-0.03	0.48	0.05	0.08	
4	12	0.50	0.08	0.05	0.01
	16	0.25	0.03	0.09	0.16
	22	0.56	0.00	-0.13	0.03
	25	0.29	-0.06	0.08	0.06
	30	0.59	0.01	-0.06	0.03
	34	0.49	0.00	0.04	-0.06
	38	0.47	0.07	0.11	-0.01
	44	0.43	-0.09	0.11	-0.01
	48	0.45	0.06	-0.09	0.11
	57	0.34	-0.11	0.20	-0.04

Loadings of 0.30 and higher are in bold; * inverted items

TABLE 12
Intercorrelations (r) of factors for English and Pedi versions:
four factors

Factor	ENGLISH				PEDI			
	1	2	3	4	1	2	3	4
1	–				–			
2	0.31	–			–0.03	–		
3	0.33	0.19	–		0.27	0.10	–	
4	–0.16	0.18	–0.10	–	0.45	–0.03	0.28	–

extent. In the four-factor solution (English) the Intrapersonal and, to a lesser extent, the Adaptability factors seemed to be present, while in the Pedi data the Intrapersonal and Adaptability factors seemed to be present and to a lesser extent the Interpersonal and Stress Management factors.

DISCUSSION

Exploratory factor analysis of the 54 items of the Bar-On Emotional Quotient Inventory: Youth Version did not confirm the factor structure that emerged when the data obtained from the North American sample were analysed. The factor structures identified in this study were therefore deemed to have limited usefulness, since no single concept or term encapsulated the essence of most of the factors that could indeed be identified, irrespective of the way one looked at the factor analyses.

Items that were negatively phrased no doubt contributed to the problematic situation. They may, in fact, have distorted the results of the factor analysis to a significant degree (personal interviews with a number of learners revealed that they found these items particularly confusing) (See: Tables 6, 7, 10 and 11).

Generally speaking, they did not load satisfactorily on any of the five factors in the exploratory factor analysis, despite the fact that they were inverted prior to factor analysis. Respondents, negatively affecting the empirical factor structure, probably poorly grasped negatively phrased items. This is not particularly uncommon, since research has shown that reverse scoring or wording of items does not translate clearly across cultures

(Weems and Onwuegbuzie, 2001). For this reason inverted items need special attention in future translations, especially since reverse-scored items may have a different meaning in comparison with items that are phrased in a positive direction. In addition questionnaires that contain both positively and negatively keyed items tend to have reduced reliabilities (Weems and Onwuegbuzie, 2001).

Clearly it is essential to revise the translation of the Bar-On Emotional Quotient Inventory: Youth Version before it can be applied to Pedi-speaking students in South Africa. Furthermore, some of the realities of the region in which this type of study is done, need to be incorporated in future studies. Assuming that the construct of EI (Emotional Intelligence) does not have different meanings in the two cultures under discussion (i.e. North America and the rural Pedi-speaking adolescent population of South Africa), it nonetheless seems plausible to revisit the translated Pedi version, rather than attempting to adapt an English version for use with Pedi-speaking students. After all, the characteristics that we refer to as part of the concept "Emotional Intelligence" include a great many that are only clearly expressible in the native language, for example "feelings", "experience of significant others", "circumstances at home", "self-motivation", "impulse control", "mood regulation", "empathy", "hope", "prevention of sadness", should be done primarily in the mother tongue and not in a secondary instructional language. Furthermore whereas emotional aspects of any specific culture would be learned later in a second or third language, a client's mother tongue would be the primary instrument for articulating thinking about emotionally loaded topics.

Care needs to be taken not to change the original purpose of the questionnaire during translation. The role of social desirability levels and motivation to respond (Hui and Triandis, 1985) needs to be investigated during re-administration, especially since the notion of EI is not generally accepted in schools in South Africa, and this factor may have influenced results negatively.

From the aforesaid it is self-evident that the possible influences of local contexts on questionnaires developed in other parts of the world need to be investigated extremely carefully before these questionnaires are used in local contexts. We believe that our research emphasizes the need to check, through research, many of our generally held assumptions with regard to respondents and their environment.

It may be possible that the EI concept does not relate to the Pedi culture as a unitary concept. Instead, it may be broken up

into a number of subdimensions, which are all important within the Pedi culture and beliefs. It is therefore suggested that the following two issues be investigated thoroughly during future research: a. the degree to which the results contained in this research are an *objet d'art* of the factor-analytic procedures carried out, and b. we will need to conduct in-depth interviews with a number of respondents (participants) to investigate the thoughts expressed here (*id est*, whether the ideas contained in the EI questionnaire tend to be separated by cultural beliefs).

It should be clear that the South African goal of fairness in testing across language groups may only be attained once the need for a multistrategy approach is addressed. It is suggested that test batteries should include the use of both qualitative and quantitative research techniques, focusing on inter-individual assessment as well as intra-individual scrutiny: Test results should at all times be interpreted with extreme caution, even when quality assurance criteria such as reliability and validity have been explained satisfactorily in manuals of psychological tests, and be "validated" by clients (Savickas, 2006). Ideally speaking testing should be conducted in the language choice of clients. Words and expressions should be created in order to be able to express important psychological concepts in it. After all, effective testing can only be brought about when the communication between psychologist and client is adequate.

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REFERENCES

- Bar-On, R. (1996). *A brief description of Reuven Bar-On's EQ inventory*. Multi-Health Systems; Toronto.
- Bar-On, R. & Parker, D.A. (2000a). *Bar-On emotional quotient inventory: Youth Version*. Multi-Health Systems; New York.

- Bar-On, R. & Parker, D.A. (2000b). *Bar-On emotional quotient inventory: Youth Version. Technical manual*. New York: Multi-Health Systems; New York.
- Browne, M.W., Cudeck, R., Tateneni, K. & Mels G. (1998). *CEFA: Comprehensive exploratory factor analysis* [WWW document and computer program]. Available URL: <http://quantrm2.psy.ohio-state.edu/browne/>. Accessed 11–15 March 2007.
- De Beer, J. (2002). *Training manual: Bar-On Emotional Quotient Inventory*. Jopie van Rooyen & Partners; Randburg.
- Eloff, I., Maree, J.G. & Miller, L.H. (2006). The role of parents' learning facilitation mode in supporting informal learning in mathematics, *Early Child Development and Care*, **176** (3&4), 313–328.
- Goleman, D. (1996). *Emotional intelligence: Why it can matter more than IQ*. Bantam Books; New York.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. & Tatham, R.L. (2006). *Multivariate data analysis*, 6th edition. Prentice Hall; Upper Saddle River.
- Hui, C.H. & Triandis, H.C. (1985). Measurement in cross-cultural psychology: a review and comparison of strategies. *Journal of Cross-cultural Psychology*, **16**, 131–152.
- Kapp, C.A. (2000). Emotional intelligence (EQ) and success in post-graduate studies: A pilot study. *SA Journal of Higher Education*, **14**, 151–160.
- Kenny, D.A. (2003). *Measuring Model Fit*. Available URL: <http://davidakenny.net/cm/fit.htm>. Accessed: 2007-04-10.
- Maree, J.G., & Ebersöhn, L. (2002). Emotional intelligence and achievement: Redefining giftedness? *Gifted Education International*, **16**(3), 261–273.
- Maree, J.G., & Eiselen, R. (2004). The emotional intelligence profile of academics in a merger setting. *Education and Urban Society*, **37**(3), 482–504.
- Maree, J.G., Pretorius, A. & Eiselen, R.J. (2003). Predicting success among first-year engineering students at the Rand Afrikaans University. *Psychological Reports*, **93**, 399–409.
- Maree, J.G. & Steyn, T.M. (2004). A study orientation questionnaire in mathematics for use in a tertiary environment. *Psychological Reports*, **95**, 981–987.
- Mayer, J.D., & Salovey, P. (1993). The intelligence of emotional intelligence. *Intelligence*, **17**, 433–442.
- Mehrabian, A. (2000). Beyond IQ: Broad-based measurement of individual success potential or "emotional intelligence". *Genetic, Social, and General Psychology Monographs*, **126**, 133–239.
- Petrides, K.V. & Furnham, A. (2000). On the dimensional structure of emotional intelligence. *Personality and Individual Differences*, **29**, 313–320.
- Schepers, J.M. (2004). Overcoming the effects of differential skewness of test items in scale construction. *SA Journal of Industrial Psychology*, **30**(4), 27–43.
- StatSoft, Inc. (2006). *STATISTICA (data analysis software system), version 7.1*. Available URL: www.statsoft.com. Accessed: 12–17 March 2007.
- Van der Vijver, F.J.R. & Leung, K. (1997). *Methods and data-analysis for cross-cultural research*. Sage; Newbury Park.
- Weems, G.H. & Onwuegbuzie, A.J. (2001). The impact of midpoint responses and reverse coding on survey data. *Measurement and Evaluation in Counselling and Development*, **34**, 166–176.