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Applicability of the Organisational Climate Description Questionnaire – Rutgers Elementary: a South African case study

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The Organisational Climate Description Questionnaire – Rutgers Elementary (OCDQ – RE) was used to determine the current organizational climate of primary schools in North-West Province, South Africa. This questionnaire evaluates the actions of principals and educators; the current organizational climate in primary schools can be determined from the results. A quantitative research approach, with 904 teachers from 68 schools, was used to determine the applicability of the measuring instrument. Exploratory and confirmatory factor analyses revealed that certain items measuring directive behaviour in the OCDQ-RE grouped with supportive behaviour of the principal. Hence, in this study, these items were regarded as supportive towards the educators and their work by the respondents. According to Cronbach's alpha coefficient the questionnaire can be regarded as reliable. Recommendations are made to render the questionnaire even more applicable for the South African context.

Keywords: improving organizational climate; organizational climate; OCDQ; primary schools; school climate

Introduction

There is concern in educational circles about the organizational climate in schools in the North-West Province of South Africa (Jackson & Rothman, 2006; North West Department of Education, 2006:89; Vos, Van der Westhuizen, Mentz & Ellis, 2012). There is evidence, for example, that the morale among educators in schools is low (Hoy, Tarter & Kottkamp, 1991; Mentz, 2007). Regular strikes by educators could also be regarded as evidence of the negative experience of a school's organizational climate (Zigarmi & Sinclair, 2001).

In research on the well-being of South African educators it was found that educators did not experience their place of work as being positive, and they consequently experienced the organizational climate of the school as negative (Jackson, 2004; Jackson & Rothmann, 2006). Jackson and Rothmann (2006) resultantly recommended that heads of education should pay more attention to the psychological well-being of educators, as well as to the fact that the workload of educators should be decreased. The importance of determining how educators experience the quality of their work life and the organizational climate of their workplace is therefore a strong imperative. According to Hoy et al. (1991), both the action of the principal and the experience of

educators of their work are determinants for the organizational climate of school.

An ineffective or 'unhealthy' organizational climate in a school can lead to the collapse of school activities and rendering of the school as dysfunctional. The determination of a school's organizational climate as well as the formulation of management strategies for purposes of establishing a more effective organizational climate is therefore of crucial importance for the school principal.

One of the contributions made by this research is that the respondents in the South African study population appeared to interpret some of the items in the OCDQ-RE questionnaire differently to their counterparts in the United States of America. This has led to the conclusion that the existing questionnaire should be adapted to the South African context.

This article gives an outline of the data analyses that were done to make recommendations on the development of a suitable measuring instrument for the South African context.

To achieve this aim, the remainder of the article is structured as follows: In the first place, the conceptual-theoretical framework on which the empirical work was based is described. This is followed by a description of the study population, as well as of the data collection process. The exploratory factor analysis is then discussed in order to show that the OCDQ-RE questionnaire cannot be applied in South Africa without due consideration of the local context. A confirmatory factor analysis was used to investigate the goodness of fit between the original OCDQ-RE model and the results from the South African study population. These results were also tested for cultural bias. The article concludes with a number of recommendations on the use of the questionnaire in the South African context.

Conceptual-theoretical framework

The OCDQ-RE-questionnaire was designed to comply with ten different kinds of socio-economic categories in New Jersey. These socio-economic categories are applicable to both rural and urban areas. The last two characteristics (i.e. different socio-economic categories and different demographic fields) of the OCDQ-RE questionnaire constitute a favourable point of departure for a questionnaire intended for use in primary schools in South Africa. The rationale for this argument is that the composition of South African primary schools corresponds to a large extent with the above two characteristics (different socio-economic categories and different demographic fields). Pretorius and De Villiers (2009:1-28) therefore also used the OCDQ-RE and the "Organizational Health Index for Primary Schools" (OHI-E) as measuring instruments in the southern Cape. A validation of the questionnaires has, however, not been done for application in primary schools in South Africa.

The first part of the OCDQ-RE focuses on the school principal. The management actions of the principal have a determining influence on how educators experience the organizational climate of the school.

> The way in which the principal behaves, as well as the leadership style that he/she follows, influences the views of the educator with regard to the prevalent work atmosphere and resultantly has an influence on the organizational climate of the school (Hoy et al., 1991:33; Hoy & Tarter, 1997:15-29).

According to these authors, the behaviour of the principal can be divided into *supportive behaviour, directive behaviour*, and *restrictive behaviour*.

The second part of the OCDQ-RE is directed at the behaviour of the educators. It is not only the behaviour of the principal that affects the organizational climate of the school; the behaviour of the educators can also have an influence on the organizational climate of the school (Hoy et al., 1991:1-64; Hoy & Tarter, 1997:15-29). According to these authors, the actions or behaviour of educators can, in turn, be subdivided into *collegial behaviour, intimate behaviour*, and finally *disengaged behaviour*.

Later in this article we explain that respondents in South Africa interpret some of the questions in the OCDQ-RE differently to their American counterparts. Some of the items grouped with different constructs than in the American case. This led to the above-mentioned conclusion that a questionnaire should be developed and validated specifically for South African conditions.

Pilot study

A letter was sent to Kottkamp (Hofstra University) (edarbk@hofstra.edu) and Hoy (Ohio State University) (hoy.16@osu.edu) for the purpose of obtaining permission to use their OCDQ-RE as instrument in this study. The necessary permission was granted by Hoy.

The Superintendent-General of the North-West Department of Education as well as the applicable Area project manager were approached in writing to obtain permission to apply the adapted OCDQ-RE in primary schools in four districts of North-West Province.

The questionnaires were administered in two primary schools in the Matlosana Region, one an Afrikaans- and the other an English-medium school. The respondents were requested to indicate on the questionnaire those items they found to be unclear or difficult to interpret. The questionnaire was available in both Afrikaans and English. This required the translation of the instrument into Afrikaans in a scientifically justifiable manner. Some small changes were made to both the English and the Afrikaans versions of the questionnaires for purposes of better interpretation of the items by South African respondents. The respondents made no recommendations with regard to amendments to the questionnaire, and it was therefore assumed that respondents understood the questions.

Data collection procedure

A total of 472 primary schools in North-West Province complying with the criterion, of having more than 400 learners, formed the study population. The schools in each

of the four districts were sorted from small to large in terms of the total number of learners. From this group, a stratified systematic random sample of 80 schools was drawn. The resultant sample consisted of 904 educators at post levels 1 and 2, from 68 primary schools. The purpose of the research was outlined in a letter to the schools involved. Stamped and addressed envelopes were provided.

Statistical analyses and results

Exploratory factor analysis of the data

A principle component factor analysis with Oblimin rotation was done on the data with Statistical Package for the Social Sciences [SPSS] (SPSS Inc., 2009) in order to determine how the items of the OCDQ-RE clustered together as factors. Nine factors that explained 53.8% of the variance were extracted by Kaiser's criterion (see Table 1). All communalities were greater than 0.3, which indicated that enough variance of each item was explained through the extracted factors.

The nine extracted factors as highlighted in the table are now discussed. The fact that nine factors were highlighted and not six, as in the original research of Hoy and Tarter (1997), can be ascribed to the fact that the South African responses to the items correlated differently.

Behaviour of the principal (Factors 1; 5; 6; 7; and 9)

Factors 1 and 7: Supportive behaviour of the principal

Factor 1 can be regarded as reliable (Cronbach's alpha = 0.89) and the mean inter-item correlation value (0.51) is also acceptable. The three items with loadings larger than 0.70 are highlighted, *viz*. the principal treats educators as equals, the principal compliments educators and the principal is easy to understand. These three items can be considered as strong indicators of supportive behaviour by the principal.

Item 17 (principal schedules the work for the educators), with a loading of 0.388 on factor 1, obtained a loading of –0.317 in factor 9 (directive behaviour by the principal) as in the OCDQ-RE. Item 24 (the principal corrects educators' mistakes), which was classified as directive behaviour, also loaded on this factor. These two items are therefore also considered to be supportive behaviour of the principal.

Other items classified as supportive behaviour by the principal loaded on factor 7. A possible reason for this is that the items grouped together under factor one tended to indicate a direct supportive role of the principal, whereas this factor refers to how and to what extent the principal uses criticism to support educators. This factor consists of three items with a Cronbach's Alpha coefficient of 0.57, and a mean inter-item correlation of 0.30, which places the factor just within the limits of reliability. The three items have a loading larger than 0.50 and are: the principal uses constructive criticism, the principal explains his or her reasons for criticism to educators and lastly, most of the educators accept the shortcomings of their colleagues.

Item 12, grouped in the OCDQ-RE questionnaire under collegial behaviour of educators, also loaded on the factor: supportive behaviour or action of principal. The

Table 1 Factor pattern matrix

Item No.	Items	Factors (n = 9)								
		1	2	3	4	5	6	7	8	9
23	The principal treats educators as equals	.755								
29	The principal is easy to understand	.723								
28	The principal compliments educators	.708								
42	The principal goes out of his or her way to show appreciation to educators	.670								
16	The principal listens to and accepts educators' suggestions	.643								
22	The principal looks out for the personal welfare of educators	.606								
24	The principal corrects educators' mistakes	.578								
4	The principal goes out of his or her way to help educators	.570								
6	Educators leave school immediately after school is over		.685							
3	Staff meetings are useless		.646							
8	There is a minority group of educators that always opposes the majority		.545							
32	New educators are readily accepted by colleagues			.718						
40	Educators respect the professional competence of their colleagues			.686						
38	Educators provide colleagues with strong social support			.640						
19	Educators help and support each other			.618						
26	Educators are proud of their school	.389		.403						
1	The educators accomplish their work with vim, vigour and pleasure			.319				.314		

Table 1 continued

Item No.	Items	Factors (n = 9)								
		1	2	3	4	5	6	7	8	9
37	Educators socialize together in small, select groups				–.592					
21	Educators disturb one another when they talk at staff meetings		.315		–.339					
25	Administrative work is burdensome at this school					–.806				
36	Educators are burdened with unnecessary work					–.717				
11	Routine duties interfere with the job of teaching					–.401				
18	Educators have too many committee requirements		.327			–.386				
31	Administrative support reduces educators' paperwork	.323				.341				
5	The principal rules with an iron fist						–.752			
39	The principal is autocratic						–.695			
9	The principal uses constructive criticism							.693		
15	The principal explains his or her reasons for criticism to educators							.653		
12	Most of the educators here accept the faults of their colleagues							.520		
7	Colleagues visit each other at home								–.741	
13	Educators know the family background of other colleagues								–.599	
27	Educators arrange parties for each other								–.586	
2	Educators' closest friends are other colleagues at this school				.330				–.332	

Table 1 continued

Item No.	Items	Factors (n = 9)								
		1	2	3	4	5	6	7	8	9
14	Educators exert group pressure on nonconforming colleagues							.313	–.326	
20	Educators have fun socializing together during school time				–.479				–.300	
33	Educators socialize with each other on a regular basis			.579					–.318	
35	The principal checks lesson plans									–.703
30	The principal closely checks classroom (educator) activities									–.607
10	The principal checks the sign-in sheet every morning									–.594
34	The principal supervises educators closely	.305								–.511
41	The principal monitors everything educators do	.324								–.459
17	The principal schedules the work for the educators	.388								–.317
	Cronbach's alpha	.89	.49	.75	.44	.55	.61	.57	.61	.81
	Inter-item Correlation	.51	.24	.41	.21	.19	.44	.30	.18	.42

Loadings < 0.3 were suppressed because correlations smaller than 0.3 are not important in practice (Field, 2005:32).
1 = principal supportive behaviour; 2 = educator disengaged behaviour; 3 = educator collegial behaviour; 4 = educator disengaged behaviour; 5 = principal restrictive behaviour; 6 = principal directive behaviour; 7 = principal supportive behaviour; 8 = educator intimate behaviour; 9 = principal directive behaviour

reason for this can possibly be found in the meaning of the item, namely, most of the educators accept the shortcomings of their colleagues. The South African respondents possibly also considered the principal as a colleague or an educator able to accept the shortcomings of others and did not use it as criticism against other colleagues.

Apart from items 12, 17, and 24 which also loaded here, these two factors are in line with the original OCDQ-RE classification.

Factor 5: Restrictive behaviour of the principal

This factor obtained a Cronbach's alpha coefficient of 0.55 and a mean inter-item correlation of 0.19, which renders the factor reasonably reliable. The factor consists of five items, of which two obtained a loading larger than 0.70, namely, administrative paperwork is burdensome at this school, and educators are burdened with unnecessary work. The rest of the items indicate routine duties, committee requirements and administrative support, which can be seen as having a negative impact on their work environment (and hence the organizational climate of the school). This factor fully corresponds with the original OCDQ-RE findings.

Factors 6 and 9: Directive behaviour of the principal

In factor 6, the autocratic side of the directive behaviour of the principal is highlighted by only two items. The two items have a Cronbach's alpha of 0.61 and a mean inter-item correlation of 0.44, which renders the factor reliable. The two items are: the principal rules with an iron fist, and the principal is autocratic.

In factor 9, other items classified as directive in the original OCQE-RE research grouped together. In this factor, the actual or 'physical' action or involvement of the principal is highlighted as a second mode of directive behaviour of the principal. Five items grouped together under this factor, with a Cronbach's alpha of 0.81 and a mean inter-item correlation of 0.42. The latter values indicate the reliability of this factor. The items grouped together are: the principal checks lesson plans, the principal closely checks classroom (educator) activities, the principal checks the presence register every morning, the principal supervises educators closely, and the principal monitors everything educators do.

Item 24 (the principal corrects educators' mistakes), which in the original OCDQ-RE is grouped with directive behaviour, now grouped with supportive behaviour in the South African context.

Items 17 (the principal schedules the work for the educators), 34 (the principal supervises educators closely), 41 (the principal monitors everything educators do) and 17 (the principal schedules the work for the educators) also had loadings with factor 1 (supportive behaviour of principal). It can therefore be reasoned that these four items were regarded by the respondents as supportive as well as directive in the South African context. It will be explained later that this form of directive behaviour of the principal need not necessarily (in the South African context) be seen as a negative determinant of the organizational climate of the school, but rather as supportive behaviour by the principal.

Behaviour of the educators (Factors 2; 3; 4; and 8)

Factors 2 and 4: Disengaged behaviour of the educators

In this case, factors 2 and 4 dovetail with the original OCDQ-RE classification of disengaged behaviour or action of educators. These two factors, however, cannot be considered reliable as they obtained Cronbach's alpha coefficients of 0.49 and 0.44. The two factors together consist of six items, of which four obtained a loading greater than 0.50. One item in factor 4 (item 20) also grouped with the eighth factor (intimate behaviour of educators) as in the original OCDQ-RE. Items 6 and 37, in the original OCDQ-RE classified as collegial behaviour of educators, also loaded on this factor: educators leave school immediately after school and educators socialize together in small, select groups. It is understandable why these items grouped under disengaged behaviour of educators. Item 14 (educators exert group pressure on nonconforming colleagues), in turn, grouped under intimate behaviour and not disengaged behaviour, as in the case of the original OCDQ-RE classification.

Factor 3: Collegial behaviour of the educators

Factor 3 obtained a Cronbach's alpha coefficient of 0.75 and a mean inter-item correlation value of 0.41, which render this factor reliable. The factor consists of seven items, of which one (item 33) also loaded on factor 8 (intimate behaviour of educators) as in the original OCDQ-RE. Four of the remaining six items obtained a loading greater than 0.60 and are: new educators readily accepted by colleagues, educators respect the professional competence of their colleagues, educators provide colleagues with strong social support and educators help and support each other.

Item 38 also loaded onto this factor, whereas it was classified as intimate behaviour of educators in the original OCDQ-RE questionnaire. This difference can possibly be explained as follows: educators provide colleagues with strong social support. Items 6, 12, and 37 are not linked to collegial behaviour, as in the case of the original OCDQ-RE classification.

Factor 8: Intimate behaviour of the educators

Seven items grouped under this factor and obtained a Cronbach's alpha coefficient of 0.61 and a mean inter-item correlation of 0.18, so it can be regarded as reasonably reliable. The items have loadings ranging between –0.30 and –0.74 and are: colleagues visit each other at home, educators know the family background of other colleagues, educators arrange parties for one another, educators' closest friends are other colleagues at this school, and educators exert group pressure on nonconforming colleagues. The other items were: educators socialize with one another on a regular basis and educators have fun socializing together during school time.

Item 14 loaded on to intimate behaviour of educators and not, as in the original OCDQ-RE, under disengaged behaviour of educators. The thrust of the item was that educators tended to exert group pressure on their nonconforming colleagues. A possible reason for this shift lies in the fact that South African respondents saw non-

conforming colleagues as breaching intimate behaviour (the *Ubuntu* principle).

Item 38 did not group with intimate behaviour here, as in the original OCDQ-RE classification.

Confirmatory factor analysis on the data

Although the exploratory factor analysis to a large extent confirmed the construct validity of the measuring instrument, the data were further analysed by means of a confirmatory factor analysis by means of the structural equation models of the Amos Development Company instrument (Arbuckle, 2008). This analysis determines the extent to which the covariance matrix of the South African data fits the original co-variance model of the OCDQ-RE. The results of the goodness of fit indices are now discussed according to the guidelines given for structural equation models (Byrne, 2001).

- The chi-square test statistic was the original criterion for hypothesis testing and had to render a p value greater than 0.05 to indicate a good fit. However, this measure might be influenced by the sample size and in general is small when the sample size is large. Another measure should therefore be used to determine goodness of fit. The chi-square divided by the degrees of freedom is calculated to compensate for the sample size and should preferably be smaller than 2 to indicate a good fit.
- The Comparative Fit Index (CFI) has a value of between 0 and 1 and values above 0.9 indicate a good fit.
- The Root Mean Square Error of Approximation (RMSEA) should be as small as possible for a good fit. A 90% Confidence Interval (CI) for the criterion is also given, of which the upper limit should ideally be below 0.06, but it is acceptable if it is under 0.08.

The results of the confirmatory factor analysis with a Structural Equation Model (SEM) are portrayed in Figures 1 and 2. The following abbreviations are used for the latent variables in both the figures:

Behaviour of the principal:

PS: Supportive behaviour of the principal
PD: Directive behaviour of the principal
PR: Restrictive behaviour of the principal
PD1: Directive behaviour of the principal grouping with supportive behaviour
PD2: Directive behaviour of the principal indicating autocratic/directive behaviour

Behaviour of the educators:

EC: Collegial behaviour of the educators
EI: Intimate behaviour of the educators
ED: Disengaged behaviour of the educators

All the estimates for regression coefficients and correlations were significant.

The p value of the chi-square test statistic is small ($p < 0.001$), which indicates

that the model does not fit well. The chi-square test statistic divided by degrees of freedom yielded a value of 4.69, which also indicates that the model does not fit well. The CFI-value of 0.718 also does not indicate a good fit. The RMSEA yielded a value of 0.064 and 90% CI of [0.062; 0.066], thereby indicating a satisfactory fit (Blunch, 2008).

Taking into account the above goodness of fit measures, it can be said that the model does not fit well seeing that only one of the criteria for goodness of fit yielded a satisfactory value indicating that the instrument should be adapted to a South African context.

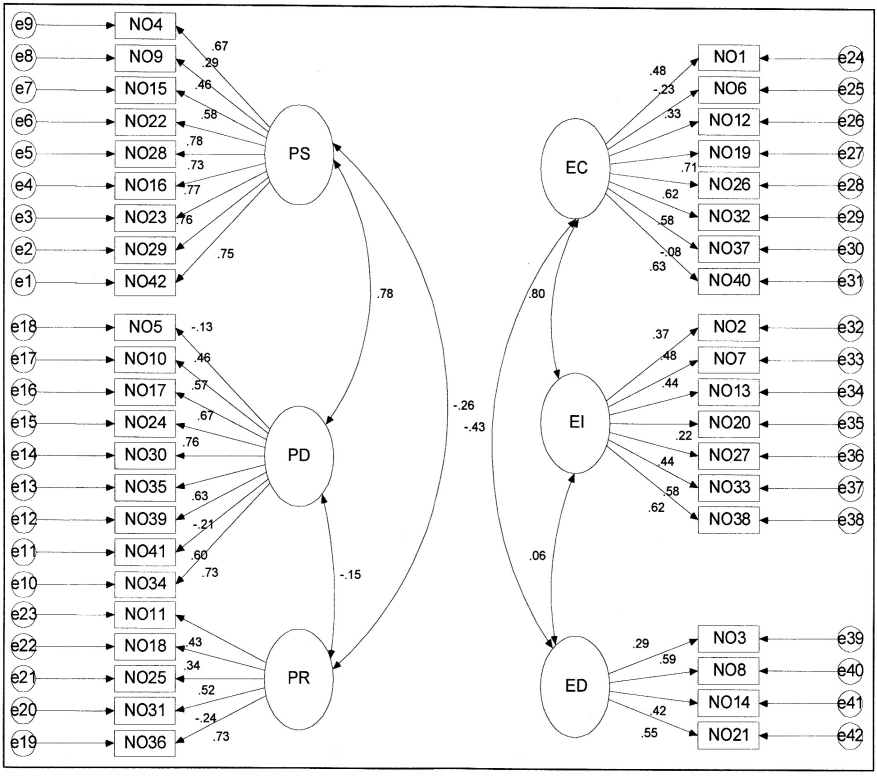

Figure 1 Confirmatory factor analysis of the six factors of the original OCDQ-RE questionnaire

Correlation between the supportive behaviour and the directive behaviour of the principal

In Figure 1, a positive correlation of 0.78 between supportive behaviour of the principal and directive behaviour of the principal was obtained. From this it can be deduced that the South African respondents experienced most items of supportive and directive behaviour to the same extent. In the case of the original OCDQ-RE respondents, however, it was found that there was a negative relationship between the two factors (Hoy & Tarter, 1997; Patterson, West, Shackleton, Dawson, Lawthorn, Maitlis, Robinson & Wallace, 2005). Only two of the items (items 5 and 39), both having to do with the autocratic behaviour of the principal, had negative regression coefficients.

From the large positive correlation, between supportive and directive behaviour of the principal, it can be deduced that there was a direct relation between items referred to in the original OCDQ-RE questionnaire as supportive behaviour by the principal and items referred to as directive behaviour by the principal. Items that amounted to the principal being directive, such as controlling, monitoring, checking, supervising, and correcting errors, were considered by the South African respondents as supportive.

The above trend in the South African context can possibly be attributed to the fact that the respondents tended to regard directive behaviour by the principal as being committed and supportive. A possible reason for this is that South Africa has a relatively new education system that involves many changes and which has the effect that educators require closer commitment and more support by principals.

Two items obtained a negative loading on the directive behaviour of the principal and will be discussed more fully as the second factor of this determinant.

Correlation between the supportive behaviour and the restrictive behaviour of the principal

There was a negative correlation between the above two factors $r = –0.26$). From this it can be deduced that the respondents did not view a principal who supports his staff as being limiting or restrictive.

Correlation between the directive behaviour and the restrictive behaviour of the principal

From the negative correlation of –0.15 it can also be deduced that there was a small negative relation between directive behaviour and restrictive behaviour of the principal. This confirms that respondents did not experience directive behaviour as negative.

Correlation between the collegial behaviour and the intimate behaviour of the educators

A very strong correlation of 0.80 was obtained between collegial behaviour and intimate behaviour of educators. This means that there was a very strong and positive relationship between these two factors. Educators who experience one another as collegial also experienced an intimate relationship with one another. According to the original research in the USA, there also was a strong correlation between these two factors (Hoy et al., 1991).

Correlation between the collegial behaviour and the disengaged behaviour of the educators

A negative correlation of –0.43 was obtained between the above two factors. From this it can be deduced that there was a negative relation between collegial behaviour and disengaged behaviour of educators – this is in line with the original OCDQ-RE research (Hoy et al., 1991).

Correlation between the intimate behaviour and the disengaged behaviour of the educators

A correlation of 0.06 was obtained, which indicates that there was almost no relation between intimate behaviour and disengaged behaviour of educators. Once again, this is in line with findings from the original OCDQ-RE research (Hoy et al., 1991).

The partitioning of the directive behavioural factor or action by the principal, as highlighted by the exploratory and confirmatory factor analyses, will now be discussed.

Partition of the factor: Directive behaviour of the principal

In the exploratory factor analysis, two items which measured directive behaviour by the principal loaded as a separate factor. The two items were: principal is autocratic and principal rules with an iron fist. These two items also obtained negative regression coefficients in the confirmatory factor analysis with regard to the latent variable, and for that reason it was decided to partition the directive behavioural factor into two factors. In Figure 2 the partitioning of the above factor (directive behaviour or action of the principal) is portrayed.

All the estimates for weights and correlations were, in this case, also statistically significant. The p value of the chi-square test statistic was small ($p < 0.001$), which indicates that the model did not fit well. The chi-square test statistic divided by degrees of freedom rendered a value of 4.342, which was slightly better than the original OCDQ-RE model. In this case, the CFI-value was 0.745, which also did not indicate a good fit, but which was still slightly better than the original OCDQ-RE model. The RMSEA in this case rendered a value of 0.061 with CI of [0.059; 0.063] and therefore also indicated a slightly better fit than before.

Taking into account the above goodness of fit measures, it can be said that the above model still did not fit very well. This finding confirms the results of the exploratory factor analysis which indicated that not all items grouped under the factors as indicated in the original OCDQ-RE research (Hoy et al., 1991).

Once the above two factors had been partitioned into two factors, the correlation with other factors changed; this will now be discussed.

Correlation between the directive/autocratic behaviour and the supportive behaviour of the principal

A correlation of –0.45 between the above two factors was obtained. From this it can

be deduced that the items of the new factor were negatively related to supportive behaviour by the principal, i.e. supportive principals were not autocratic, and vice versa.

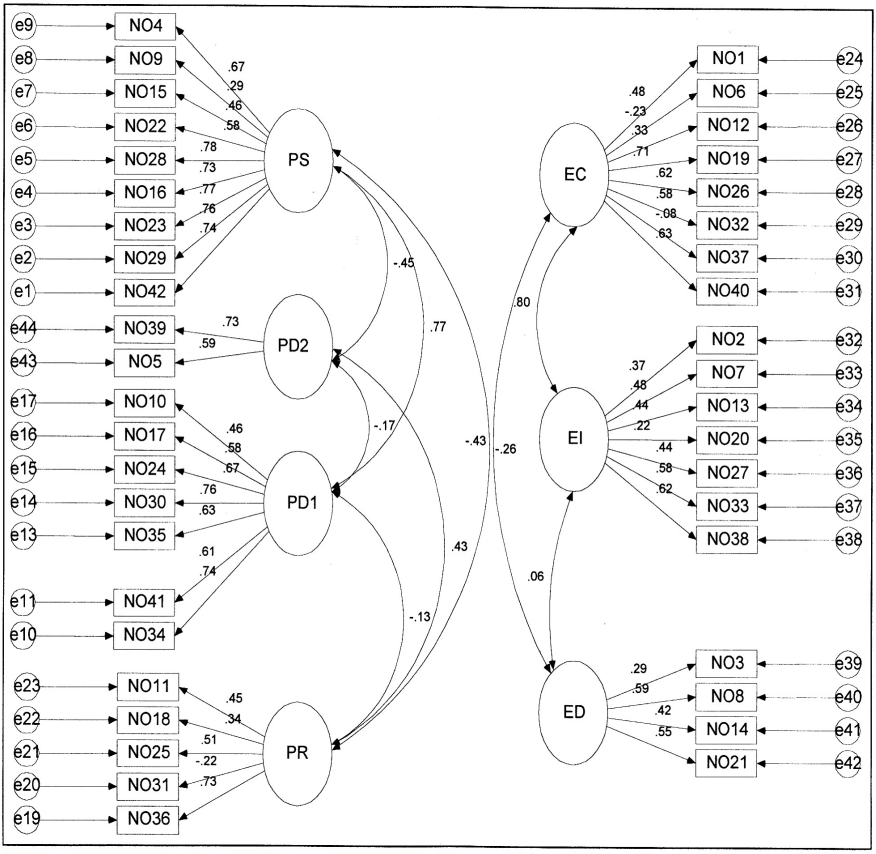

Figure 2 Confirmatory factor analysis with the partition of directive behaviour of the principal

This new construct (principals are autocratic and principals rule with an iron fist) can be regarded as the South African version of the directive behaviour of the principal and may be referred to as directive-autocratic actions by the principal. As a result of the negative correlation it can be said that respondents regarded the above behaviour of a principal as the opposite of supportive behaviour.

Correlation between the directive/supportive behaviour and the supportive behaviour of the principal

A correlation of 0.77 between the above two factors was observed. From this it can be deduced that the majority of items that were supposed to measure directive behaviour of the principal were strongly related to supportive behaviour by the principal. This confirms that behaviour of the principal such as controlling, monitoring, checking, supervising, and correcting errors was considered by the South African respondents as supportive rather than directive.

Correlation between the directive/autocratic behaviour and the directive/supportive behaviour of the principal

A correlation of –0.17 between the above two factors was obtained, and the deduction is that, in this case too, a small negative relation existed between the two factors. From this it can be deduced that when principals, for example, checked the lesson plans of educators, and scheduled their work for them, it was not regarded as negative behaviour by South African respondents, which contrasts with the experience described in the original OCDQ-RE research, where actions like the above were experienced as directive behaviour by the principal (Hoy et al., 1991).

Correlation between the directive/autocratic behaviour and the restrictive behaviour of the principal

Between these two factors a correlation of 0.43 was obtained. From this it can be deduced that there was a relation between the two factors. The South African respondents regarded an autocratic principal and a principal ruling with an iron fist as one who appeared to be restrictive in his/her workplace. In the original OCDQ-RE research there also was a strong correlation between a directive management style and restrictive action by the principal (Hoy et al., 1991).

The correlation values of the rest of the factors in the behaviour of the principal remained practically unchanged, and for that reason will not warrant further discussion.

A confirmatory factor analysis was also done, with black and white respondents as grouping factor, to determine whether the observed factor pattern could be due to cultural bias.

Confirmatory factor analysis with black and white respondents as grouping variable

A confirmatory factor analysis on black and white respondents as grouping variable was done to determine whether there was cultural bias with regard to the factor pattern. Only these two race groups were used seeing that other race groups formed only 4.8% of the respondents.

The Confirmatory Factor Analysis (CFA) indices for the fit between the two groups were:

χ^2 statistic p value = < 0.001
χ^2 divided by degrees of freedom = 2.91
CFI = 0.685
RMSEA = 0.033 with confidence interval [0.032; 0.034]

According to the chi-square divided by degrees of freedom and RMSEA goodness of fit measures obtained, the two population groups (black and white respondents) were not significantly different with regard to the results of the factor analyses. These results indicate that the results of the factor analyses, where the views of all the population groups were grouped together, were in line with the factor analyses for the two different population groups as such.

The reliability of the questionnaire

The reliability of the questionnaire for the South African context was determined to see whether the South African respondents had understood the questions. In Table 2, the Cronbach's alpha coefficients of the seven factors, as in Figure 2, are reported, as well as the mean inter-item correlation. These factors differed to some extent from factors identified in the exploratory factor analysis, and therefore the reliability values tend to differ as well.

Table 2 Reliability of seven factors

Behaviour	α	Mean inter-item correlation
Behaviour of the principal		
Supportive (PS)	0.874	0.440
Directive/supportive(PD1)	0.832	0.416
Directive/autocratic(PD 2)	0.610	0.438
Restrictive (PR)	0.551	0.194
Behaviour of the educators		
Collegial (EC)	0.664	0.211
Intimate (EI)	0.654	0.216
Disengaged (ED)	0.517	0.218

Table 2 indicates that the Cronbach's Alpha coefficient value of Directive-supportive (PD1) was 0.83 and of Directive-autocratic (PD2) 0.61, both of which can be accepted as reliable. The reliability of the other factors varied between 0.517 and 0.874 and the mean inter-item correlation between 0.194 and 0.440. Based on this, it can be said that the measuring instrument (OCDQ-RE) was reliable in the South African context.

Recommendations

The original OCDQ–RE measuring instrument can not be applied in an un-adapted

form in a South African context. South African respondents experienced, for instance, some of the items classified in the original OCDQ-RE research as supportive behaviour of a principal rather than as directive behaviour.

The two items: 'Principal is autocratic' and 'Principal rules with an iron fist' are not adequate to measure the newly defined construct *directive-autocratic behaviour* and more items should be included in this regard – which could possibly be tested in a follow-up study. The following items may be targeted for future research in order to extend this new construct:

- The principal acts rigidly when tasks are carried out and decisions are made.
- The principal is intolerant towards educators who experience problems when doing a task.
- The principal acts threateningly towards educators who make mistakes.
- The principal does not take personal needs into account when tasks must be performed.
- The principal takes one-sided decisions and will not negotiate further.
- The principal addresses educators who have transgressed in the presence of the rest of the staff.
- The principal discourages initiative shown by the staff.

The reliability of the above questions must, however, first be determined in the South African context before valid deductions can be made from them. A new Afrikaans and English questionnaire with 7 new items (total = 49 items) is available from the first author in this regard. Researchers may use this for validation and further research within the South African context. More schools, also in other provinces in South Africa, could be used as study populations.

Concluding remark

An instrument for measuring the organizational climate of schools, specifically validated for the South African context, would be of great value for purposes of improving the organizational climate in primary schools and hence the quality of education in the country. Further research is therefore needed for the validation of a new questionnaire specifically for the South African context.

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