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Relationship Between School Autonomy and Students' Academic Achievement in Government Secondary Schools in East Hararghe Zone, Oromia Regional State, Ethiopia

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Abstract: The aim of school autonomy is to improve the education quality by independence and flexibility in managing existing resources. Regardless of this trend, amazingly little is known about how schools use autonomy in practice, and there were many controversies regarding the relationship between school autonomy and students' academic achievement. Therefore, the purpose of this study was to examine the magnitude of relationship between the areas of school autonomy and students' academic achievement in the secondary schools in the study area. The study employed adescriptive-correlational survey research design with a mixed methods approach. A total of 522 respondents (secondary school principals n=20, teachers n=347, and zone and district education office experts n=155) were used as samples. The sample schools were selected by stratified random sampling and the respondents were selected by simple random sampling using RAND or RANDBETWEEN function on Microsoft Excel. Closed-ended questionnaires were employed for gathering quantitative data from the respondents, and concurrently telephone interview and document analysiswere conducted to collect the qualitative data. The Pearson correlation and multiple regression statistical tests were used to measure and describe the significance of the association (or relationship) between the variables or sets of scores. Moreover, t-test was also conducted to test the difference between the teachers and experts. Analysis of the results demonstrated that majority of the respondents perceived school autonomy positively. Moreover, even though the flow of improvement was not constant, it seems that there were few improvements in students' academic achievement as a result of the practices of school autonomy. The findings also show that there were a number of constraining factors of school autonomy in the study area. The overall conclusion drawn from the results of this study was that: granting autonomy to secondary schools may be the best idea for the better performance of educational systems in the study area along with removing the constraining factors such as lack of training, knowledge, directives/guidelines and school facilities, and financial corruption. Furthermore, similar to many of the developed countries, practice of school autonomy in developing countries was also one of the means to improve students' academic achievement. Therefore, it can be recommended that the national, regional and district education authorities and researchers have to focus on implementation of the school autonomy along with building the capacity of the school leaders.

Keywords: Academic Autonomy, Financial Management Autonomy, Personnel Management Autonomy, School Autonomy, Students' Academic Achievement

1. Introduction

Over the past two decades, many countries have increasingly seen in school autonomy (SA) the way forward to raise students' academic achievement (SAA). The main rationale for increasing autonomy is to transfer more power to those who have better information on how to run their school, such as school principals or school governing bodies

[4, 16, 2, 17]. Moreover, the questions of SA and SAA have been on the agendas of educational policymakers andthe international research agenda since 1980s with the rise of The New Public Management (NPM) Policy paradigm [29]. This policy paradigm implies that schools need to be given autonomy to manage their operations that brings the schools better performance.

Devolution of school management decision-making from the central to local governmentsand to schools has become a universalfeature of educational policies due to distribution of this approach by international organizations such as Organization for Education andCultural Development (OECD) [33, 30]. Advancement in the area of SAis promoted andmeasured by international education studies conducted by OECD such as Teaching andLearning International Survey (TALIS) and the World Bank's assessment scale forbenchmarking SA (SABER) [5].

The devolved decisions can be financial management (for example, decisions about how budgets should beallocated and utilized within a school; decisions about raising funds for particular activities within a school), personnel management (for example, human resource decisions, such as the monitoring of teacher performance and the power to hire and fire teachers) or related to the curriculum and/or pedagogy (for example, decisions about how elements of a national curriculum will be taught, student assessment within a givenschool, and decision of pass mark) [8].

A key factor affecting school system functioning is its degree of decentralization, which should allow schools to be more autonomous in their decision-making and in the planning and use of their human and financial resources [15]. By giving more autonomy to schools, local communities can receive education that is more tailored to their needs, which should increase the demand for schooling. By giving schools, more decision-making power local communities can give schools more support and, in turn, hold them more accountable for their teaching-learning performance that leads to SAA [9]. Therefore, this is one of the major reasons that initiated the researcher to select this research title.

Improving SAA relies on the smooth functioning of a system comprised of many interconnected factors. It is widely accepted that for education to yield good results, there has to be a proper mix of teacher quality, school curriculum, school environment, home environment, and other factors that motivate students and teachers to apply themselves and increase student knowledge [32]. The interaction among these factors is complex [31], but in order to use education policy effectively it is necessary to understand the internal efficiency of those factors considered pivotal for improving learning. The analysis of the most important factors affecting education is a necessary step to understand how an education system should change in order to improve its outcomes [5].

It is noteworthy that school autonomy is not the same everywhere: in different countries, schools have been granted the decision-making right to different extents and in different areas [14, 3]. Depending on the context, the education system can be decentralized in one area, but centralized in another [23]. For instance, the degree of autonomy in schools of the same country may vary depending on the principles of education management in the region and the extent to which the school is ready to be autonomous. Therefore, one of the major purposes of this study was to examine the existing level of degree of autonomy in schools in the study area.

Students perform significantly better in schools that have autonomy in process and personnel decisions such as budget allocations, hiring and firing teachers in addition to the choice of textbooks and methods of instruction [20]. Moreover, [27] shows that autonomy in hiring of teachers heightens school effectiveness. Autonomy in staffing decisions also proves to positively affect students' test scores in mathematics based on the PISA 2003 database [35]. Likewise, [18] report a positive relation of SA in management on educational outcomes in the United Kingdom and Argentina respectively. Similarly, [19] provides evidence of a positive effect of school autonomy on learning in Europe.

On the other hand, autonomy in some areas can lead to negative consequences. Hanusheket al. [21] as well as Woessmann L. et al. [35] argue that school autonomy regarding budget formulation and teacher autonomy regarding subject topics to be covered in class have a negative impact on student test scores. In addition to this, [34] found that school autonomy in budget formulation has a negative effect on student test scores in both mathematics and sciences.

A number of impact studies of school autonomy on SAAhavebeenconductedina number of countries. A study in Boston found that there was increase in mathematics results of consecutive yearsin schools practicing the autonomy [1]. A study of the Harlem Children's Zone, a program that focuses on the poorest minority students in that neighborhood, found that students in autonomous school system scored better results in mathematics and English [16]. In addition to this, World Bank reported that in most developing countries, SBM has produced only modest gains in student learning and it did not correlate with increased learning outcomes [36].

In view of the above-mentioned empirical evidences, this study seeks to establish the relationship between the various dimensions of SA such as PMA, FMA and AA, and SAA in the SSs in the study area. The dimensions of SA were many as listed by different literatures from countries in the globe. This study was based on the dimensions of SA listed out and used by [26]. They pointed out that autonomy can be categorized into three namely: administrative/management/ autonomy, academic autonomy, and financial autonomy.

Studies conducted at national level on SBM and decision-making in Ethiopian government schools found out that the schools constrained the process of devolving decision-making authority to school level, that is, lack of autonomy [37]. In addition to this, in Ethiopia, educational decentralization had not achieved the intended objectives and there is acute implementation of local governance policy,

which means school autonomy is at its infant stage in the Secondary Schools (SSs) [6].

As can be concluded from the above evidences, there is a need for governments and perhaps international agencies to invest on SA innovations at the school level and to disseminate examples of best practices of SA reforms from around the world. Therefore, these could be the major reasons for the researcher to investigate the relationship between SA and SAA, which in turn showed whether the autonomy is successful or not in the case of the study area.

Therefore, this study was aimed at addressing the following research questions based on the above presented practical and research gaps.

1. How do the principals, teachers and education office experts perceive school autonomy?
2. Have there been improvements in the students' academic achievement as a result of the school autonomy?
3. What are the constraining factors of school autonomy in the secondary schools?

2. Research Design and Methodology

2.1. Study Design

Research design is defined as a procedure for collecting, analyzing, interpreting, and reporting data in research study. Accordingly, for this study the researcher preferred to use a convergent parallel mixed method design. A convergent/concurrent/ parallel mixed method is a form of mixed methods design in which the researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. The convergent parallel mixed methods approach is probably the most familiar of the basic and advanced mixed methods strategies [13]. In this design, the researcher typically collected both forms of data at roughly the same time and then integrated the information in the interpretation of the overall results.

The purpose of the convergent design is to obtain different but complementary data on the same topic to best understand the research problem. It is an efficient design, in which both types of data are collected during one phase of the research at roughly the same time. The intent in using this design is to bring together the differing strengths and non-overlapping weaknesses of quantitative methods (large sample size, trends, generalization) with those of qualitative methods (small sample, details, in depth).

2.2. Sources of Data

2.2.1. The Primary Sources

The primary sources of data for this study were teachers, principals, PTA chairmen, Supervisorsand experts of districts, towns and zone education offices. The data were collected using questionnaires and interview.

2.2.2. The Secondary Sources

The secondary sources of data were grade 10 or 12 students' examination results, school inspection documents, and related guidelines/directives in the sample SSs and the respective education offices.

2.3. Population, Sample Size and Sampling Techniques

2.3.1. Population of the Study

This study targeted all 2169 teachers and 57 principals in the 57 government secondary schools, 24 secondary school supervisors and 313 school improvement program (SIP), learning assessment, and teachers and school leaders' development experts of districts and zone education offices in East Hararghe Zone, Oromia, Ethiopia. There were 58 government secondary schools in the zone, out of which only 1 was private secondary school. That means, the study targeted the 57 government secondary schools. Accordingly, as briefly calculated and sampled below the total number of participants of this study were 347 teachers from the 28 schools and 155 office experts from the 17 district offices and 1 zone office were respondents of questionnaires to gather quantitative data, and 20 principals sampled out of the 28 schools were interviewees to gather qualitative data. Therefore, 522 participants were respondents of quantitative and qualitative data gathering tools of the study.

2.3.2. Sample Size and Sampling Techniques

The researcher applied simple random sampling to obtain the sample of the population of the study. The simple random sampling technique is used to select the sample teachers, which is based on the assumption that it gives equal chances for the respondents to participate in the research. Kothari, K. [24] argued that simple random sampling is lottery method, which provides each items of the population equal chance of inclusion in the sample. Moreover, simple random sampling is a good way to select a sample; it is rational to generalize the results from the sample back to the population.

The secondary schools from which samples were drawn are not homogeneous, that is, some are very young while others are too old, some are with small staff and students' size while others are with large staff and students' size, and also there were demographic differences between them. Stratified random sampling was used to make the schools more homogeneous, and this stratified sampling may results in more reliable and detailed information. Therefore, the schools were divided in to two strata based on the size of their staff and students that is, stratified in to small secondary schools and large secondary schools that were clearly shown in the following figure.
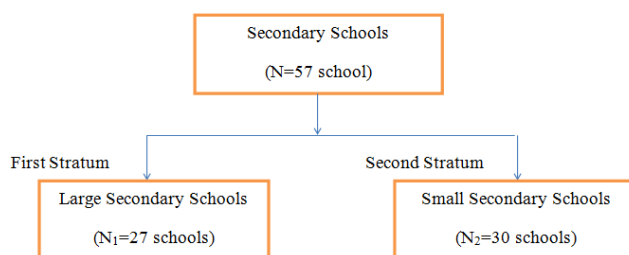

Figure 1. *Stratification of the Secondary Schools.*

After the stratification, the researcher used [38, 12] correction formula for determining representative sample size from each stratum. That is, by using simple random sampling *n* units are selected out of a population of size N_1 and N_2 by giving equal probability to all units. Accordingly, to calculate n_1 from N_1 using Yamane (1967) formula, $n_1 = \frac{N_1}{1+N_1(e)2}$ where n_1 is the required sample size from the first stratum, N_1 is the total population size of the first stratum and e is the desired level of precision, $n_1 = \frac{27}{1+27(0.05)2} = 25$ and then, using Cochran (1977) correction formula to calculate the final sample size, $n_1 = \frac{25}{1+(25-1)/27} = 13$ SS will be selected to be sample SSs from the first stratum. Similarly, to calculate n_2 from N_2 using Yamane (1967) formula, $n_2 = \frac{N_2}{1+N_2(e)2}$ where n_2 is the required sample size from the second stratum, N_2 is the total population size of the second stratum and e is the desired level of precision, $n_2 = \frac{30}{1+30(0.05)2} = 28$ and then, using [12] correction formula to calculate the final sample size, $n_2 = \frac{28}{1+(28-1)/30} = 15$ SS will be selected to be sample SSs from the second stratum.

As calculated above, from the first stratum 13 schools were sample and from the second stratum 15 schools were sample. Therefore, the total sample size of the secondary schools was 28 schools. Therefore, the 28 sample schools were selected using simple random sampling as clearly discussed below.

To select the 28 sample SSs, the RAND or RANDBETWEEN function on Microsoft Excel will be used to assign a random number to each name of schools in each stratum, and to randomly pick the 28 sample SSs using an Index Rank formula retrieved from the study of Cheusheva S. was used separately for each stratum [11].

As a result; the selected 13 sample SSs from the first stratum were: Adele, Babile, Bedeno, Boko, Chelenko, Deder, Gurawa, Gursum, Harewacha, Karamile, Kobo, Kulubi, and KurfaChele. Similarly, the selected 15 sample SSs from the second stratum were: Ale, Bika, Chinaksen, Fechatu, Felana, GoroGudo, Harew, Karemekela, Koromi, Langey, Manjelo, OdaBishani, ShekBekri, Ugaz and Wayu.

To determine the target sample size of teachers from the 28 sample SSs, using simple random sampling technique, the formula of [38] is used assuming 95% confidence level. Thus, out of the 2169 teachers of the 57 government SSs, $n = \frac{2169}{1+2169(0.05)2} = 338$ teachers are taken as a target sample from the SSs. To represent equal proportions of sample teachers for each SSs the formula $Ps = \frac{n}{N}X$ is used, where, Ps=Proportional allocation to sample size, n is total teachers' sample size, N=Total number of teachers in the 28 SSs and X=number of teachers in each sample schools. For example, for Adele SS, Ps=$\frac{338}{1207} * 50 = 0.28*50 = 14$. That is, 14 teachers were used as sample teachers from Adele SS, and the same procedure was applied for other sample schools as shown in the table 1 below. Accordingly, 347 teachers were taken as a participant of this study. For detail information the list of respondents were included in the table below (see table 1).

Table 1. Population and Sample Size of the Secondary School Teachers.

| S. N. | Sampling of secondary school teachers | | | |
	Sample Schools	Total Teachers	Sample Teachers	Sample in%
1	Adele	50	14	28
2	Ale	20	6	30
3	Babile	53	15	28
4	Bedeno	86	24	28
5	Bika	25	7	28
6	Boko	43	12	28
7	Chelenko	105	29	28
8	Chinaksen	43	12	28
9	Deder	94	26	28
10	Fechatu	29	8	28
11	Felana	28	8	28
12	GoroGudo	16	4	25
13	Gurawa	95	27	28
14	Gursum	75	21	28
15	Harew	20	6	30
16	Harewacha	53	15	28
17	Karamile	78	22	28
18	Karemekela	25	7	27
19	Kobo	52	15	28
20	Koromi	10	3	30
21.	Kulubi	54	15	28
22.	KurfaChele	66	18	27
23.	Langey	25	7	27
24.	Manjelo	13	4	30
25	OdaBishani	20	6	30
26	ShekBekri	26	7	27
27	Ugaz	13	4	30
28	Wayu	18	5	28
	Total	1235	347	28

Source: East Hararghe Zone Education Office, December 2019.

To select the 347 sample teachers the RAND or RANDBETWEEN function on Microsoft Excel was used to assign a random number to each name of teachers. First, a name list of all teachers in the schools were collected from each sample schools and feed in to Excel separately. Then, 347 sample teachers were randomly picked using an Index Rank formula retrieved from https://www.ablebits.com. Therefore, using this randomization method, names of sampled teacher were generated for the 28 sample schools separately according to the number of sampled teachers shown in table 1 above. The 347 teachers were provided with questionnaires prepared for teachers to gather their responses.

Moreover, the 15 districts and 2 town administrations, and zone education offices (total of 18 education offices) of East Hararghe Zone have 98 experts of school improvement program, 17 secondary school supervisors, 49 learning assessment and 76 teachers and school leaders' development experts, totally 240 experts. In addition to this, there were total of 13 experts of the same position at the zone education office level. Therefore, the total population of these experts and supervisors is 253 that was also found to be unmanageable size, and similarly, by using Yamane's formula $n = \frac{N}{1+N(e)2} = \frac{253}{1+253(0.05)2} = 155$ office experts were calculated to be the sample from the respective education offices that were participants of the study. To select the individual participants from each office the approach used was similar to that of teachers, that is, the RAND or RANDBETWEEN

function on Microsoft Excel.

In addition to this, the total number of principal of the 28 sample schools was only 28 and drawing sample from this size of population was inappropriate. Accordingly, 20 principals were purposely selected for interview and in-depth interview was conducted to collect detailed data from the principals as far as they were the first persons to tell about the school.

To sum up, from the 347 teachers from the 28 sample secondary schools and the 155 education office experts were used as respondent for questionnaires. Therefore, the study participated 347+155+20=522 participants of the study.

***Table 2.** Summary of Samples of Respondents.*

S. No.	Population Type	Total Population Size	Sample Size	Percentage of sample (%)
1.	Secondary school teachers	1235	347	28.1
2.	Secondary school principals	28	20	71.4
3.	Education office experts	253	155	61.2
	Total	1516	522	34.4

2.4. Instruments of Data Collection

2.4.1. Questionnaires

A self-structured questionnaires were developed and administered to respondents to generate appropriate and fitting data for the study. Accordingly, the researcher prepared 5-point Likert scale closed-ended questionnairesfor SSs teachers and experts of education offices. Literaturessuggested that questionnaire is widely used in educational research to obtain information about certain conditions and practices and to inquire into opinions and attitudes of individuals and groups. Therefore, data for this study were gathered from 347 teachers of the SSs and 155 education office experts, total of 502 respondents through the questionnaires containing closed-ended items. After good questions were developed using principles of question construction, the researcher conducted a pilot test.

2.4.2. Reliability and Validity of the Questionnaires

For the purpose of this study, the coefficient alpha (also known as Cronbach'salpha) was applied to test for reliability. The coefficient alpha ranges in values from 0 (no reliability) to 1 (perfect reliability). The values of coefficient alpha above 0.70 are considered torepresent "acceptable" reliability, above 0.80 "good reliability", and above 0.90 to represent "excellent" reliability. For each independent variables (perceptions towards SA, PMA, FMA, AA and Constraining factors of SA) there were 8 items while there were 10 items for the dependent variable (SAA). Therefore, for items of all these variables, the values of coefficient alpha ranged from 0.76to 0.89, indicating an acceptable and good reliability of the items (see table 3 below).

Accordingly, the reliability test for this study resulted in the following result, as indicated in table 3 below.

***Table 3.** Reliability Test Result.*

SN.	Variables	Cronbach'salphavalue	Number of items
1.	Items for Perceptions of school autonomy	0.76	8
2.	Items for Personnel management autonomy	0.80	8
3.	Items for Financial management autonomy	0.79	8
4.	Items for Academic autonomy	0.78	8
5.	Items for Constraining factors of school autonomy	0.86	8
6.	Items for Students' academic achievement	0.89	10
	Average Value of the alpha	0.81	50

Similarly, the pilot test result for items internal reliability test result ascalculated by Cronbach alpha shows (0.72), (0.77), (0.75), (0.73) and (0.81) for perceptions towards SA, PMA, FMA, AA and constraining factors of SA respectively. The Cronbach alpha result for SAA shows (0.87). Therefore, the items reliability test before data collection from the respondents and after data collection from the respondents shows acceptable and good reliability test value; that is, all Cronbach's alpha value were greater than 7.0.

The multicollinearity assumptions were also examined if there was high pair-wise correlationbetween independent variables. If the correlation between two independent variables is more than 0.8 /80% then theremay be a potential of serious multicollinearity happened in the model. Moreover, linear regression analysis assumes that there is no perfect relationship among explanatory variables, and in regression analysis when this assumption is violated, the problem of multicollinearity occurs. Therefore, the analysis result shows that for all independent variables the VIF value is below 10; that is, there was no problems of multicollinearity (see table 4).

***Table 4.** Multicolliniarity Assumptions Test Result.*

	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Perceptions towards SA	0.752	1.330
PMA	0.673	1.487
FMA	0.451	2.215
AA	0.514	1.946
Constraining factors of SA	0.819	1.221

Dependent Variable: Students academic achievement.

Concerning validity of the instrument two important

aspects were considered. Thefirst one is the content validity, which is about the extent to which the measuring instrumentfairly and comprehensively covers the domain or items that it purports to cover. The secondaspect was the face validity which refers to the appearance of the survey items. It is where onthe surface, the survey instrument appears at face value to measure what it is designed tomeasure [7].

Accordingly, the content and criterion validity will be tested by subjecting the instrument to the inspection of my advisors and other approved sources were used to validate the content, face and criterion validity. Responses of respondents from the pilot study were used to estimate the construct validity. Like content validity, face validity of the items were judged by the expert (measurement and evaluation) and from the feed backs of respondents during pilot test. On topof this, confusing terminologies or phrases were replaced by the clearer ones. Similarly, some in appropriate variables/items (for example indicators of SA) were removed from the questionnaires. Therefore, corrections had been given by listing the factors under major topics tohide leading topics from the respondents.

2.4.3. Interview

Conducting a telephone interview was the process of gathering data using the telephone and asking a small number of general questions. The use of telephone interviewing has long been recognized as an important method of data collection and is common practice in survey research. Accordingly, the researcher interviewed 20 purposely sampled principals out of the 28 SSs principals in order to get supplementary information to validate the information obtained from the questionnaire. Purposive selection was used to get detailed information from more experienced and trained principals, and to get more informant respondents from all corners of the zone. The researcher used semi-structured interview questions to collect data from principals, because of their flexibility and to make clear any time, when there will be ambiguity. The interview questions were prepared in English language and in case of any misunderstanding of the questions the interviewer translated it to Afan Oromo during the question and answer time through telephone because of making ease of conversation and getting deep information. The researcher has spent 15 to 20 minutes with each interviewee to gather the qualitative data for the study.

2.4.4. Document Analysis

The researcher conducted document analysis on national examination results by grouping the number of students in to two groups; that is, students who scored pass mark and who scored less than the pass mark. This was done according to the Ethiopian Ministry of Education pass mark for the national examination, that is, the cut point is 2.00. In addition to this, the SSs inspection documents were collected from the zone education office and compiled together for analysis. The school inspection focused on three domains (input, process

and output) were done by inspectors from education offices and by the schools themselves (self-evaluation). The inspection document is considered to be one indicator of school performance and it can be used as a source of information for this study.

2.5. Methods of Data Analysis

As Convergent Parallel Mixed Method Design was the design used for this study; the researcher gathered both quantitative and qualitative data, analyzed both data sets separately, compared the results from the analysis of both data sets, and made an interpretation as to whether the results support or contradict each other. This direct comparison of the two data sets by the researcher provided a "convergence" and triangulation of data sources. Therefore, the researcher was first analyzed the quantitative data and then discussed or narrated the qualitative data to see confirming or disconfirming of the results. The researcher used a side-by-side comparison approach to merge the two databases. Accordingly, the quantitative data were analyzed using descriptive statistics such as frequency, mean and percentages using Statistical Package for Social Sciences (SPSS) version 22.

Descriptive statistics were used to describe the existing phenomenon of the variables under study. Therefore, to describe the demographic characteristics of the respondents' frequency and percentage were used to analyze the data. Similarly, to describe the existing exercised/practiced areas of SA, perceptions towards SA and constraining factors of SA, the researcher preferred to use mean and standard deviation. In addition to this, independent-samples t-test was also used to see the difference between the teachers' and office experts' responses.

Finally, the analysis results of qualitative data gathered by using interview and document analysis were compared and triangulated with that of quantitative analysis resultsto see confirming or disconfirming of the results. The reason behind this is that, in convergent parallel/concurrent triangulation/ mixed methods design the data analysis is usually separate, and integration occurs at the data interpretation stage. Interpretation typically involves discussing the extent to which the two data (QUAN and QUAL) triangulate or converge. This design is useful for attempting to confirm, cross-validate, and corroborate study findings.

3. Results and Discussion

3.1. Demographic Characteristics of Respondents

This section illustrates about the basic characteristics of the respondents. The following table 5 shows about the gender, age, academic qualification, field of specialization, teaching load and service years of the respondents. These characteristics of respondents were useful in order to make the reader to have understanding about the types and status of respondents.

Table 5. Respondents' Demographic Characteristics Data Analysis Result.

No.	Variables		Frequency	Percent
1	Gender	Male	401	82.2
		Female	87	17.8
		Total	488	100
2	Age	20-29	77	15.8
		30-39	229	46.9
		40-49	102	20.9
		50 and above	80	16.4
		Total	488	100
3	Academic status	Diploma	42	8.6
		BA/BSc/Bed	374	76.6
		MA/MSc/Med	72	14.7
		Total	488	100
4	Field	EDPM/Edu/Sch. leadership	109	22.3
		Teaching	364	74.6
		Other field	15	3.1
		Total	488	100
5	Teaching load	Less than 10 period	48	9.8
		11-14 period	158	32.4
		Greater or equal to 15 periods	134	27.5
		Do not teach	148	30.3
		Total	488	100
6	Service year	1-10 years	117	24.3
		11-20 years	347	71.1
		greater or equal to 21 years	12	2.5
		Not teacher	10	2
		Total	488	100

As indicated in Table 5, the major demographic variables included in this study were gender, age, academic status, field of specialization, teaching load and service years of the respondents. From the total number of respondents about 401 (82.2%) were males and the rest 87 (17.8%) were females. This shows that majority of the respondents were male. The respondents age shows that about 229 (46.9%) of the respondents were between 30-39 years old, which indicate that majority of the respondents were matured enough to respond on the questions asked. Regarding academic qualification, 42 (8.6%) of the respondents were diploma, 374 (76.6%) were BEd/BA/BSc and 72 (14.7%) were Med/MSc/MA, and this indicate that most of the respondents were at good educational status to give response about the issues under study. The respondents field of specialization shows that about 364 (74.6%) were teaching, 109 (22.3%) were EDPM/Educational leadership/School leadership and 15 (3.1%) were other fields, and this also indicate that majority of the respondents' field of specialization made them a better source of information about the issue under study.

The teacher respondents teaching load also shows that about 48 (9.8%) teachers teach less or equal to 10 periods per week, 158 (32.4%) teachers teach 11-14 periods per week and 134 (27.5%) teach greater or equal to 15 periods per week. These indicate that the majority of respondents were in the teaching system or passed through the system and they were free to respond on the questionnaires. The service years of the respondents shows that about 347 (71.1%) were between 11-20 years indicating that majority of the respondents were with medium level of service years and they were experienced enough with the school system.

In addition to the descriptive analysis of the demographic data, a measure of the relative strength of an association between the demographic variables and practice of school autonomy was conducted by testing Cramer's V that indicated in table 6.

Table 6. Cramer's V test of strength of association between demographic variables and School autonomy.

Variables	Cramer's V
Gender	0.45
Age	0.53
Academic status	0.71
Field of specialization	0.53
Teaching load	0.57
Service year	0.63

The finding from the test of Cramer's V demonstrate that there was significant positive association/relationship between SA and the demographic data of the respondents.

3.2. Quantitative Data Analysis

3.2.1. Perceptions Towards School Autonomy (PTSA)

The perception of teachers and education office experts was considered as one of the factors that may activate or hinder the impact of SA on SAA. Therefore, the data collected from the respondents of this study was analyzed as in tables 7 and 8.

According to table 7, the average response for the eight items was mean (M)=4.04, SD=0.56, show that the respondents have positive perception towards the use and benefits of SA. Therefore, both teachers and experts perceive SA positively which means that there was a relationship between SA and SAA.

In addition to this, it was also tried to see whether there was a

difference between the mean of the two groups of the respondents. As can be seen from table 8, t (305)=0.21, p=0.84 indicate that there was no significant difference between the groups. That is, both groups have similar perception towards SA.

Table 7. Descriptive statistics of perceptions towards SA.

SN.	Items	Mean	SE of Mean	SD
1	School autonomy leads to school improvement.	3.58	0.06	1.25
2	School autonomy creates higher participation of stakeholders to improve students' achievement.	3.93	0.05	1.09
3	School autonomy has positive impact on students' academic achievement.	4.09	0.04	0.87
4	School autonomy can motivate student to work effectively.	4.25	0.04	0.78
5	School autonomy can benefit students' parent.	4.18	0.04	0.80
6	School autonomy creates smooth relationship between teachers and students	4.19	0.03	0.77
7	School autonomy creates active teaching-learning in the classroom	4.17	0.03	0.75
8	School autonomy can result in better classroom management.	4.23	0.04	0.83

Table 8. Independent Samples t-test of Perception towards School Autonomy (PTSA).

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% CI of the Diff	
		F	Sig.	t	df	Sig. (2-t)	Mean Diff	SE Diff	Lower	Upper
PTSA	Equal V. assumed	0.91	0.34	0.20	486.00	0.84	0.01	0.06	-0.10	0.12
	Equal V. not assumed			0.21	304.78	0.84	0.01	0.05	-0.09	0.12

3.2.2. Improvement in SAA as a Result of SA

To investigate the existence of relationship between SA and SAA, and to assess improvement of SAA as a result SA in the study area the collected data were analyzed below.

Table 9. Descriptive statistics of SAA.

SN.	Items	Mean	SE of Mean	SD
1	Students' behavior in the school is good.	2.93	0.06	1.34
2	Students of the school are punctual.	2.52	0.05	1.14
3	Most of the time there is high number of absentees.	2.74	0.05	1.21
4	There is low dropout rate in the school.	2.80	0.06	1.24
5	Students of the school have good motivation for learning.	2.53	0.05	1.11
6	Students are ready to stay in the school up to the end of school time.	2.36	0.05	1.11
7	Students of the school perform high in school-made examinations	2.74	0.05	1.14
8	Students of the school are able to perform high in national examinations	2.63	0.05	1.10
9	Students are active participant of teaching-learning process	2.34	0.05	1.03
10	Students of the school have developed culture of independence on exam.	2.22	0.05	1.12

As can be seen from table 9, the average response of all items was 51.6% (M=2.58, SD=0.83), that is, more than half of the respondents agreed that as there was improvement in SAA as a result of SA. To see specifically, 54.8% (M=2.74, SD=1.14) of the respondents agreed that students of the school were able to perform well in school-made examinations. Similarly, 52.6% (M=2.63, SD=1.10) of the respondents agreed that students of the school were able to perform high in national examinations. Accordingly, this analysis result show that there was improvement in SAA as a result of SA even though the improvement was as such satisfactory.

The finding of this study is consistent with findings of the following scholars. The outcome of this study also aligned with the outcomes of similar studies by [25, 28]. Moreover, [22] also found that learners' work quality is also enhanced by pedagogic autonomy. In another similar study [28] found that school autonomy promotes educational outcomes. In another study by [10], school autonomy was found to significantly influence learning outcomes or SAA.

Table 10. Independent samples t-test of SAA.

	Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% CI of the Diff	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Diff	SE Diff	Lower	Upper
SAA	Equal V. assumed	1.5	0.22	1.04	486	0.30	0.09	0.08	-0.08	0.25
	Equal V not assumed			1.07	295	0.29	0.09	0.08	-0.07	0.24

Group difference test was also conducted to see the difference between the responses of the two groups of respondents. As a result, t (295)=1.07 andp=0.29, show that there is no significant difference between the groups (see table 10). That is, both groups of the respondent agreed that there was improvement in SAA as a result of SA.

3.2.3. Constraining Factors of SA

The implementation of SA and its relationship with SAA may be constrained by many factors. Here the response data collected for few of these constraining factors was analyzed below as indicated in tables 11 and 12.

***Table 11.** Descriptive statistics of Constraining factors of SA.*

SN.	Items	Mean	SE of Mean	SD
1	Lack of guidelines/directives/ on the roles of principals.	3.55	0.05	1.07
2	Lack of knowledge on school autonomy.	3.77	0.05	1.15
3	Principals are inefficient in performing school activities.	3.85	0.04	0.97
4	Lack of school facilities	4.15	0.04	0.82
5	Inadequate finance	4.14	0.04	0.99
6	Financial corruption by the local authorities.	3.93	0.05	1.08
7	Inadequately trained teachers	3.91	0.04	0.99
8	Inadequate parental participation.	4.04	0.04	0.95

According to the result in table 11 for the eight constraining factors in average 78.4% (M=3.92, SD=0.69) of the respondents agreed that all the constraining factors listed in the table were the correct constraining factors those hinder the implementation of SA. Accordingly, the major constraining factors were lack of school facilities, inadequate finance, inadequate parental participation, inadequate trained teachers, financial corruption, inefficiency of principals, lack of knowledge and directives.

***Table 12.** Independent samples t-test of constraining factors of SA.*

		Independent Samples T-Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tai)	Mean Diff	SE Diff	95% CI of the Diff	
									Lower	Upper
CFSA	Equal V. assumed	7.40	0.01	-0.60	486.00	0.55	-0.04	0.07	-0.17	0.09
	Equal V. not assumed			-0.66	341.14	0.51	-0.04	0.06	-0.16	0.08

To see difference between the two groups the t-test was conducted as indicated in table 12 above. Accordingly, t (341)=-0.66, p=0.51 indicate that there was no significant difference between the groups. That is, both groups of respondents agreed that the listed factors were constraining factors that hinder SA and in turn hinder the improvements of SAA.

3.3. Qualitative Data Analysis

3.3.1. Document Analysis

The documents analyzed for the purpose of this study were national examination results of the last three years and school inspection documents.

(i). Analysis of Students' National Examination Document

This section analyzes grade 10 national examination results of the sample schools for three years (2009, 2010 and 2011). National examination is one the standardized examination that is useful to decide on the performance of students. As per the country's ministry of education, students who scored 2.00 and above in national examination is considered as student who scored pass mark, and this indicate that improvement in SAA based on the number of students who scored pass mark. Therefore, table 13 below show that the percent of students from the sampled schools who scored 2.00 and above in the three years.

***Table 13.** Grade 10 National Examination Results Analysis.*

S. No.	Schools	2009	2010	2011	Average
1	Adele	82.7	93.1	78.2	84.7
2	Ale	35.5	100	64.2	66.6
3	Babile	36.5	87.9	86.9	70.4
4	Bedeno	58.1	97.5	93.5	83.0
5	Bika	43.7	98	68.3	70.0
6	Boko	89.2	93.9	92.4	91.8
7	Chelenko	54.4	86.3	88.9	76.5
8	Chinaksen	23.6	81.2	76.9	60.6
9	Deder	30.2	72.1	78.4	60.2
10	Fechatu	89.2	88.6	87.5	88.4
11	Felana	25.9	67.9	74.7	56.2
12	GoroGudo	53.2	94.1	89.6	79.0
13	Gurawa	35	62.2	72.9	56.7
14	Gursum	24.1	48.9	78.4	50.5
15	Harew	51.8	90.2	87.5	76.5
16	Harewacha	51.6	88.1	87.2	75.6

S. No.	Schools	2009	2010	2011	Average
17	Karamile	43.8	93.4	92.1	76.4
18	Karemekela	53.6	83.5	79.5	72.2
19	Kobo	53.5	82.1	86.9	74.2
20	Koromi	35.1	90.8	79.4	68.4
21	Kulubi	53.8	83.4	89.1	75.4
22	KurfaChele	67.9	86.8	88.5	81.1
23	Langey	44.9	72.3	78.4	65.2
24	Manjelo	68.8	73.1	81.2	74.4
25	OdaBishani	58.4	68.2	76.4	67.7
26	ShekBekri	43.8	70.8	80.2	64.9
27	Ugaz	80.7	91.4	93.6	88.6
28	Wayu	47.6	97.8	94.5	80.0

Source: East Hararghe Zone Education Office, Oromia Regional State, 2021.

Table 13 indicates that more than half of the schools' students have scored pass mark. That is, out of the 28 sample schools, 70% and above of 18 (64.3%) schools' students scored the pass mark and more specifically, in 7 (25%) schools 80% and above students scored the pass mark. Therefore, these indicate that there was average performance of students in the schools and there was increase in SAA even though it was not the same throughout all the sample schools.

(ii). Analysis of the School Inspection Documents

In Ethiopia, an inspection system was introduced under which all schools have been externally inspected and classified into four levels of performance (Level 1 to 4). This inspection system has a framework which is based on 26 standards, of which 25 percent is input standards, 35 percent is process standards and 40 percent is outcome/output standards. The 40 percent given for outcome focused on SAA, because the major outcome of schools is expected to be improvement in SAA. Based on the inspection weight score of the three groups of standards (input, process and outcome), schools are classified into the four levels. Accordingly, out of the sample schools of this study, the schools listed in table 14 were those inspected by the zone's inspectors and scored the results shown in the table.

Table 14. *School inspection results analysis.*

S. No.	Schools	Input	Process	Out Put	Average	Level
1	Babile	19%	26%	29%	73%	3
2	Bedeno	19%	26%	31%	76%	3
3	Beroda	16%	24%	27%	67%	2
4	Bika	14%	23%	25%	61%	2
5	Boko	15%	20%	22%	57%	2
6	Burka	14%	20%	25%	59%	2
7	Chelenko	18%	26%	30%	74%	3
8	Chinaksen	20%	23%	28%	70%	3
9	Dadar	17%	26%	31%	74%	3
10	Felana	12%	17%	22%	51%	2
11	Gurawa	12%	16%	19%	47%	1
12	Gursum	14%	20%	25%	60%	2
13	Harawacha	18%	23%	27%	69%	2
14	Karamile	15%	24%	28%	67%	2
15	Karanekela	16%	23%	31%	69%	2
16	Kobo	15%	19%	22%	57%	2
17	KulubiGedam	16%	26%	29%	71%	3
18	KurfaChele	20%	28%	31%	79%	3
19	Manjol	12%	23%	26%	61%	2

Source: East Hararghe Zone Education Office, Oromia Regional State, 2021.
Note: Level 1 means under standard, level 2 means on progress toward standard and level 3 means standardized.

As indicated in table 14, out of the 19 inspected SSs 7 (36.8%) scored full standard (level 3), 11 (57.9%) scored on improvement (level 2) and 1 (5.2%) scored under standard (level 2). This indicated that there was exercise of SA in the SSs which brought out a lot of schools towards standard and improvement to become standard. This was also true when compared with the schools national examination results that was, more than 70% of the 18 (64.3%) sample SSs students have scored pass mark in the last three years.

3.3.2. Interview Result Analysis

The interview data were collected from school principals. The respondent principals were from Adele (PR1), Babile (PR2), Bedeno (PR3), Boko (PR4), Chelenko (PR5), Deder (PR6), Gurawa (PR7), Gursum (PR8), Harewacha (PR9), Karamile (PR10), Kobo (PR11), Kulubi (PR12), KurfaChele (PR13), Chinaksen (PR14), Felana (PR15), Karemekela (PR16), Langey (PR17), Manjelo (PR18), Ugaz (PR19) and

Wayu (PR20) SSs, and they were coded from PR1 to PR20 as shown in parenthesis in respective of every SSs.

(i). Interview Result of Perceptions Towards SA

This section analyzed the responses of interviewees for the question "how do you perceive SA?" The interviews data with the 19 SSs principals indicated that 20 (100%) of the interviewees have positive perception towards SA and they agreed that SA has positive relationship with SAA. That is, the 19 principals (except PR12) said "being autonomous in school resources management leads us to improvement in school performance through active and motivated teaching-learning process". But there was also 1 principal (PR12who had poor concept of self-governing or SA and responded that "it is better if all activities in schools would be directed by higher authorities and strictly controlled". For example, one of the interviewees said that:

> …I know and believe that the success of any school depends on the freedom of decision making (autonomy) that brings better performance of students. Autonomous school or school leaders can design a number of activities that benefit the school and implement them without any interference as much as the end result is to improve SAA. But even if I perceive SA positively, I am not in suitable condition to practice it.

(ii). Interview Results on Improvement in SAA as a Result of SA

Out of the 20 interviewees, 17 (85%) interviewees (except PR1, PR4 and PR17) were said that "there were improvements in SAA from year to year as a result of the schools self-governing or making free decisions on different issues of schools' activities that in turn improves the SAA". But 3 interviewees (PR1, PR4 and PR17) hesitated that whether there was improvement or not and they have no clear information about the history of the schools performance as they were new to the schools. For instance, one interviewee (PR4) said that:

> …I am new for the position and I have never got any training regarding school leadership. I believe that if I get the training in the area I will fully get how to make decisions at school level confidentially to bring the school to the pipe of better performance. Any from my little concept, I agree that autonomous school will perform better than non-autonomous one. The reason is that, it is the school leaders who are in the battle front and who know how to make the student more successful.

(iii). Interview on Constraining Factors of SA

The 20 interviewees said that "the SSs autonomy in personnel management, financial management and academic activities were hindered by knowledge gap of the school leaders and staff, inefficiency of principals, lack of education facilities and inadequate finance". But they said that "there is no lack of directives regarding areas of the school autonomy". This indicated that the freedom of making decision or self-governing was hindered by knowledge gap, inefficiency of leaders, lack of education facilities and inadequacy of finance in the SSs.

For example, two of the interviewees (PR5 and PR14) said that:

> There are a lot of challenges to make school based decisions regarding the activities that make the school fruitful. The challenges were lack of awareness about school leadership and autonomy, being professionally untrained and inefficiency, lack of budget, improper management of school budgets, lack of education/school facilities and plants, misleading of directives, and trying to lead schools through routine experiences.

4. Summary, Conclusion and Recommendations

4.1. Summary of the Major Findings of the Study

The purpose of this study was to investigate the existed relationship between school autonomy and students' academic achievement government secondary schools in East Hararghe, Oromia Regional State. In order to guide the study and achieve the objectives of the study the three major research questions listed below were used.

1. How do the principals, teachers and education office experts perceive school autonomy?
2. Have there been improvements in the students' academic achievement as a result of the school autonomy?
3. What are the constraining factors of school autonomy in the secondary schools?

Data collection instruments such as questionnaires, telephone interview and document analysis were used to collect data from the sampled government SSs on the perceptions towards SA, the constraining factors of SA and the improvement in SAA. The collected quantitative data were analyzed using descriptive statistics and independent-samples t-test while the qualitative data collected through the interviews and document analysis were analyzed by quotation and narration. Accordingly, the analysis of the data collected through the instruments resulted in the following findings.

According to analysis result of the demographic data, most of the respondents were within the age range of 30 to 39 indicating they were matured enough to respond on the questionnaires. Most of the professional experience of the academic staff were between 10 to 20 years and most of the respondents' level of education was first degree. These also indicate that the respondents were experienced enough and at enough educational status to give response to question about theirschools system. Moreover, most of the respondents' field of specialization was teaching, indicating that they were from the school system and able to give more reliable information.

The analysis result of the quantitative data regarding perceptions towards SA revealed that all respondents (teachers and experts) of the study had positive perception towards SA, and the principals' interview results also show that the majority of the school principals have positive

perceptions towards SA. Therefore, majority of the teachers, principals and experts believe that SA has positive relationship with SAA.

Moreover, the analysis result of both quantitative and qualitative data confirmed that lack of directives, knowledge, school facilities, finance, trained teachers, and parental participation, financial corruption, and inefficiency of principals were the constraining factors of SA in the study area. Therefore, the finding revealed that the attempts to exercise/practice SA in the SSs were hindered by these constraining factors and these will in turn hinder the improvement in SAA in the study area.

The independent samples t-test result indicated that there was no significant difference in the responses on perception towards SA, exercise/practice of SA, relationship between SA and SAA, improvement in SAA and constraining factors of SA between the two groups (teachers and office experts) of respondents. This indicate that the responses from both groups were the same on the variables under study, and almost all of the respondents agreed on the same idea.

The analysis result from both data sets also show that there was improvement in SAA as a result of SA even though the improvement was as such satisfactory because of the weak relationship between the SA and SAA. Moreover, the national examination result and school inspection documents analysis also indicated that in many of the SSs there were improvement in SAA from year to year which was as a result of exercise of SA, and the inspection result also indicated that except 1 school, all inspected SSs were under level 2 (in progress) and level 3 (standard) of school inspection levels. The increase in number of the schools that enter level 3 from year to year indicated that there was existence of SA that increased SAA.

4.2. Conclusion

The rationale behind SA was to raise SAA by encouraging alertness to students and school needs at the local/school level. This has involved increasing the decision-making power of school leaders. However, the school systems differ in the practicing/exercising degree of autonomy granted to schools and in the dimensions for which autonomy is awarded to schools. This was also true in the SSs in the study area, that is, there was varying degree of practices of SA in the SSs.

It was generally accredited that an effective SA is a fundamental tool for having a highly effective school system. Preceding studies have been noticeably unclear and debatable regarding the relationship of SA with SAA in developing countries like Ethiopia. Studies regarding title of this study were quite limited for developing countries including Ethiopia and the study area. Therefore, as this study is an addition to the scarce study in the developing countries its finding revealed that there was a positive weak relationship between SA and SAA, and disproved that the conclusion of negative relationship between SA and SAA in developing countries.

This study was undertaken purposely to examine the relationship between SA and SAA in secondary schools in East Hararghe Zone, Oromia Regional State, Ethiopia. The study considered three dimensions of autonomy for main independent variable (SA) under study. The dimensions identified for SA were: PMA, FMA, and AA. The study discovered that the SA dimensions used in the study jointly have positive relationship with SAA even though there was variation in the magnitude of relationship, that is, from weak to medium. Thus, this study concluded that SA has a significant positive relationship with SAA, and there is possibility of implementing SA in developing countries, and the autonomy may not be hindered by level of countries development in contrary to some authors those concluded there is impossibility of exercising SA in developing countries.

4.3. Recommendations

The recommendations presented below are emanated from the findings and conclusions reached in this study.

1) The results of the study have a constructive implication for school leaders, school staff, district education offices and East Hararghe Zone Education Office to assess the schools' management and improve the level of their autonomy and leadership commitment by formulating different policy directions.

2) The study also found out that the major constraining factors were lack of school facilities, inadequate finance, inadequate parental participation, inadequate trained teachers, financial corruption, inefficiency of principals, lack of knowledge and directives. Therefore, any concerned bodies have to work with the schools' administration in order to eliminate or minimize the impacts of these constraining factors.

3) According to the result of the study, in the SSs there were improvements in SAA as a result of SA practices. But the improvement in SAA in not constant within the school and between the schools from year to year, that is, there was fluctuation (increase and decrease) in few schools. Accordingly, the school leaders have to work effectively and efficiently in order to record constant or sustainable improvement in SAA.

4) In order to improve on the findings of this study, interested researchers may need to adopt an experimental approach in order to infer the nature of causation and also have a measurable control over the effect of extraneous variables on the criteria variables.

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