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**THE MEDIATING EFFECT OF SCHOOL BASED  
MANAGEMENT ON CLIMATE, BUREAUCRACY AND  
EFFECTIVENESS IN NIGERIA SECONDARY SCHOOLS**



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## Abstrak

Keberkesanan sekolah adalah merupakan suatu isu global dalam kalangan pihak berkepentingan di bidang pendidikan terutamanya di negara-negara membangun yang menghadapi kesukaran untuk menyampaikan pendidikan yang berkualiti dengan meluas. Walau bagaimanapun, faktor dalaman dan luaran serta kerumitan pentadbir di sekolah membuat keputusan tidak dapat diramalkan, justeru itu birokrasi adalah cara yang berkesan dan sistematik yang boleh digunakan untuk mengkaji struktur organisasi dan tingkah laku manusia secara langsung. Kajian ini menyelidik kesan iklim sekolah dan birokrasi ke atas keberkesanan dengan pengantaraan hubungan melalui pengurusan berasaskan sekolah. Empat set instrumen diadaptasi daripada kajian Ruane (1995), MacKay dan Robinson (1966), Hoy dan Ferguson (1985) dan Bandur (2008) yang melibatkan sampel seramai 350 orang guru sekolah menengah di Negeri Kwara, Nigeria melalui kaedah tinjauan. Analisis awal data terdiri daripada analisis deskriptif, sementara ujian normal dan analisis komponen utama pula dilakukan melalui Pakej Statistik Sains Sosial (SPSS). Analisis Pemodelan Persamaan Berstruktur (SEM) dengan Analisis Struktur Momen (versi AMOS 23.0) digunakan untuk mengesahkan hipotesis yang dijana untuk kajian ini, dan menguji kesesuaian data berhubung dengan model yang dicadangkan. Dapatan kajian mendapati bahawa terdapat kesan pengantaraan hubungan pengurusan berasaskan sekolah terhadap birokrasi dan keberkesanan sekolah dan dalam masa yang sama juga analisa mendapati bahawa pengurusan berasaskan sekolah tidak menjadi perantara diantara iklim sekolah dan keberkesanan sekolah. Justeru itu, kajian ini mengesahkan teori berkaitan birokrasi keperluan di sekolah awam. Ia juga membuktikan bahawa walaupun iklim sebagai satu faktor utama, komposisi dan struktur sekolah berbeza mengikut konteks. Hal ini secara signifikan dapat meningkatkan kemampuan pentadbiran menggerakkan ahli secara kolektif bagi memperkukuhkan sistem sekolah.

**Kata kunci:** Iklim sekolah, Birokrasi, Keberkesanan sekolah, Pengurusan berasaskan sekolah, Sekolah menengah.

## **Abstract**

School effectiveness is a global issue among education stakeholders particularly in developing countries where difficulties in delivering quality education are widespread. However, internal and external factors in schools make school outcomes unpredictable, thus making bureaucracy an effective managerial and analytical tool which can be used to examine organizational structure and direct human behaviour. This study examined the effect of the school climate and bureaucracy on effectiveness by means of mediating the relationships through school-based management through a quantitative research of the cross-sectional survey type with population of 7,533 teachers. Four sets of instruments were adapted from the study of Ruane (1995), MacKay and Robinson (1966), Hoy and Ferguson (1985) and Bandur (2008) and were administered on a sample of 350 teachers in Nigeria secondary schools through a stratified random sampling of the proportionate method. The preliminary analysis of data was done through the Statistical Package of Social Sciences (SPSS). The Structural Equation Modelling (SEM) analysis with the Analysis of Moment Structures (AMOS 23.0 version) was employed to test the fitness of data in relation to the constructs in the model and further confirm hypotheses generated for this study. The findings of this study revealed that, the underlying predictors were true measure of their respective constructs. There was a mediating effect of school-based management on bureaucracy and school effectiveness while the other path analysis revealed that school-based management did not mediate between school climate and school effectiveness. This study expands theory on bureaucracy as bright side and validates the assertion that, bureaucracy is required in public schools. It further proves that, even though climate is a key factor in school, the composition and structure of school differ across context. This can significantly increase the administration's ability to collectively address member's interest and further strengthen the school system.

**Keywords:** School climate, bureaucracy, school effectiveness, school-based management, secondary schools.

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## **List of Abbreviations**

FGN	Federal Government of Nigeria
NPC	National Population Commission
NPE	National Policy on Education
USAID	United States Agency for International Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
OECD	Organization for Economic Co-operation and Development
UBE	Universal Basic Education
SBM	School Based Management
SDC	School Development Committee
CS	Committee System
SEM	Structural Equation Modelling
AMOS	Analysis of Moment Structures
SPSS	Statistical Package for Social Sciences
MoEHCD	Ministry of Education and Human Capital Development
SSCS	Saskatchewan School Climate Scale
SOI	School Organization Inventory
TALIS	Teaching and Learning International Survey
CFA	Confirmatory Factor Analysis
PCA	Principal Component Analysis
MCAR	Missing Completely at Random
MAR	Missing at Random
NMAR	Non-Ignorable Missing at Random
NCE	Nigeria Certificate in Education
ND	National Diploma
HND	Higher National Diploma
GFI	Good of Fit Index
RMSEA	Root Mean Square Error of Approximation
CFI	Comparative Fit Index
NFI	Normed Fit Index
AGFI	Adjusted Goodness of Fit Index
PNFI	Parsimonious Normed Fit Index

AVE	Average Variance Explained
DF	Degrees of Freedom
P-Value	Probability Value
CMIN ( $X^2$ )	Chi-Square
$X^2/DF$	Chi-square/Degrees of Freedom
SE	Standardized Estimates
CR	Critical Ratio
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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Introduction**

Education and has been regarded as the high contribution that any nation can use for the speedy improvement of an individual and material resources (FGN, 2013). It is a fundamental right that every citizen is expected to enjoy, that is why schools should provide a healthy environment that would help teacher and student maintain good behaviour necessary for achieving excellence.

There is no gain saying that secondary education is not only important but unique in the educational system of a nation. Secondary education which is the key transition stage from basic to tertiary is a fundamental level of education that offers to foster learner moral and intellectual capabilities in preparing them for independent and meaningful life and for further education. Having realised this, the Nigerian government has adopted education as an instrument for national development. Hence, an organization like secondary school is value driven with techniques and structures aiming at training the younger generation to be able to solve their immediate problems, perform their social responsibility, develop and promote world's cultural heritage and compete globally (Federal Government of Nigeria, 2013; USAID, 2012).

However, noteworthy progress in expanding capacity of secondary education has been attained by governments in their various countries, leading to a substantive growth in secondary education all over the world. This is evident in the 50% global rise recorded in the number of teachers in secondary schools from 20.3 million to 30.4 million

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## Appendix A

### Letter to Kwara State Government

Universiti Utara Malaysia  
Sintok, Kedah  
Malaysia  
25th May, 2006

The Honourable Commissioner,  
Ministry of Education and Human Capital Development  
Ilorin, Kwara State,  
Nigeria.

Sir,

25-05-2016

**REQUEST FOR DATA ON KWARA STATE SECONDARY SCHOOLS**

With due respect sir, I humbly request for some important information that will aid/assist me in my research work from your Ministry.


I am currently a student of Universiti Utara Malaysia, conducting research on school climate, bureaucracy and school effectiveness in Kwara State Secondary Schools, Nigeria. The information required include:

- The organization and administrative structure of Kwara State secondary schools. This include how schools are organized, ways in which decisions are made, those involved in decision making as well as the communication pattern;
- Current educational policy formulated in secondary schools to aid school performance;
- Human resources in secondary schools (this include the number of teachers by local government);
- No of secondary schools in Kwara State.

**NOTE:** All information required for both junior and senior secondary schools in Kwara State.

I shall be glad sir, if my request is considered.

Thank you for your anticipated support

Yours Sincerely,  
  
Habibul Abubakar Yusuf (900997)  
Universiti Utara Malaysia




PS: 1/6  
meat  
25/5

APRS 10025  
PS 1/6  
AD/RS  
1/6  
2/6  
SPOL(2)  
Babalogan  
02/08/16




## Appendix B

### Response Letter from Kwara State Government



**MINISTRY OF EDUCATION AND HUMAN CAPITAL DEVELOPMENT (MOEHCD)**  
**HEADQUARTERS**  
P.M.B. 1391, ILORIN, KWARA STATE  
Telegrams: SECEDUC Telephone: 031 221161, 220401, 220351, 223101, 220373, 221549  
Website: [www.kwaraeducation.com](http://www.kwaraeducation.com)

M/ME/PRS/112/1/Vol.II  
15<sup>th</sup> June 2016




Habibat, Abubakar Yusuf(900997)  
University Utara Malaysia  
Sintok, Keningau,  
Malaysia.

**RE: REQUEST FOR STATISTICAL DATA**

Reference to your letter dated 15<sup>th</sup> June 2016 requesting for Data. We here by reference from 2014/2015 ANNUAL SCHOOL CENSUS REPORT with the following Data on public Secondary school in the state with a soft copy attached.

- 1. Senior Secondary Schools Data
- 2. Thanks for your cooperation.



Ake Temitope A.  
For: Honorable commissioner

## Appendix C

### Letter of Introduction from UUM

 <b>AWANG HAD SALLEH</b> GRADUATE SCHOOL OF ARTS AND SCIENCES UUM College of Arts and Sciences Universiti Utara Malaysia 06010 UUM SINTOK KEDAH DARUL AMAN MALAYSIA	 <b>UUM</b> Universiti Utara Malaysia  Tel: (604-920) 5299/52995251 Faks (Fax): 904-929 5297 Laman Web (Web): <a href="http://uam.uum.edu.my">http://uam.uum.edu.my</a>
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"HIDAYAT KEDAH"

UUM/CAS/AHSGS/900997  
February 5, 2017

**TO WHOM IT MAY CONCERN**

Dear Sir/Madam,

**DATA COLLECTION FOR PROJECT PAPER/THESIS**

This is to certify that Madam **Habibat Abubakar Yusuf** (matric number: 900997) is a full time postgraduate student in Doctor of Philosophy (Education) at UUM College of Arts and Sciences.

She needs to do her field study and data collection for her project paper/thesis in order to fulfill the partial requirements of her graduate studies.

We sincerely hope that your organization will be able to assist her in the data collection and the distribution of the questionnaires for her research.

Thank you

**"KNOWLEDGE, VIRTUE, SERVICE"**

Yours faithfully,

  
**MOHD KHAIRY BIN MUKHTARUDDIN**  
Senior Assistant Registrar  
for Dean  
Awang Had Salleh Graduate School of Arts and Sciences  
UUM College of Arts and Sciences

---

Universiti Pengurusan Terkemuka  
The Eminent Management University



## Appendix D

### Letter of Cooperation to Teachers



Universiti Utara Malaysia,  
06010 UUM Sintok,  
Kedah Darul Aman, Malaysia  
Tel: (604) 9285299/5266/5251  
Fax: (604) 9285297/5298

Dear Teachers

#### ACADEMIC RESEARCH QUESTIONNAIRE

I am a doctoral student from the school of education and modern languages, College of Arts and Sciences, Universiti Utara Malaysia and currently working on my PhD thesis titled “The mediating effect of school-based management on school climate, bureaucracy and effectiveness in secondary schools in Kwara State, Nigeria”.

Please be assured that your responses will only be used for academic purpose. Hence, your identity will never be known throughout any part of the research process.

Thank you for taking your valuable time to fill in this questionnaire.

Yours Sincerely,

**Habibat Abubakar Yusuf**

***(Research Student)***

Awang Had Salleh Graduate School of Arts and Sciences  
UUM College of Arts and Sciences  
Universiti Utara Malaysia  
06010 Sintok, Kedah Darul Aman, Malaysia  
+601151152269

## Appendix E

### Research Questionnaires

#### Section A – Demographic Information

Kindly tick the appropriate information that fits your assessment.

(1) Gender:

Male [ ] Female [ ]

(2) Age Group:

Up to 25years [ ] 26-45years [ ] 46-55years [ ] 56 years+ [ ]

(3) Highest Academic Qualification:

NCE [ ] ND [ ] HND [ ] Bachelor Degree [ ]

Master Degree [ ] Others [ ]

(4) How long have you been working as a teacher?

Up to 5 years [ ] 6-10 years [ ] 11-15 years [ ]

16-20 years [ ] 20 years + [ ]

#### Section B: Perception of teachers on school climate, bureaucracy, effectiveness and school-based management in Kwara State secondary schools, Nigeria.

The following are a few number of statements about observation of teachers towards school. Please rate your opinion on your perception on the statements. The responses ranges from entirely disagree (1), mostly disagree (2), somewhat disagree (3), neither agree nor disagree (4), somewhat agree (5), mostly agree (6) and entirely agree (7).

##### I. School Climate

S/N	Items	<i>Disagree – Agree</i>						
		1	2	3	4	5	6	7
1	My school lacks materials needed to do my job effectively.	1	2	3	4	5	6	7
2	There is shortage of facilities.	1	2	3	4	5	6	7
3	The school lacks fund in introducing up-to-date materials.	1	2	3	4	5	6	7
4	Equipment are kept in usable condition.	1	2	3	4	5	6	7
5	My principal promote trust among staff	1	2	3	4	5	6	7
6	I show greater concern for other colleagues.	1	2	3	4	5	6	7
7	I am appreciated by other colleagues.	1	2	3	4	5	6	7
8	My mistakes are corrected by the principal.	1	2	3	4	5	6	7
9	The principal conveys clearer message to me.	1	2	3	4	5	6	7
10	I work together with other teachers	1	2	3	4	5	6	7
11	I socialise with other teachers outside school.	1	2	3	4	5	6	7
12	The principal checks my activities in the classroom.	1	2	3	4	5	6	7
13	I listen to student concerns in the classroom.	1	2	3	4	5	6	7
14	I monitor students' progress frequently.	1	2	3	4	5	6	7
15	The school emphasizes on showing respect for all students' cultural beliefs and practices.	1	2	3	4	5	6	7
16	I leave the school as classes finish.	1	2	3	4	5	6	7
17	The school formerly recognizes my effort.	1	2	3	4	5	6	7
18	The school review my work.	1	2	3	4	5	6	7

## II. Bureaucracy

Indicate the extent to which you agree to the statements about your activities in school

S/N	Items	<i>Disagree – Agree</i>						
		1	2	3	4	5	6	7
1	I am over loaded with administrative responsibilities.	1	2	3	4	5	6	7
2	I am assigned to teach in my subject area.	1	2	3	4	5	6	7
3	I freely carry out my responsibilities in class.	1	2	3	4	5	6	7
4	Aside teaching, I carry out administrative work.	1	2	3	4	5	6	7
5	Arrival and departure time are strictly enforced.	1	2	3	4	5	6	7
6	I am being checked for rule violations.	1	2	3	4	5	6	7
7	I am not expected to leave school without permission.	1	2	3	4	5	6	7
8	I strictly follow school operating procedures.	1	2	3	4	5	6	7
9	I make my own decisions independently.	1	2	3	4	5	6	7
10	Written orders are followed unquestionably.	1	2	3	4	5	6	7
11	I get directives from my principal.	1	2	3	4	5	6	7
12	I am assigned subject without regard for my relevant teaching experiences.	1	2	3	4	5	6	7
13	I am encouraged to use various teaching methods.	1	2	3	4	5	6	7
14	Promotions are based on how well I do my job.	1	2	3	4	5	6	7
15	Past teaching experiences plays a large part in my assignment in this school.	1	2	3	4	5	6	7
16	I sponsor extra-curricular activities which I have no suitable background of.	1	2	3	4	5	6	7
17	Nothing is said if I get to school late.	1	2	3	4	5	6	7
18	I easily get discouraged when making decisions.	1	2	3	4	5	6	7
19	There isn't much chance for promotion unless you are "in" with the administration	1	2	3	4	5	6	7
20	I consider gravity of an offence while deciding on the appropriate penalty	1	2	3	4	5	6	7

### III. Effectiveness

What is the level of your agreement to the following statements?

S/N	Items	<i>Disagree– Agree</i>						
		1	2	3	4	5	6	7
1	I want to be identified with this school.	1	2	3	4	5	6	7
2	My school is a great place to work.	1	2	3	4	5	6	7
3	I am willing to put in significant effort in my work.	1	2	3	4	5	6	7
4	I use variety of teaching strategies to help student learn.	1	2	3	4	5	6	7
5	I use computer to strengthen my skills.	1	2	3	4	5	6	7
6	<u>I encourage students to seek extra lesson to get better grades.</u>	1	2	3	4	5	6	7
7	I work on development plan of this school.	1	2	3	4	5	6	7
8	The development plan improves my work.	1	2	3	4	5	6	7
9	I get suggestions on how to improve my teaching.	1	2	3	4	5	6	7
10	I work according to the school goals	1	2	3	4	5	6	7
11	Task oriented atmosphere is fostered in my school.	1	2	3	4	5	6	7
12	I accept changes.	1	2	3	4	5	6	7
13	I quickly adjust when changes are made.	1	2	3	4	5	6	7
14	Articulations with other schools are encouraged.	1	2	3	4	5	6	7
15	I cope with disruptions.	1	2	3	4	5	6	7
16	My suggestions are accepted by the school.	1	2	3	4	5	6	7
17	I am involved in school activities.	1	2	3	4	5	6	7
18	I participate in decision making at school.	1	2	3	4	5	6	7
19	I make informal contacts with other teachers.	1	2	3	4	5	6	7

#### IV. School-Based Management

What is the level of your agreement to the following statements?

S/N	Items	<i>Disagree– Agree</i>						
		1	2	3	4	5	6	7
1	My workload has increased significantly under the school council structure.	1	2	3	4	5	6	7
2	There are adequate provisions for me to seek help to reduce my work load.	1	2	3	4	5	6	7
3	I think school-based management is the type of reform that school needed for better quality and improvement of student achievement.	1	2	3	4	5	6	7
4	I have opportunity to seek advice and support from other stakeholders.	1	2	3	4	5	6	7
5	The school-based policies, programs and actions have significantly improved the student achievements.	1	2	3	4	5	6	7
6	The stakeholders' participation has improved my motivation.	1	2	3	4	5	6	7
7	I consider myself as a team member.	1	2	3	4	5	6	7
8	I discuss with the principal on the strategies to implement changes.	1	2	3	4	5	6	7
9	School based management has created higher participation of stakeholders leading to improve student achievements in school.	1	2	3	4	5	6	7
10	The changing school culture resulting from implementation of school-based management has improved student achievements.	1	2	3	4	5	6	7



## Appendix F

### Yamane (1967) Sample Size Table

**Table 1.** Sample size for  $\pm 3\%$ ,  $\pm 5\%$ ,  $\pm 7\%$  and  $\pm 10\%$  Precision Levels Where Confidence Level is 95% and  $P=.5$ .

Size of Population	Sample Size (n) for Precision (e) of:			
	$\pm 3\%$	$\pm 5\%$	$\pm 7\%$	$\pm 10\%$
500	a	222	145	83
600	a	240	152	86
700	a	255	158	88
800	a	267	163	89
900	a	277	166	90
1,000	a	286	169	91
2,000	714	333	185	95
3,000	811	353	191	97
4,000	870	364	194	98
5,000	909	370	196	98
6,000	938	375	197	98
7,000	959	378	198	99
8,000	976	381	199	99
9,000	989	383	200	99
10,000	1,000	385	200	99
15,000	1,034	390	201	99
20,000	1,053	392	204	100
25,000	1,064	394	204	100
50,000	1,087	397	204	100
100,000	1,099	398	204	100
>100,000	1,111	400	204	100
a = Assumption of normal population is poor (Yamane, 1967). The entire population should be sampled.				

## Appendix G

### School Climate CFA Model Fit Summary

#### CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	29	122.722	37	.000	3.317
Saturated model	66	.000	0		
Independence model	11	2055.242	55	.000	37.368

#### RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.123	.940	.892	.527
Saturated model	.000	1.000		
Independence model	1.113	.340	.208	.283

#### Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
Default model	.940	.911	.958	.936	.957
Saturated model	1.000	1.000	1.000	1.000	1.000
Independence model	.000	.000	.000	.000	.000

#### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.673	.633	.644
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

#### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.081	.066	.098	.001
Independence model	.323	.311	.335	.000

## Bureaucracy

### CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	34	208.175	57	.000	3.652
Saturated model	91	.000	0		
Independence model	13	2643.290	78	.000	33.888

### RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.172	.918	.869	.575
Saturated model	.000	1.000		
Independence model	1.279	.286	.167	.245

### Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
Default model	.921	.892	.942	.919	.941
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.731	.673	.688
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.087	.075	.100	.000
Independence model	.307	.297	.317	.000

## School Based Management

### CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	10	11.976	5	.035	2.395
Saturated model	15	.000	0		
Independence model	5	1082.850	10	.000	108.285

### RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.054	.987	.960	.329
Saturated model	.000	1.000		
Independence model	1.790	.369	.054	.246

### Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
Default model	.989	.978	.994	.987	.993
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.500	.494	.497
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.063	.015	.110	.266
Independence model	.554	.527	.583	.000

## School Effectiveness

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	28	73.025	38	.001	1.922
Saturated model	66	.000	0		
Independence model	11	2766.097	55	.000	50.293

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.069	.965	.938	.555
Saturated model	.000	1.000		
Independence model	1.501	.229	.075	.191

Baseline Comparisons

Model	NFI	RFI	IFI	TLI	CFI
Default model	.974	.962	.987	.981	.987
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.691	.673	.682
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.051	.033	.069	.425
Independence model	.376	.364	.388	.000

## Appendix H

### SEM Output for the Model

#### Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
SB	<---	BR	.954	.116	8.217	***	par_30
SB	<---	SC	.015	.102	.149	.882	par_31
SE	<---	BR	.471	.088	5.328	***	par_29
SE	<---	SC	.097	.062	1.563	.118	par_32
SE	<---	SB	.342	.054	6.382	***	par_33
CP1	<---	BR	1.000				
CP4	<---	BR	1.017	.065	15.697	***	par_1
CP3	<---	BR	1.075	.068	15.805	***	par_2
HR3	<---	BR	.873	.057	15.328	***	par_3
HR2	<---	BR	.897	.058	15.500	***	par_4
RL1	<---	BR	.993	.068	14.615	***	par_5
RL3	<---	BR	.769	.057	13.566	***	par_6
DL4	<---	BR	.700	.061	11.417	***	par_7
DL2	<---	BR	.756	.058	12.961	***	par_8
DL3	<---	BR	.775	.061	12.660	***	par_9
ML2	<---	SC	1.000				
ML3	<---	SC	.838	.049	17.028	***	par_10
ML4	<---	SC	.983	.060	16.451	***	par_11
SS1	<---	SC	.721	.059	12.290	***	par_12
EC1	<---	SC	.942	.053	17.691	***	par_13

			Estimate	S.E.	C.R.	P	Label
EC3	<---	SC	.660	.053	12.506	***	par_14
EC2	<---	SC	.799	.054	14.761	***	par_15
SBM9	<---	SB	1.000				
SBM8	<---	SB	.835	.049	17.133	***	par_16
SBM6	<---	SB	.891	.046	19.450	***	par_17
SBM4	<---	SB	.974	.049	19.756	***	par_18
SBM3	<---	SB	.784	.048	16.229	***	par_19
PD5	<---	SE	1.000				
PD6	<---	SE	.964	.059	16.273	***	par_20
PD4	<---	SE	.883	.054	16.331	***	par_21
CM2	<---	SE	.995	.056	17.830	***	par_22
CM4	<---	SE	.985	.052	18.961	***	par_23
CM1	<---	SE	.980	.058	16.912	***	par_24
AD2	<---	SE	.742	.054	13.723	***	par_25
AD1	<---	SE	1.064	.060	17.643	***	par_26
CM3	<---	SE	1.020	.054	19.009	***	par_27
CH2	<---	SE	.663	.055	11.983	***	par_28

**Standardized Regression Weights: (Group number 1 - Default model)**

	Estimate
SB <--- BR	.819
SB <--- SC	.013
SE <--- BR	.477
SE <--- SC	.098
SE <--- SB	.404
CP1 <--- BR	.769
CP4 <--- BR	.778
CP3 <--- BR	.785
HR3 <--- BR	.772
HR2 <--- BR	.787
RL1 <--- BR	.748
RL3 <--- BR	.705
DL4 <--- BR	.597
DL2 <--- BR	.663
DL3 <--- BR	.647
ML2 <--- SC	.839
ML3 <--- SC	.770
ML4 <--- SC	.754
SS1 <--- SC	.621
EC1 <--- SC	.816
EC3 <--- SC	.630
EC2 <--- SC	.725
SBM9 <--- SB	.846



	Estimate
SBM8 <--- SB	.778
SBM6 <--- SB	.834
SBM4 <--- SB	.840
SBM3 <--- SB	.754
PD5 <--- SE	.800
PD6 <--- SE	.765
PD4 <--- SE	.767
CM2 <--- SE	.826
CM4 <--- SE	.862
CM1 <--- SE	.793
AD2 <--- SE	.678
AD1 <--- SE	.818
CM3 <--- SE	.863
CH2 <--- SE	.602

## APPENDIX I

### Modification Index for School Climate

			M.I.	Par Change
e11	<-->	Social_Sys	10.175	.247
e9	<-->	Social_Sys	10.367	-.261
e9	<-->	Milieu	8.488	.251
e5	<-->	e10	4.744	.172
e5	<-->	e9	9.967	-.269
e4	<-->	e11	4.730	.177
e4	<-->	e10	4.666	-.171
e3	<-->	Milieu	5.219	.137
e2	<-->	Culture	5.815	.221
e2	<-->	e10	4.296	.176
e2	<-->	e5	4.140	-.142
e2	<-->	e3	7.876	-.182
e1	<-->	Milieu	7.234	-.169
e1	<-->	e2	6.979	.178
e8	<-->	Culture	4.153	.155
e8	<-->	Milieu	4.161	-.112
e8	<-->	e10	8.769	.208
e7	<-->	Social_Sys	9.602	-.162
e7	<-->	e10	6.170	-.165
<b>e7</b>	<b>&lt;--&gt;</b>	<b>e9</b>	<b>23.504</b>	<b>.348</b>
e6	<-->	Social_Sys	5.620	.157
e6	<-->	Culture	12.904	-.328
e6	<-->	e10	4.103	-.170
e6	<-->	e7	5.495	.132

## APPENDIX J

### MODIFICATION INDEX FOR BUREAUCRACY

			M.I.	Par Change
e4	<-->	Imp	5.420	.169
e10	<-->	Comp	11.528	-.223
e10	<-->	Hier_Rule	13.944	.212
<b>e10</b>	<b>&lt;--&gt;</b>	<b>e4</b>	<b>16.339</b>	<b>.286</b>
e9	<-->	e4	23.458	-.323
e8	<-->	Comp	4.768	.125
e8	<-->	Hier_Rule	15.714	-.199
e13	<-->	e4	4.203	.129
e13	<-->	e10	6.219	-.193
e13	<-->	e8	10.640	.223
e11	<-->	Div_Labour	8.565	-.191
e11	<-->	Hier_Rule	4.728	.122
e11	<-->	e10	6.607	-.224
e11	<-->	e8	5.379	-.179
e7	<-->	Comp	18.274	.291
e7	<-->	Hier_Rule	4.034	-.116
e7	<-->	e8	4.520	-.166
e7	<-->	e12	5.896	.196
e6	<-->	Comp	10.376	-.225
e6	<-->	e10	4.413	.190
e6	<-->	e12	14.498	-.316
e5	<-->	e9	8.207	-.254
<b>e5</b>	<b>&lt;--&gt;</b>	<b>e8</b>	<b>16.532</b>	<b>.340</b>
e5	<-->	e11	8.459	-.277
e3	<-->	Imp	9.793	.285
e3	<-->	e8	5.246	-.181
e2	<-->	Imp	10.507	-.237
e2	<-->	e9	5.067	.151
e2	<-->	e6	4.002	-.150
e1	<-->	Imp	5.112	-.176
e1	<-->	e9	9.584	.221
e1	<-->	e8	9.598	-.209
e1	<-->	e13	9.985	-.214
e1	<-->	e11	11.951	.264