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Classroom factors that contribute to emotional intelligence in the case of primary school learners

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Background: A healthy classroom climate has been related to the socioemotional development of learners. This, in turn, has been associated with an increase in academic success, intrapersonal skills and the quality of interpersonal relationships.

Aim: This study aimed to investigate the impact of classroom climate on the emotional intelligence (EI) levels of South African primary school learners. The aim was also to determine which classroom factors promote, and which inhibit the development of EI.

Setting: A purposive sample of 119 primary school learners from six classes in two government schools in Durban, Kwazulu-Natal was drawn. Ethical clearance and permission for the study were obtained from the relevant stake holders. Informed consent was obtained from the parents or guardians as well as the participants.

Methods: The My Class Inventory (short form) (MCI-SF) and the Trait Emotional Intelligence Questionnaire (Child Short Form) (TEIQue-CSF) were administered. The former is a measure of classroom climate. Relations between classroom climate factors and EI were explored by means of Pearson's correlations and stepwise multiple regression analysis. ANOVA and Kruskal-Wallis tests were used to compare the performance of the learners in the different classes in terms of these variables.

Results: Results indicated a strong relation between classroom climate and EI; *satisfaction* and *cohesiveness* correlated positively with EI levels, whilst *friction*, *competitiveness* and *difficulty* correlated negatively with EI levels.

Conclusion: The results contribute to the understanding of the development of a positive classroom climate. Intervention at classroom level might be a more viable option in resource-strapped contexts.

Keywords: academic achievement; classroom climate; emotional intelligence; middle childhood; primary school learners; school climate; socioemotional development.

Introduction

Covey (2004:51) defines emotional intelligence (EI) as a person's 'self-knowledge, self-awareness, social sensitivity, empathy and ability to communicate successfully with others'. Emotional intelligence is important for psychological well-being and life satisfaction (Petrides, Pita & Kokkinaki 2007). Bar-On (2006) also regards it as a predictor of academic success. Recent studies (MacCann et al. 2020; Petrides et al. 2016) indicate that the impact on academic performance is moderate, with several variables affecting this relation. MacCann et al. (2020) propose that one of the mechanisms, underlying the relation between EI and academic performance, is the improvement of relationships with teachers and peers, facilitated by socioemotional competence. Poor socioemotional skills in the case of children have been shown to impact school performance and relationships with peers. It is also related to other behavioural problems such as bullying (Denham 2007). Implementing socioemotional learning programmes in schools has been associated with improved academic performance, intrapersonal skills and the quality of interpersonal relationships (Durlak et al. 2011). Problematic behaviours, on the other hand, have reportedly decreased. According to various authors (e.g. Salovey, Mayer & Caruso 2002; Zins et al. 2004), the ideal is a long-term intervention that involves various role players. Durlak et al. (2011) also refer to the importance of adequate time for skills development.

Zeidner, Roberts and Matthews (2002) regard the school context as favourable for the teaching and learning of emotional skills. Given the relation between emotional skills and academic performance, social and emotional learning programmes could potentially reduce achievement

gaps in the case of learners from disadvantaged backgrounds (MacCann et al. 2020). Many South African communities experience health problems, malnutrition, poverty and unemployment (Fleisch 2008). A child's socio-economic context has a significant effect on his or her personal and academic development, and a supportive school environment might provide disadvantaged children with the opportunity to improve their intra- and interpersonal skills and thus learning outcomes.

One should consider that South African schools are often poorly resourced, facing challenges such as crime and violence (Scherman 2002). Many behavioural problems related to these conditions have already been identified (Liang, Fisher & Lombard 2007). The climate of the school affects learners' personal and cognitive growth, values and satisfaction (Laugksch, Aldridge & Fraser 2007). However, research suggests that the classroom climate is, to some extent, insulated from the school climate, and that the classroom climate directly affects cognitive and affective outcomes (Koth, Bradshaw & Leaf 2008; Laugksch et al. 2007). If the interaction between learners and their peers and teachers in this subsystem is positive (Denham, Bassett & Zinsser 2012), this could contribute to the development of socioemotional skills. The present study explored the classroom factors that promote or inhibit the development of EI in children. The focus was on middle childhood. The emotional and social development during this period implies greater awareness and understanding of the emotions of the self and of others than during earlier ages.

Conceptualising emotional intelligence

Emotional intelligence theorists differ in terms of the emphasis placed on EI as 'an intelligence' versus the conception of the construct in terms of its non-cognitive contribution (MacCann et al. 2003). The Salovey-Mayer ability model defines EI as the ability to perceive and understand emotions, to reason abstractly, using the information generated by emotions to enhance thinking, and to manage emotions in the self and others (Mayer, Salovey & Caruso 2004). With its emphasis on cognition, the Mayer-Salovey-Caruso model resembles traditional intelligence systems (Matthews, Zeidner & Roberts 2004). In a reformulation of the original model, Mayer, Caruso and Salovey (2016) define EI as a broad intelligence that can be categorised with a number of intelligences on the second stratum of the Cattell-Horn-Carroll model of intelligence. Performance measures of EI are associated with the conceptualisation of EI as a cognitive ability, and the aim is to assess maximum performance (MacCann et al. 2003).

The mixed model theorists, on the other hand, propose that EI can be regarded as distinct from cognitive ability (Byrne et al. 2007). The skills, motivations and traits associated with EI should also not be categorised as personality. Goleman (1998) regards EI as the ability to recognise one's own feelings (self-awareness) and the feelings of others, to motivate

oneself, and to manage one's own emotions as well as emotions within relationships. Emotional intelligence is:

> [A] cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands. (Bar-On 2006:14)

Bar-On emphasises the adaptive value of intrapersonal and interpersonal skills.

In the present study, EI was measured in terms of a questionnaire based on trait theory. MacCann et al. (2020) categorise trait EI as a mixed model (in addition to the conceptualisations of Goleman and Bar-On). It includes facets from the ability model of emotion and the two models of emotional competence. According to Petrides et al. (2016), trait models of EI refer to how individuals perceive their own emotional world. Dispositions that belong to the domain of personality (e.g. empathy, impulsiveness, sensitivity) are included in these models (Petrides et al. 2007). The construct conceptually fits into established models of personality. Self-report measures based on this approach are used to assess typical behaviour.

Both the mixed model and the trait model propose a relation between EI and scholastic achievement that results from an adaptive coping style (Conte 2005; Petrides et al. 2007). However, a meta-analysis by MacCann et al. (2020) shows that the association between EI and academic performance is strongest in the case of measures based on the ability model. Goleman (1998) and Bar-On (2006) contend that emotional skills can be enhanced. Trait theorists believe that people possess an innate ability to perceive, control and use emotions, as well as to adapt to the demands of the environment. However, the environment could influence the extent to which this ability is developed or inhibited (Petrides et al. 2016).

Emotional development during middle childhood

Middle childhood, the period from approximately the sixth to the twelfth year of life, is a time during which children's understanding of their own and others' emotions and emotional expressions increases considerably due to their growing cognitive abilities (Louw & Louw 2019). Children in middle childhood can talk about their own emotions and listen to or perceive emotional expressions in others (Harris & Butterworth 2002). They understand that their emotions are caused by certain situations, and that an emotion may, in turn, lead to certain behaviours. This could have consequences for the child and for others.

Children become more aware of emotional expression in middle childhood. Their understanding thereof also becomes more sophisticated. This enables children to distinguish to a greater extent between emotional experiences that are internal and those that are external (Harris & Butterworth 2002). Further important emotional developments occur in middle childhood: The ability to understand complex emotions such as shame and

pride which become internalised and integrated and are experienced as feelings of responsibility; an increased understanding that more multiple emotions may be experienced in a situation; an increased ability to suppress one's own negative emotional reactions and an increased understanding of others' facial expressions, situations that cause emotions and the complexity of emotional experiences (Denham 2007; Louw & Louw 2019:259–260). Children in middle childhood are often regarded as less emotional than younger children, because they are better able to regulate their own emotions.

During middle childhood, children's social experiences widen out from being mainly in the family context to include other contexts, of which the school context is one of the most important (Eccles & Roeser 2009). Even though these children still need assistance from adults in most areas, they are gradually moving towards more independence. According to Eccles (1999), children in middle childhood learn to form relationships with peers and respect adults from outside the family context, including teachers. Zeidner et al. (2002) indicate that teachers play a significant role in the emotional development of children by providing specific instructions to learners as well as by modelling emotional behaviour. Roeser and Peck (2003) emphasise the importance of the teacher's role in the case of inadequate socioemotional guidance and support from the family and the community.

Furthermore, middle childhood is a period within which the emotional tasks and processes that children must navigate centre around social acceptance and avoiding rejection and embarrassment (Harris & Butterworth 2002). Emotional competence becomes crucial to social success, as children learn how and when to express their emotions, and with whom. Emotions will be expressed in a more indirect manner to avoid negative consequences (Denham 2007).

Erikson's stages of psychosocial development indicate that a child's main task in middle childhood is to develop a sense of achievement while simultaneously managing feelings of inadequacy. The child learns to master age-relevant activities. Failure to master these skills could lead to feelings of inferiority. This may affect the child's emotional, intellectual and interpersonal well-being negatively. During middle childhood, children develop feelings of industry, on the one hand, and on the other hand, learn to cooperate with both adults and peers (Erikson 1968). Eccles (1999) supports this when he indicates that during middle childhood, the child is motivated by the need to demonstrate and achieve competence, to form positive relationships with peers and to become more independent from authority figures. Therefore, the main psychological goals of middle childhood are the development of self-awareness, self-esteem and social comparison. The quest to achieve competence, autonomy and social attachments begins in middle childhood (Deci & Ryan 2004).

Middle childhood is clearly a time of great emotional and social development, but significant cognitive changes also take place during this time (Harris & Butterworth 2002).

According to Huston and Ripke (2006), the cognitive skills that are developed during middle childhood help children to think more intentionally, to understand logical concepts, to analyse their thoughts and memories and to self-reflect. Because of these cognitive advances that occur during middle childhood, children have greater social understanding, which links with their growing awareness of managing and controlling their emotions and emotional expressions to meet the social and cultural expectations of the society (Louw & Louw 2019).

Classroom climate

According to Allodi (2010:89–90), classroom climate comprises 'interpersonal relationships, learner–teacher relationships, peer relationships, teachers' beliefs and behaviours, teachers' communication style, classroom management and group processes'. It, therefore, includes the management efforts of teachers and the participation of learners (Eccles & Roeser 2009). Evans et al. (2009) maintain that the most important classroom climate factors are classroom management and instructional style. These factors depend on the emotional relationship that the teacher has with the learners as well as the extent to which provision is made for the needs and backgrounds of learners.

According to Eccles and Roeser (2009), classroom climate centres around the relationships within the classroom. It includes the process of instruction, relationships in the classroom and the learners' attitudes (Brophy 1999). Frenzel, Pekrun and Goetz (2007) believe that the way in which learners perceive the classroom environment affects their emotional experiences within the classroom. A positive classroom climate is, thus, fundamental to their motivation, commitment and academic achievement, especially in the case of children from disadvantaged backgrounds (Battistich 2008). Individual emotional experiences and the emotional experiences of classmates influence the learner's personal and academic development. According to Beilock and Ramírez (2011), it is, therefore, important to explore emotions in this context to better understand learners' motivations and learning styles. Brackett et al. (2011) state that emotionally supportive classroom climates have a positive effect on performance, whilst Landau and Meirovich (2011) also indicate that learners' EI is positively affected by a participative and supportive classroom climate.

As classroom factors can promote or inhibit the development of EI in children, it needs to be investigated. An ideal classroom seems to provide learners with challenging content within a supportive context, where learning, rather than achievement, is promoted (Brophy 1999; Eccles & Roeser 2009). Emotional reactions to classroom experiences influence learners' engagement and their motivation in the classroom. According to Frenzel et al. (2007), emotional reactions comprise both individual and shared reactions. The latter has been linked to overall achievement in the class. More positive emotions (e.g. enjoyment and pride) are reported in high-achieving classrooms, whilst more negative emotions

(e.g. shame and anxiety) are reported in low-achieving classrooms. Research findings indicate that learners' shared perceptions of the teacher's enthusiasm and enjoyment influence their shared emotional reactions (Frenzel et al. 2007). Marzano, Marzano and Pickering (2003) believe that classroom climate is, to a large extent, determined by the actions of teachers within the classroom. On the one hand, there is a positive correlation between the positive expressiveness of teachers and learners' emotional competence. On the other hand, teachers, who are extremely negative, create a classroom climate within which learners struggle to manage their emotions (Denham et al. 2012). Appropriate emotional expressions, respectful communication, an interest in the needs of individual learners, a smooth transition between activities and interest in and attention to activities are typical of a positive classroom climate (La Paro & Pianta 2003). Goal-directed behaviour is encouraged to avoid ambiguity and disruptiveness (Patrick et al. 2003). Greater learner achievements are the result of classrooms that are characterised by minimal conflict and greater cohesion, which are instrumental in learners' optimal learning (Djigic & Stojiljkovic 2011). Eccles and Roeser (2009) refer to studies indicating that the social-emotional well-being of learners is the result of both teacher–learner relationships, and a sense of belonging.

The aim of the present study was to investigate the impact of classroom climate on the EI levels of primary school learners in South Africa, and to determine which classroom factors promote, and which inhibit the development of EI in children in this context. Findings could contribute to the development of related practices to improve the development of socioemotional skills. The specific objectives were:

- to explore the relation between the learners' perceptions of their classroom climate and their EI scores;
- to explore the relation between the learners' perceptions of their classroom climate in terms of five domains (*satisfaction*, *friction*, *competitiveness*, *difficulty* and *cohesiveness*) and their EI scores and
- to compare learners from six different classrooms in terms of their perceptions of their classroom climate with reference to the five domains as well as their EI scores.

Research methods and design
Study design

A cross-sectional, non-experimental design was used (see Erasmus 2019). The approach was both correlational (to explore the relation between classroom climate factors and EI) and comparative (to compare the performance of learners in the different classrooms in terms of the variables).

Setting

The study was conducted in the province of Kwazulu-Natal in South Africa. Primary schools with similar yearly fees in Durban city were contacted, and two schools agreed to participate in the study. The learners came from the same or similar neighbourhoods and similar socio-economic circumstances were assumed.

Study population and sampling strategy

The target population comprised primary school learners aged between 8 and 12 years. A purposive (non-random) sample of 119 learners was drawn from six classes in the two schools.

Inclusion criteria implied that participants had to:

- be primary school children between 8 and 12 years of age;
- be willing to participate in the study;
- have informed consent from a parent or legal guardian to participate in the study;
- be able to read in English and
- be enrolled at a school in Durban, KwaZulu-Natal, South Africa.

Consent forms were distributed to 240 Grade 4 and 5 learners. In the case of 119, parental as well as personal consent were given. The participants were between 9 and 12 years old. The sample was not representative in terms of race (see Table 1), and the language requirement also posed restrictions.

Data collection

The learners' EI was assessed by means of the Trait Emotional Intelligence Questionnaire (Child Short Form) (TEIQue-CSF). The questionnaire was based on the trait EI theory and content was derived from an analysis of literature on the socioemotional development of children aged between 8 and 12 years (Mavroveli et al. 2008). Nine facets are measured to form a total EI score, namely, adaptability, affective disposition, emotion expression, emotion perception, emotion regulation, low impulsivity, peer relations, self-esteem and self-motivation. Higher total scores reflect higher EI levels (Stassart et al. 2019). The shortened version comprises 36 items, each requiring a response on a five-point Likert scale. Internal consistency, temporal stability and validity have been reported (Mavroveli et al. 2008; Russo et al. 2012) and the questionnaire has been used in local research (cf. Hardy 2005). The Cronbach's alpha in the present study for the total score was 0.82.

The My Class Inventory (short form) (MCI-SF) was administered to assess learners' perceptions of their classroom climate. The questionnaire was regarded as suitable for elementary school learners and especially for learners with a less than proficient reading ability (Sink & Spencer 2005). It comprises five scales, namely, *satisfaction* (how much learners like their class), *friction* (how much tension and conflict there is between learners), *competitiveness* (the degree to which learners compete), *difficulty*

TABLE 1: Sample frequencies: Race and gender (*n* = 119).

Race	Gender	Female	Male	Total
Black	Frequency	39	41	80
	% of total	32.7	34.5	67.2
Coloured	Frequency	11	06	17
	% of total	09.2	05.1	14.3
Indian	Frequency	09	13	22
	% of total	07.6	10.9	18.5
Total	Frequency	59	60	119
	% of total	49.5	50.5	100

(whether learners find the coursework manageable) and *cohesiveness* (friendliness and collaboration amongst learners). Learners respond with a simple 'Yes' or 'No' to the 25 items in the questionnaire. Although not originally intended, an overall classroom climate score was calculated for the present study. *Satisfaction* and *cohesiveness* were viewed as positive, whereas the other three scales were reverse scored. Internal consistency and discriminant validity were reported for the questionnaire (Sink & Spencer 2005). In this study, the Cronbach's alpha values for four of the scales were adequate (*satisfaction* 0.69, *friction* 0.76, *competitiveness* 0.72 and *cohesiveness* 0.72), whilst findings related to the *difficulty* scale (0.36) needed to be interpreted with caution.

Data analyses

Descriptive statistics (minimum, maximum, mean and standard deviation) were calculated for the total classroom climate scores and each of the five scales on the MCI-SF, as well as the total TEI score. In addition, the performance per class was described in terms of the total MCI-SF and TEI scores. Pearson's correlations were calculated to determine the relation between the TEI scores and the MCI-SF scores (total score and scores on the five scales). Stepwise multiple regression analysis was used to further explore the contribution of each of the five classroom climate factors in predicting EI. The six classes were compared in terms of the mean TEI and total classroom climate scores (analysis of variance [ANOVA] and Tukey honestly significant difference [HSD] post hoc test) as well as mean scores on each of the five scales on the MCI-SF (Kruskal-Wallis and Dunn test).

Ethical considerations

Ethical clearance was obtained from the ethics committee of the Department of Psychology at the University of South Africa (PERC – 16062) and permission for the study was granted by the Department of Education in Kwazulu-Natal and the two participating schools. Informed consent was obtained from the parents or guardians as well as the participants, and confidentiality was maintained by securing the data (a locked cupboard and password protection) and ensuring that no identifying information was published.

Results

Descriptive statistics

In Table 2, descriptive statistics are provided for the total classroom climate scores on the MCI-SF. These results are given per class and for the total sample of learners. The learners rated their classroom climate with regard to *satisfaction*, *friction*, *competitiveness*, *cohesiveness* and *difficulty*. The descriptive statistics for the classroom climate scales are provided in Table 3. The findings for TEI by class, and for the total sample of learners, are reported in Table 4.

The total scores had a possible range from 10 to 75. The lowest and highest scores were obtained in the case of class D (16) and class A (60). Class A also obtained a numerically higher mean score compared to the other classes.

The highest mean score was obtained for *satisfaction* ($M = 13.07$), and the lowest mean score for *difficulty* ($M = 7.19$).

The total scores had a possible range from 36 to 180. The TEI scores ranged between 100 (class C in school 2) and 176 (class A in school 1). Class A obtained the highest mean score ($M = 143.05$), whilst class C obtained the lowest mean score ($M = 127.80$).

Correlation and regression results

Pearson's correlations were calculated between TEI and the five classroom climate scales as well as the total classroom climate scores (Table 5). Stepwise regression analysis was

TABLE 2: Descriptive statistics for the total classroom climate scores by class.

Class	N	Min	Max	M	s.d.
School 1					
A	38	36	60	51.92	6.339
B	39	22	52	37.13	8.597
School 2					
C	5	22	45	35.00	9.055
D	14	16	52	37.71	9.611
E	17	22	52	37.94	8.764
F	6	24	44	32.67	7.005
Total	**119**	**16**	**60**	**41.72**	**10.601**

s.d., standard deviation.

TABLE 3: Descriptive statistics for the classroom climate scales for the total sample.

Variable	N	Mdn	M	s.d.	95% CI		Min	Max
					lower	upper		
Satisfaction	119	14	13.07	2.52	12.61	13.53	5	15
Cohesiveness	119	11	11.18	3.16	10.61	11.75	5	15
Friction	119	9	8.73	3.30	8.13	9.33	5	15
Difficulty	119	7	7.19	2.18	6.79	7.59	5	13
Competitiveness	119	13	11.61	3.22	11.03	12.19	5	15

s.d., standard deviation; CI, confidence interval.

TABLE 4: Descriptive statistics for trait emotional intelligence by class.

Class	N	Mdn	M	s.d.	95% CI		Min	Max
					lower	upper		
School 1								
A	38	147.0	143.05	19.07	136.78	149.32	105	176
B	39	132.0	131.13	13.01	126.91	135.35	108	157
School 2								
C	5	129.0	127.80	17.31	106.31	149.29	100	145
D	14	137.5	136.43	17.22	126.49	146.37	106	162
E	17	128.0	133.47	19.38	123.51	143.43	107	175
F	6	141.0	138.50	12.50	125.38	151.62	119	155
Total	**119**	**138.0**	**136.13**	**17.23**	**133.00**	**139.26**	**100**	**176**

s.d., standard deviation; CI, confidence interval.

TABLE 5: Pearson's correlation between trait emotional intelligence and the classroom climate scores ($n = 119$).

TEI vs.	Pearson's correlation	Significance (2-tailed)
Satisfaction	0.397†	0.000
Friction	-0.217‡	0.018
Competitiveness	-0.233‡	0.011
Difficulty	-0.248†	0.007
Cohesiveness	0.277†	0.002
Total classroom climate	**0.366†**	**0.000**

TEI, trait emotional intelligence.
†, Correlation is significant at the 0.01 level (2-tailed).
‡, Correlation is significant at the 0.05 level (2-tailed).

TABLE 6: Model summary of regression analysis with trait emotional intelligence as dependent variable and satisfaction as independent variable.

Model					Change statistics				
	R	*R²*	Adjusted *R²*	*SE* of the estimate	*R²* change	*F* change	*df* ¹	*df* ²	Sig. *F* change
1	0.397†	0.157	0.150	15.883	0.157	21.867	1	117	0.000

SE, standard error
†, Predictors: (Constant), *satisfaction.*

TABLE 7a: One-way analysis of variance of satisfaction with trait emotional intelligence as dependent variable.

Model	*Df*	Sum of squares	Mean square	*F*	*P*
1 Regression	1	5516.261	5516.261	21.867	0.000†
Residual	117	29 514.848	252.264	-	-
Total	**118**	**35 031.109**	-	-	-

†, Predictors: (Constant), *satisfaction*

TABLE 7b: Regression coefficients.†

Model	Unstandardised coefficients		Standardised coefficients			Collinearity statistics	
	B	SE	Beta	T	Sig.	Tolerance	VIF
1 (Constant) satisfaction	100.722	7.710	-	13.064	0.000	-	-
	2.709	0.579	0.397	4.676	0.000	1.000	1.000

VIF, variance inflation factor; SE, standard error.
†, Dependent variable: TEI.

used to determine which classroom factors, if any, promote or inhibit the development of EI for primary school learners. This procedure selected the most prominent predictor as illustrated in Tables 6, 7a and 7b.

Trait emotional intelligence correlated positively with *satisfaction* and *cohesiveness*, and negatively with *friction*, *competitiveness* and *difficulty*. All correlations were significant. The results of the regression indicated that the only significant predictor of trait EI was *satisfaction* (B = 2.709, p = 0.000). This scale explained 15.7% of the variance in trait EI, and the overall model was significant (F = [1. 117] 21.867, $p < 0.01$).

Class comparisons

It was assumed that significantly higher TEI scores in a specific class would be due to the shared classroom climate. To compare the classes in terms of their levels of TEI and with regard to classroom climate, ANOVA was run between the mean TEI scores (Table 8) and the mean total classroom climate scores (Table 9) of the classes (Levene's test indicates that homogeneity of variances could be assumed). Statistically significant differences were found in both instances. Therefore, Tukey HSD post hoc tests were used to further explore the differences (see Erasmus 2019 for detail). In the case of the mean scores on each of the five classroom climate scales, the variances across the classes differed and Kruskal-Wallis was used to compare the classes (details are reported in Erasmus 2019). Statistically significant differences were found for all five of the classroom climate scales between the class means. Dunn's multiple comparison tests were used to see where the differences were.

The Tukey HSD post hoc test showed a statistically significant difference in mean TEI scores between class A (M = 143.05)

TABLE 8: Analysis of variance summary results for trait emotional intelligence by class.

Source	*Df*	*SS*	*MS*	*F*	*p*
Class	5	3299	659.8	2.35	0.0453*
Residuals	113	31 732	280.8	-	-

SS, sum of squares; MS, mean square.
*, The *p*-value is < 0.05, which shows that there is a difference in the means across the classes.

TABLE 9: Analysis of variance summary results for the total classroom climate scores by class.

Source	*df*	*SS*	*MS*	*F*	*p*
Class	5	5962	1193.3	18.46	0.000*
Residuals	113	7298	64.6	-	-

SS, sum of squares; MS, mean square.
*, The *p*-value is < 0.01, which shows that there is a difference in the means across the classes.

and class B (M = 131.13), both from the same school. In the case of the total classroom climate scores, learners in class A scored significantly higher than the learners in all five of the other classes.

For *satisfaction*, class A from school 1 had the highest mean score (M = 14.79), whilst class F from school 2 had the lowest (M = 11.33). Similarly, for *cohesiveness*, class A had the highest mean score (M = 13.82), and class F had the lowest mean score (M = 9.00). The results of the Dunn test showed that in the case of both these scales, there was a statistically significant difference between class A and all five of the other classes (B, C, D, E and F). None of the other comparisons were significant.

For *friction* and *difficulty*, class A had the lowest mean score (M = 6.03 and 6.32, respectively), whilst class C had the highest mean score (M = 11.80 and 9.00, respectively). In the case of *friction*, there was a statistically significant difference between class A and all five of the other classes (B, C, D, E and F), whilst in the case of *difficulty*, there was a statistically significant difference between class A and three of the other classes (C, D and E), and between class B and D. For *competitiveness*, class A from school 1 had the lowest mean score (M = 9.34) and class B from school 1 had the highest mean score (M = 12.82). A significant difference was found between class A and four of the other classes (B, D, E and F).

Discussion

The highly significant correlation between the total classroom climate scores and trait EI indicates a strong relation between the two constructs in the primary school context. When considering the different classroom climate scales, the results showed a positive relation between TEI and *satisfaction* and *cohesiveness*, and a negative relation between TEI and *friction*, *competitiveness* and *difficulty* within the classroom. All results were significant. Stepwise regression analysis indicated that *satisfaction* was the most prominent predictor of TEI.

These results support findings by, amongst others, Landau and Meirovich (2011) that EI is positively influenced by supportive classroom climates. Learners are more engaged in classrooms that are characterised by positive classroom feelings of enjoyment (*satisfaction*), connectedness (*cohesiveness*) and respect than learners in negative classroom climates (Brackett et al. 2011). Cooperation rather than competitiveness seems to promote academic achievements and positive relationships between learners (Roseth, Johnson & Johnson 2008). Competitive environments may motivate some learners to improve their academic performance, but for many, it could lead to diminished motivation (Eccles & Roeser 2009). The degree of *competitiveness* in the classroom may be viewed differently by different groups. It is important to find a balance between academic demands and a positive and supportive classroom climate (Eccles & Roeser 2009). *Difficulty* had a negative relation to TEI. According to Prawat and Solomon (1981), an appropriate level of *difficulty* is associated with learner *satisfaction*.

Consistent support has been found for a significant relationship between learners' perceptions of the classroom climate, and positive learner behaviours and beliefs (Aldridge, Fraser & Laugksch 2011). Both school and classroom climate can either enhance learners' resilience, or further increase their vulnerabilities (Samdal et al. 1998; Theron & Theron 2014). Learners feel safer at schools within which they care for and have positive relationships with one another (Samdal et al. 1998). Koth et al. (2008), however, indicate that classroom-level factors have a greater influence than school-level factors on the perceptions learners have of their school. Aldridge et al. (2011) also conclude that the school environment does not have a strong influence on the situation in the classroom. Classrooms seem to be, to some extent, insulated from school-level factors (Koth et al. 2008; Laugksch et al. 2007). This study suggests that the classroom climate itself has a significantly enough impact to affect a child's EI levels. Comparison across the classes in the present study supported the notion that classes can be regarded as groups with group emotions; different classes will, therefore, have different EI levels (Aritzeta et al. 2016). The results indicated significant differences in terms of the classroom climate scores between especially Class A and all other classes (notably class B in the same school). This further corroborates previous classroom-climate research, which indicates that classroom climates seem to have a greater influence on learners' perceptions of their school experiences than school climates do (Aldridge et al. 2011; Koth et al. 2008).

It should, however, be noted that the cross-sectional, non-experimental design implies that causality cannot be assumed. The sample was, furthermore, purposefully selected to increase the likelihood of the learners possessing the required Grade 4 English reading level to complete the questionnaires. One should consider that the majority of primary school learners in South Africa cannot read and write fluently in English (Fleisch 2008; Taylor & Von Fintel 2016). Future research should include schools in rural areas and township schools. The sample of learners was also not fully representative in terms of race.

Conclusion

The present study contributes to an understanding of the 'how' and 'why' of the development of a positive classroom climate within a primary school context. The aim of the study was to identify the factors that promote and those that inhibit the development of EI. It can be concluded that a positive classroom climate is one in which learners have high levels of *satisfaction* and *cohesiveness*, and low levels of *friction*, *competitiveness* and *difficulty*. In addition to the academic objectives, teaching and learning in schools have social and emotional components. For a school's academic objectives to be met, teachers need to create classroom environments that are socially and emotionally healthy (Noddings 2005). A balance is needed between academic demands and support; respect and cooperation should be fostered, and teachers should express enthusiasm and enjoyment in the classroom setting. Implementing school-wide programmes that promote a sense of community within classrooms, could reduce problematic behaviours and increase feelings of belonging (Solomon et al. 2000). Feelings of connectedness and support at school are particularly beneficial for disadvantaged learners who lack adequate support in their homes (Battistich 2008). Addressing the need for socioemotional development at classroom level might be a more attainable goal than changing the school system in a resource-strapped environment.

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