

# **Single-gender or Mixed-gender? *All-boys and All-Girls Schools Students' Attitude towards Single-sex Schooling***

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## **Abstract**

The main objectives of this study were to examine the attitudes of students attending all-boys and all-girls schools towards single-sex schooling and to look at if this school type can be used as an alternative strategy to enhance academic achievement among female students. The study was descriptive survey and primary data were collected from 562 randomly selected students attending all-boys or all-girls schools. Documents were reviewed and informal interviews were made. Data were analyzed using descriptive statistics in the form of frequency counts and percentage distributions. The findings revealed that, despite written evidences that all students in these schools join higher education institutions, the majority of boys and girls did not reflect positive attitude towards this school type in enhancing their academic achievement. Unlike girls, boys rejected the role of their single-sex school in improving their school behaviour. Both boys and girls disliked single-sex schools when schools were portrayed as 'places for cross-gender socialization'. Unlike boys, girls supported the description of single-sex schools as 'places that can result in gender-based discrimination and stereotyping'. Both boys and girls preferred mixed-gender schools. Nevertheless, to enhance the academic achievement and the educational aspirations of female students by balancing student preferences, the academic benefits of single-gender schools, and its disadvantages arising from students' fear of being exposed to gender-based discrimination and stereotyping, as well as inability to effectively communicate with the opposite sex, the single-sex classroom within a mixed-gender school approach is recommended as a fair alternative. Besides, schools and parents should work aggressively to mitigate the unintended consequences of single-gender schools on student behaviour and, in this regard, particular attention should be given to help boys in all-boys schools.

**Keywords:** single-sex, mixed-gender, teaching, achievement, learning, attitude

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## 1. Introduction

The rationale for single-sex teaching, as opposed to mixed-gender teaching, is based on the belief that there are intrinsic biological brain-based learning differences between males and females, which manifest themselves in classroom behaviours and with their own implications for pedagogical practices (Spielhagen 2011; Colley 1998). Given these differences, a coeducation (mixed-gender) school or class may not be the most appropriate environment for students' learning (Hill *et al.* 2012; Piechura-Couture *et al.* 2011). This assertion calls for the implementation of single-sex approaches. Though this is the case, empirical evidences on the effectiveness of single-gender schooling have yielded mixed results and the debate is on (Pahlke *et al.* 2013; Spielhagen 2011; McCormick and Pressley 1997; Ewing 2006). Ewing (2006) referred to terms such as “equivocal”, “some support or limited support”, “inconclusive and controversial”, “undeniably inadequate” evidence, as well as “confusing and contentious” to better describe the situation surrounding single-sex schooling.

Proponents have argued that single-sex schools are needed since the sex composition of classrooms alters the behaviour of an individual in that group (Schmuck and Schmuck 1997), since the culture of mixed schooling is shaped by sexually harassing behaviour (Walden 2004), and since there are gendered modes of learning (Younger and Molly 2002). Opponents, on the other hand, challenge the approach. Pahlke, *et al.* (2013) have stressed that brain-based gender differences are actually quite small or nonexistent and relatively little is known about differences between the brains of boys and girls. They add, single-sex classes “can be a tool of gender polarization and oppression” (Salmone 2004:27), keep educational communities from realizing gender equity (Cohen 2012), and “let kids think with something besides their hormones” (McNergney and Herbert 2001:320). They assert coeducation provides a real educational experience that reflects life outside the school (Ivinson and Murphy 2007).

Despite the fact that the approach is controversial, single-gender teaching is a global practice. Single-sex schooling for boys and girls is an age-old tradition in North America, Europe and Australia (Younger and Molly

2006). In the United Arab Emirates, where the social, religious, and cultural values in which differing roles and expectations for women and men are the norm, nationally funded secondary and tertiary undergraduate education is offered in single-gender settings (Doiron 2012). These schools are also found, among other countries, in the U.K. (Colley 1998), Trinidad and Tobago and South Korea (Pahlke *et al.* 2013) as well as in Thailand, Nigeria, Swaziland, Jamaica, Malawi, Saudi Arabia, Kuwait, and Kenya (Tietjen 1991).

### **1.1. Single-sex teaching and cognitive development: Academic achievement**

Single-sex teaching immensely contributes to the cognitive development of learners. It is often implemented to address concerns about children's performance in Mathematics and Science (Pahlke *et al.* 2013; Cresswell *et al.* 2002), to enhance the learning of boys and girls (Younger and Molly 2002), to improve the educational experiences of low-income and minority learners (Hubbard and Datnow 2005), to increase the performances of girls whenever there is male influence in co-educational approaches (Colley 1998), and, at times, to address the issue of underachievement among boys (Spielhagen 2011; Younger and Molly 2006; Tyrer 1999).

Research proved these arguments right. A study in South Korea (Pahlke, *et al.* 2013) has found that once individual and school characteristics were controlled, girls in single-gender schools earned slightly higher Mathematics scores than girls in coeducational schools, boys in single-sex schools earned higher Mathematics scores than boys in coeducational schools, and students who attended single-sex schools were more likely to go on to 4-year colleges (less likely to go to 2-year colleges) than their peers at coeducational schools. A survey in the United States also found that 86 per cent of teachers teaching in single-sex classrooms reported increased academic performance of boys (Piechura-Couture *et al.* 2011). Moreover, analyses of students' performances since the introduction of the General Certificate of Secondary Education (GCSE) examination in the United Kingdom revealed that in most of the years, boys and girls in single-sex

schools consistently achieved better results in most subjects (Younger and Molly 2002).

Studies also showed that single-sex teaching enhanced equitable classroom participation of both genders. A study in America that looked into the differences between the behaviour of male and female high school students in mixed- and single-gender groups has indicated that, “in the single-sex groups, the male and female students were equally task-oriented, equally active, and equally likely to make efforts to influence others in the group” (Schmuck and Schmuck 1997:48). Another study also concluded that for girls attending single-sex classes, there was more positive participation with girls responding constructively to answers given by other girls without the intervention of the teacher (Younger and Molly 2002).

### **1.2. Single-sex teaching and affective development: Student behaviour and future aspirations**

The other potential benefit of single-sex education is its impact on student behaviour and their affective development in general. In one school, where boys were typically referred to special education services for behavioural problems, the single-gender format positively impacted the behaviour of those boys (Piechura-Couture, *et al.*2011). In other studies, teachers reported that there were fewer behavioural problems in single-sex classes (Spielhagen 2011), and a majority of teachers commented that girls in all-girls classes were highly motivated, cooperative, more assertive, more willing to make presentations to the whole group, and less time was spent on discipline (Danischewsky and Joseph 1994; Younger and Molly 2002). According to a research in Victoria, Australia, “students in single-sex classes obtained significantly higher gains in confidence over time than those in mixed-sex classes” (Cresswell, *et al.* 2002:18). Furthermore, since girls in single-gender schools were free from the risk of being intimidated by aggressive boys, stereotyping, sexism, harassment, and teacher bias (Hill, *et al.*2012), it was found that the classrooms were generally understood by both staff and girls as hassle-free, pleasant, and safe places offering great benefits and opportunities for confidence-building and self-esteem development (Younger and Molly 2002).

Moreover, single-sex teaching has far-reaching consequences on interest to learn and future educational aspirations. In single-sex schools, “Girls become more competitive; boys become more collaborative” (Bruce and Sanders 2002:175). These schools expand girls’ educational horizons and help them explore topics and opportunities (Bruce and Sanders 2002). Literature also reveals that girls in single-sex schools will have more interest in and enthusiasm for Math and Science, more academic inclination, more time spent in studying, more time spent on task in the classroom, and better opportunity to learn how to be more competitive. Similarly, the approach provides boys with better chance of being on the college preparatory road and more time to learn collaborative working skills with fewer gender distractions, and lets them have well developed reading and writing skills as well as better chances of not dropping out of high school (Walker 2004).

### **1.3. Single-gender teaching as a strategy to enhance female students’ academic achievements**

Regardless of Ethiopian policies, regulations, and practical measures that are being implemented to tackle gender-related school access and performance problems, the academic disparities between the sexes continue unabated (Habtamu 2004), and visible improvements in female proportional access to higher education has not been achieved (Tsfaye 2006) where, “female enrolment is in the range of 10%” (Tekeste 1996:66). More recently, a 2014 report by the World Economic Forum (WEF 2014) revealed that the Ethiopian female-male higher education enrolment ratio stood at 0.32 (where 0.00 equates to perfect inequality and 1.00 means perfect equality). Implied in all these claims is that female students still underachieve in schools.

In circumstances where female students underachieve, some countries use single-gender teaching as an alternative strategy. In the United States, for instance, to get more girls involved in Math and Science, several single-sex courses and schools were established some years ago (Walker 2004). An increase in ‘A’ level results of female students in the United Kingdom was also attributed to the potential benefits of single-sex education for girls in particular (Colley 1998). Generally, a series of scholarly papers demonstrate

the extraordinary advantages of single-sex teaching for girls (Bruce and Sanders 2002). At every age, girls in girls-only classrooms are more likely to explore non-traditional subjects such as Computer Science, Math, Physics, and Woodworking and get greater autonomy especially in heterosexual relationships (Bruce and Sanders 2002).

A lot can be said about single-gender education. The reality is that there are pros and cons to the approach and research findings and conclusions are equivocal. The debate has not yet settled. Having this in mind, this study gave due attention to three questions: 1) what are the attitudes of students towards single-gender, and, by implication, to mixed-gender schooling in terms of enhancing their academic achievement and in improving their school behaviour? 2) Which school type (single-gender or mixed-gender) do students in these schools prefer? 3) Can single-gender schooling be used as an alternative strategy to enhance female students' academic performances?

Given the low representation of female students in Ethiopian higher education institutions, which, in part, has resulted from female students' poor academic performances in schools, answering these questions can provide crucial information to government and private school officials about the attitude students have towards mixed- or single-gender schooling and if the later can be employed as one strategy to enhance academic achievement among female students. Besides, given the inconsistent research results worldwide, this study can reveal the Ethiopian students' (in single-sex schools) relative positions vis-à-vis the global standings. By adding the Ethiopian perspective to the global literature, the study can contribute its part in addressing the on-going controversy surrounding the effectiveness of single-sex schooling.

This study mainly aimed at examining the attitudes of students attending all-boys and all-girls schools towards single-sex schooling. It also looked at if this schooling type could be used as a strategy to address female students' poor academic performances.

**2. Methods**

The study was predominantly qualitative and descriptive survey in its design. The only available secular single-gender private schools in Addis Ababa (St. Joseph school—all-boys and Nazareth school—all-girls) were used as research sites. The total student population (N) and the sample (n) are indicated in Table 1.

Table 1. Student population and samples (2015/16 Academic year)

Grade level	School type					
	All-girls			All-boys		
	N	n	%	N	n	%
7	118	60	51	145	30	21
8	111	52	47	143	32	22
9	160	52	33	194	46	24
10	152	47	31	167	33	20
11	157	52	33	158	55	35
12	143	49	34	152	54	36
<b>Total</b>	<b>841</b>	<b>312</b>	<b>37</b>	<b>959</b>	<b>250</b>	<b>26</b>

**Source:** Documents of the corresponding schools.

The primary data sources were students although some individuals in those schools took part in informal interviews. Relevant achievement-related documents were also reviewed. For the survey, first a three-scale questionnaire (agree, disagree, neutral) was prepared by adopting questionnaires previously used by Hill, *et al.* (2012) and Spielhagen (2011). Then, one section was randomly chosen from each grade level. A total of 6 sections were selected from each school. Taking students' maturity level into account, some explanations were given to assist them respond to the questionnaire properly. Data were collected from a total of 562 randomly selected students in grades 7 to 12 (312 students from an all-girls school and 250 students from an all-boys school). Data were collected in April 2016 and analyzed using descriptive statistics involving frequency counts and percentage distributions.

**3. Results and Discussion**

The responses from the 562 students were organized into three themes (some items may overlap) and analyzed accordingly: the impact of single-

sex schools in enhancing academic achievement and classroom participation, single-sex schools in terms of improving students' school behaviour and educational aspirations, and students' general attitude towards this approach. Data related to students' school type preferences were presented and analyzed towards the end. Most analyses and interpretations were made in terms of majorities, where the term *majority* refers to the greatest number among those who either agreed, or disagreed, or are neutral and responses to the third scale 'neutral' were not included as these responses help little, if any, to answer the research questions.

### **3.1. Responses along gender and school type: all-boys versus all-girls**

A total of 23 items were included in the survey. Some of the items may appear to compare single-sex school experiences to that of co-ed schooling. The items were made so for, at least, two reasons. First the items were formulated following the pattern of the items from which they were adopted. Second students were expected to be aware of single- and mixed-gender schools for some of them began schooling in mixed-gender schools and later transferred to single-sex types. But, most importantly, students can answer such questions as they spend much of their time in a society where co-education is the norm. Table 2 presents responses of the students that participated in the study.

#### ***3.1.1. Academic achievement and classroom participation***

As indicated in Table 2, larger proportions of the respondents (57 per cent of boys and 65 per cent of girls) agreed that they participated more fully and were more focused on the task when they were separated from the opposite sex. Greater majorities (73 per cent of the boys and 92 per cent of the girls) disagreed that 'their school types were less competitive'. Regardless of these responses and, despite the fact that full classroom participation, more focus, and greater school competitiveness contribute to academic success, surprising was that only less than half of each group (36 per cent of boys and 47 per cent of girls) agreed on the item '*My overall academic achievement is better in single-sex schools*'.



Table 2. Responses along gender and school type

No.	Items	Single-sex (boys)				Single-sex (girls)			
		Agree		Disagree		Agree		Disagree	
		N	%	N	%	N	%	N	%
<b><i>I. Academic achievement and classroom participation</i></b>									
1.	Single-sex schools are less competitive.	32	13	183	73	21	7	288	92
2.	I am more focused and on-task in single-sex classes.	142	57	27	11	192	62	56	17
3.	My overall academic achievement is better in single-sex schools.	91	36	97	39	146	47	117	37
4.	I participate more fully in class when separated from the opposite sex.	142	57	82	33	203	65	81	26
<b><i>II. Student behaviour and educational aspirations</i></b>									
5.	There are fewer disciplinary problems in my school type.	47	19	145	68	192	62	72	23
6.	I feel more comfortable with single-sex schools.	49	20	169	68	217	70	59	18
7.	Classes with the opposite sex are more enjoyable.	210	84	17	7	157	50	106	34
8.	It is boring with all-girls/all-boys schools.	199	80	25	10	90	29	195	63
9.	My self-concept and self-confidence is better in single-sex schools.	105	42	116	46	232	74	62	20
10.	Single-sex schools enhance my educational aspirations.	62	25	105	42	167	54	117	37
11.	With my school type, it will be difficult for me to communicate with the opposite sex outside the school.	169	68	56	22	228	73	61	20
12.	There is more positive school behaviour when	47	19	121	48	121	39	128	41

No. Items	Single-sex (boys)				Single-sex (girls)				
	Agree		Disagree		Agree		Disagree		
	N	%	N	%	N	%	N	%	
genders attend separate schools.									
<b>III. General attitude towards the school type</b>									
13. I must grow learning how to work with both sexes.	241	96	0	0	288	92	9	3	
14. I want to hear the opinions of the opposite sex in classes, but I cannot.	217	87	10	4	163	52	109	35	
15. I work harder if both sexes try to beat each other.	127	51	56	22	212	68	75	34	
16. I could have gotten more opinions, if classes were mixed-gender.	207	83	11	4	211	68	54	17	
17. I want gender separation for many school activities.	72	29	149	60	155	50	106	34	
18. Single-sex schools are safer for me than mixed-gender schools.	34	14	182	73	220	71	56	17	
19. Gender victimization and harassment is low in single-sex schools.	210	84	3	1	285	91	6	2	
20. Gender-stereotyping decreases in single-sex schools.	106	42	114	46	228	73	39	13	
21. With my school type, I missed the opposite sexes' help.	151	60	60	24	60	19	220	71	
22. Single-sex schools work for us.	42	17	139	56	129	41	69	22	
23. Single-sex schools do not work for us.	139	56	62	25	98	31	151	48	

N: Number of Respondents

This negative attitude towards the impact of single-gender schooling on their academic achievement also contradicted the document review results indicated in Table 2. This table depicts all students (100 %) in those single-

sex schools, both boys and girls, who took the Ethiopian General School Leaving Certificate Examinations over the years 2013–2015, had joined universities. Even in the history of these schools, informal interviews with individuals revealed that, all students in their schools joined institutions of higher learning; many of them got scholarship opportunities abroad, and they answered to the question *‘how many students were repeaters in the history of your school’* mockingly as, *‘you better visit other schools to search for repeaters’*.

Table 3. Trends in Performance of Students in Grade 12 Ethiopian General School Leaving Certificate Examinations, 2013–2015

Academic year	Status	School type	
		All-girls	All-boys
2013	Examined	143	150
	Joined universities	143	150
	Pass %	100	100
2014	Examined	141	125
	Joined universities	141	125
	Pass %	100	100
2015	Examined	136	146
	Joined universities	136	146
	Pass %	100	100

**Source:** Documents of the schools studied

Whereas the majority’s negative attitude is in contradiction with the findings of many studies that single-gender schools increase academic achievement (King, *et al.* 2010; Younger and Molly 2002; Colley 1998; Fox 2005), their response seems to support a study which concluded that once student selection and preference factors were accounted for, schooling type or gender composition of a school had no effect on achievement (Pahlke, *et al.* 2013). The implication from both explanations is that either single-gender schools increase achievement (the former) or they have no effect (the later). That means if students attend single-sex schools, either they will benefit or at least they will lose nothing. Nonetheless, the dissatisfaction of these students may have resulted from lack of satisfaction with other issues, such as social interactions with the opposite gender. This should be an area of concern for the single-gender schools and students’ parents.

### 3.1.2. Student behaviour

Concerning the impact of single-gender schooling on student behaviour, for all items, the majority of boys did not hide their dissatisfaction. Unlike the finding by King, *et al.* (2010) that boys' disciplinary referrals decreased as a result of the introduction of single-sex schools, equal majorities of boys (68%) disagreed that, in their school type, there were fewer disciplinary problems and they felt more comfortable with their school type. A considerable majority of boys (87%) even said attending classes with girls was more enjoyable, it was boring with all-boys (80%), and 46% disagreed that their self-concept and self-confidence was better. It appears, as Younger and Molly (2002) noted, many boys resent boys-only classes and complain about the loss of girls' support for their behaviour.

Unlike boys, the majority of girls agreed that there were fewer disciplinary problems in their school (62%), they felt more comfortable with it (70%), their self-concept and self-confidence was better (74%), and 63% disagreed that it was boring with all-girls, although 50% said classes with boys were more enjoyable. With regard to educational aspirations and academic interest (item 10), the majority of girls (54%) agreed that single-sex schools enhanced their educational aspirations while 46% of boys did not. There can be many reasons why the majority of girls claimed to have supported their single-gender school: the enhanced freedom from social pressures arising from the presence of the opposite sex (Colley 1998; Pahlke, *et al.* 2013; Spielhagen 2011); better empowerment and self-realization (Salomone 2004); and, in measures of self-perception, female students from single-gender schools outscore their male counterparts (Tully and Jacobs 2010).

One point of mutual agreement between the two genders comes from the impact of single-gender schooling on their communication skills with the opposite sex. Sixty-eight percent of boys and 73% of girls agreed that, with their school type, it would be difficult for them to communicate with the opposite sex outside the school. For the more general item, *'There is more positive school behaviour when genders are separated'*, although the percentage of boys and girls in their category was less than half, more boys than girls disagreed. This reply was further substantiated when boys and girls in these schools were asked about their school type preferences, where,

as indicated in Table 4, more boys (56.8%) than girls (51%) chose mixed-gender schools. As McNergney and Herbert (2001) said, one of the problems of single-gender schooling was that it discouraged cross-sex contact and socialization in a more 'natural' environment. Especially, as Pahlke, *et al.* (2013) noted, boys with more exposure to same-sex peers became more aggressive over time and this effect was dose-dependent where the more time boys spent with other boys, the more aggressive they became. In this regard, the school should shoulder a key responsibility because, if schools are not aware of the negative social, emotional, or affective consequences of teaching boys and girls separately and fail to provide supplementary opportunities, such as the opportunity for informal mixing of students of opposite sexes, all-boys and all-girls schooling can have potentially serious disadvantages (Younger and Molly 2002). McNergney and Herbert (2001:320) noted that "impressing the opposite sex is a 14-year-old's reason for being. Take away that pressure, and miracles happen".

### **3.1.3. General attitude towards single-sex schooling**

There are amazing patterns indicated in Table 2. In every item, when schools were portrayed as places of socialization, competition, and cross-gender interaction, the majority of both boys and girls, mostly more boys than girls, preferred the mixed-sex approach. But, when schools were described as places that tended to discriminate against genders and foster stereotyping, the majority of girls preferred single-sex schools while the majority of boys rejected this schooling type. Another interpretation in relation to these attitude-related items is, for all items, the majority of boys showed positive attitude towards mixed-sex schools and negative attitude towards single-sex schools.

To be more specific, the majority of both boys and girls agreed on the following items where schools were considered as places of cross-gender socialization and interaction: '*I must grow learning how to work with both sexes*' (96% of boys and 92% of girls); '*I want to hear the opinions of the opposite sex in classes, but I could not*' (87% of boys and 52% of girls); '*I work harder if both sexes try to beat each other*' (51% of boys and 68% of girls); and '*I could have gotten more opinions, if classes were mixed-*

*gender*' (83% of boys and 68% of girls). In fact, the positive attitude towards cross-gender socialization and interaction might be a natural reaction. Scholars who oppose single-sex schooling claim that "girls and boys must learn to work together in preparation for coed world" (McNergney and Herbert 2001:320).

On the other hand, when items depict schools as places for increased gender stereotyping, the majority of girls supported single-sex schools while the majority of boys disfavoured them. Boys' rejection of this school type appears to coincide with the finding that the strongest predictors of students' achievement are the social and economic resources of families and schools, but not the gender composition of the schools (Pahlke, *et al.* 2013). Younger and Molly (2002) have also noted that single-sex schools have negative consequences on the social behaviours of particularly boys. Whereas the vulnerabilities boys reflect are still worrying, girls' support for single-sex schools might have arisen from the benefits they enjoy in that school type: enhanced self-esteem and self-confidence as well as high academic achievement and greater autonomy (Colley 1998; Bank and Harriet 2004; Che *et al.* 2011).

Finally, to see their overall attitude towards single-gender schooling, two opposite items which state that '*single-sex schools work for us*' and '*single-sex schools do not work for us*' were raised. Equal percentages of boys (56%) disagreed with the first item and agreed with the second item. Although the percentages are less than half, 41% of girls agreed with the first item and 48% disagreed with the second one. The pattern that emerged from analyzing all the items above was the extended negative attitude and dissatisfaction of boys with their school type, despite the fact that all grade 12 students in their schools join universities. This should communicate a clear message to the school and students' families.

#### **3.1.4. Overall school type preferences**

Single-sex arrangements can take three different forms: single-gender schools, where separate schools are set for each sex; single-gender subjects within mixed-gender schools, where boys and girls are separated for limited subjects within the same school; and single-gender classrooms within

mixed-gender schools, where the schools are mixed but boys and girls attend all classes separately. All students from both school types were asked which school type they preferred. Table 4 shows their responses.

Table 4: School type preferences of students

<b>Which school type do you prefer?</b>	<b>Single-sex (boys)</b>	<b>%</b>	<b>Single-sex (girls)</b>	<b>%</b>
Single-sex schools	26	10.4	78	25
Single-sex classrooms within mixed schools	76	30.4	68	22
Limited single-sex subjects within mixed schools	6	2.4	8	2
Mixed-gender schools in all case	142	56.8	158	51

The data presented in Table 4 showed the majority of students of both groups preferred mixed-gender schools. In fact, in line with the above discussions, more boys than girls did so. Nonetheless, girls' preference to mixed-gender schools was remarkable since it refuted what was discussed above about their support to most items related to their school type. However, regardless of their gender, watching their preference is at times important since, as Hamdan (2010) concluded, the level of success of a school is more a function of the students' personal experiences and of their personal preferences for single-sex or co-educational schooling. Besides, perhaps, as DeBare (2004) noted, the idea of educating boys and girls apart from their opposite peers remains controversial in a nation long committed to co-education. Especially, parents should ask themselves one key question: shall I prioritize my child's academic achievement opportunity or his/her school type preference to decide to which school type to send? Every decision has its own consequence.

#### **4. Conclusions and Implications**

The main objective of this study was to examine the attitudes of students attending all-boys or all-girls schools towards single-sex schooling. An attempt was also made to see if this school type could be used as an alternative strategy to increase academic achievement among female students. Based on the analyses, it is concluded that, both sexes hold negative attitudes towards the impact of single-sex schooling on academic performance. Boys disagree and girls agree that single-sex schooling

improves student behaviour. Difficulty to communicate with the opposite sex outside the school was the problem agreed by both sexes. In relation to their overall attitude, there are two conclusions. When schools are presented as places that foster cross-gender interaction, both sexes do not like single-sex schools. But when schools are described as places that result in gender discrimination, stereotyping, and insecurity, girls support the single-sex approach and boys reject it. With regard to school type preferences, the general preference of both sexes is mixed-gender schools.

Based on the written evidence that all students in those single-sex schools join universities and the fact that the majority of female students acknowledge that their schools allow them to participate more fully, to avoid gender victimization and stereotyping, and to improve their educational aspirations, it is fair to conclude that the single-gender approach can be used as an alternative strategy to enhance academic achievement among female students. Nevertheless, taking into account the general school type preferences of both sexes (mixed-gender), the benefits the majority of female students claim to have enjoyed from their school type, the long-held tradition of co-education in Ethiopia, and the communication challenges students fear they might face as a result of attending single-sex schools, it is recommended that any gender-related intervention better uses and/or pilot-tests the single-gender class within the mixed-gender school approach. Further research with expanded scope could also be one way forward.

Moreover, although the academic achievements of students in both schools are encouraging, student concerns arising from attending schools separate from the opposite sex must alarm schools and parents. Schools, especially all-boys schools, and their parents must aggressively work to alleviate the unexpected outcomes of such schools on student behaviour. They need to openly discuss single-gender school associated issues with these students and must closely follow them before consequences manifest.

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1. The *Ethiopian Journal of Development Research (EJDR)* is a bi-annual journal dedicated to serve as an avenue for sharing useful findings in the multi-disciplinary study of *development problems and issues* of Ethiopia in particular and of the less developed world in general.
2. The publication accommodates original peer-reviewed articles that traverse through wide areas and themes of development. The Journal publishes analytical papers, synopses of major researches, dissertation abstracts, book reviews, and evidence-based commentaries, which may have both theoretical and empirical contents drawn using scientific methodological approaches in the diverse areas and topical themes of development. As such, it provides scholars, scientists and researchers in development research with an avenue for reflection and serves as a vehicle for the dissemination and discussion of research results.
3. The journal comes through rigorous peer-review and editorial processes and procedures.
4. **EJDR** publishes research articles that contribute to scholarly dialogue on the economic, social, political, and related problems of development in Ethiopia, and elsewhere. In addition to their scholarly quality, therefore, the major criterion used for selecting the articles to be published in **EJDR** is their contribution to the growth of knowledge about development in Ethiopia and other similar set ups.
5. Priority will be given to articles that deal with development policy, strategies and institutions, especially those focusing on rural development. However, articles concerned with other development issues of the country and Africa at large may also be considered for publication so long as they have scholarly merit and provide comparative insights.
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## *Style and Format Guidelines of the Ethiopian Journal of Development Research (EJDR)*

### **I. General**

Contributors are encouraged to submit good scientific papers, which should:

- present an accurate account of the research investigation;
- be clearly written and easily understood;
- follow the particular style of the scientific discipline;
- be free of jargon and local slang;
- have appropriate and adequate illustrative material, all of which should be relevant to the subject of the report;
- not contain any plagiarized material (plagiarism is a serious offence and is a serious charge against an author).

**Regarding length**, the manuscript should:

- be computerised, double spaced on one side of A4 paper and should have 2.5cm margins (left, right, top and bottom).
- be 25– 40 pages. However, longer articles are also acceptable if the length is necessitated by richness of a monolithic content, which cannot be presented in separate articles.
- contain proportional and adequate coverage of the major sections of the paper.
- contain well-balanced graphics (tables, graphs, illustrations) and textual elements.

Before submitting the manuscripts for publication in EJDR, authors are required to follow the following styles and formats, which are widely used in academic journals in development studies and the social sciences.

**In terms of structure**, articles should follow the TAIMRAD(C/R) format, where the acronym stands for: 1) Title page; 2) Abstract; 3) Introduction; 4) Materials and Methods; 5) Results and Discussion of Implications (either harmonised together or presented as subsequent sections); 6) Conclusions/Recommendations.

## II. Specific Details

### 1. Title Page

1.1. The following shall appear on the Title Page:

- a. full title of the articles, which should:
  - contain not more than 20 words;
  - describe the contents/the subject of the paper accurately and specifically within the limits of space;
  - avoid abbreviations, formulas and jargon;
  - usually omit the verb and is only a label;
  - be easy to understand and recall, as well; and
  - contain the keywords, for the benefit of information retrieval systems.
- b. name(s) of the author(s);
- c. the titles(s), academic position(s) of the author(s) referred to at the bottom of the page with the use of an asterisk;
- d. the study period (for articles based on longitudinal and historical data);
- e. full address of the author(s) (institutions of their affiliation, postal address, telephone, e-mail etc., for correspondence);
- f. other relevant information such as name and address of a corresponding author, if the paper was presented at a meeting or is part of a series study, should be noted at the end of the manuscript.

1.2. Authorship and the degree of authors' contribution

It is the responsibility of the authors to list their names according to the degree of contribution made by each of them, in a decreasing order of contribution. Normally, the following rules wholly apply;

- ☞ Equal contribution is presumed when the names are written in alphabetical order; or
- ☞ The degree of contribution shall be determined by the order in which the names appear, unless indications are given by the authors to the contrary.

1.3. All correspondences will be made with the author whose name appears first (unless indicated otherwise).

## **2. Abstract**

The manuscript should have an abstract:

- not exceeding 200 words;
- that briefly introduces the problem, study gaps and the study area;
- that outlines the methodology, including the philosophical underpinnings, study design, approaches, sampling strategies, materials used and methods of data collection and analysis;
- captures the key findings of the study, their implications and conclusions or key recommendations.

## **3. Introduction**

In this section, the author(s) should:

- give background to the study problem and the rationales that initiated the study;
- define and articulate with statements of the problem the nature and extent of the problem studied;
- define the study area and objectives of the study;
- introduce the research questions or hypotheses;
- present adequate review of the literature (both conceptual—including theoretical and conceptual frameworks—and empirical) related to the study;
- do all it should in no more than five pages.

## **4. Materials and Methods**

In here, authors are required to present clear account of:

- 4.1. the methodology, including the philosophical underpinnings, study design, approaches, sampling strategies, and methods of data collection and analysis;
  - Standard methods need only be mentioned, or may be described by reference to the literature as long as it is readily available;
  - Modifications of standard techniques should be described; and
  - If the method is new, it should be described in detail.

- 4.2. If the article results from experimental or quasi-experimental research, the design of the experiment, including the number of replications;
- 4.3. materials used, including:
  - chemicals, laboratory equipment with the necessary technical specifications; standard units of measurement;
  - any plants or animals involved, with exact descriptions of genus, species, strain, cultivar, line, etc.);
- 4.4. justifications as to why the materials and methods used were chosen over others.

## **5. Results and Discussion**

Depending on the craft and choice of authors, as well as on what the subject matter warrants, results and discussion can be either intertwined together or presented under separate sections. In any case, results should:

- 5.1. add new insights to the existing body of knowledge;
- 5.2. be based on data and information scientifically-drawn from sources, but free from authors' personal dispositions and biases.
- 5.3. be simply and clearly stated;
- 5.4. report representative data rather than endlessly repetitive data;
- 5.5. reduce large masses of data to means, along with the standard error or standard deviation;
- 5.6. repeat in the text only the most important findings shown in tables and graphs and instead report repetitive data in tables and graphs;
- 5.7. include negative data—what was not found— if (but only if) they affect the interpretation of results;
- 5.8. give only data that relate to the subject of the paper as defined in the introduction;
- 5.9. refer in the text to every table and figure by number;
- 5.10. include only tables, figures and graphs that are necessary, clear and worth reproducing;
- 5.11. provide adequate answers to all the research questions or pursue all the hypotheses/assumptions made at start of the study;

5.12. include concomitant findings only if they are important.

## **6. Interpretation of the results**

This section, which should preferably be embedded with the ‘Discussion’ section, should:

- not repeat what has already been said in the review of literature;
- dealt with each of the originally stated objectives in the order they were originally;
- relate the results to the questions that were set out in the introduction;
- show how the results and their interpretations agree, or do not agree with previous findings and their interpretations;
- show implications/significance of the results for existing theoretical and conceptual constellations, policy, practice, and/or further research to follow up the results.

## **7. Conclusion and implications/or recommendation**

This is the section where,

- based on the findings and discussions of their implications, the authors draw logical conclusions about each research question or hypothesis;
- nothing (methods, observations or results) should come as a surprise (should not be mentioned for the first time);
- authors should avoid unnecessary detail or repetition from preceding sections;
- you indicate future courses of action.

## **8. Citation and Referencing**

8.1. All materials, referred to or quoted must be acknowledged. Plagiarism is a serious academic dishonesty, an offence which is illegal and unethical.

8.2. EJDR uses the *author-date* system of citations in all of its publications. Thus, authors have to ensure that author-date citations in the text agree exactly with corresponding entries in the reference list and that all the facts are accurate.

8.3. Citation and referencing should be complete according to this Style Guide, which is adapted with modifications from the Chicago Manual of Style 16<sup>th</sup> Edition or latest

The author-date citation in a running text or at the end of a block quotation consists of the author's/editor's last name, and the year of publication. Examples:

- Author, year, page no.: (Johnson 1987: 22–25)
- Two sources, with one author having two works: (Sen 1999; Jenden 1978b)
- More than three authors/editors: (Kassoguè *et al.* 1996)
- Organisation, year, volume, page no.: (World Bank 1988, 2:47)

8.4. Direct quotations should be as short as possible and should be reproduced exactly in all details (spelling, punctuation and paragraphing).

☞ Short quotes should be placed in quotation marks.

☞ Long quotations should appear indented and centred in the text without quotation marks.

8.5. References in the text should read as follows:

\* Brown (1975: 63) has argued that the ...

OR

\* One economist (Brown 1975: 63) has argued that...

Use “*et al.*” when citing work by more than two authors.

Example: A new treaties (Goody *et al.* 1976) suggests...

The letters a, b, c, and so on should be used to distinguish citations of different works by the same author in the same year. Example: Brown (1985a, 1985c) insist that...

8.6. Essential additional notes should be indicated by consecutive superscript numbers in the text and collected on a separate page at the end of the text, titled **Notes**. Keep such numbered notes to a minimum. Authors shall not use “foot-notes”, i.e., notes at the bottom of the page, but “**end-notes**” placed at the end of the text but preceding the References.

Numbered notes should be used to make clarifications about the references used, to include points left out in the text, to add some items which readers may want to know. If the citations or

references in the text are too long, or consist of more than three names, it may be advisable to put them in the Notes at the end.

- 8.7. All references cited in the text and other supporting material should be listed alphabetically by author in a section titled References and appearing after Notes. Ethiopian authors should be listed alphabetically by first name first. Shiferaw Bekele, for example, should be listed under S and not under B. The same holds for Chinese names. Write out Ethiopian names in full in the Reference list (i.e., first and second names) as they are given in the publications you are citing. Do not abbreviate, for instance, as Shiferaw B. In the text, references may use first names only, or full names. Avoid, as much as possible, using honorific titles, such as Ato, Wzro, Dr., etc., in citations or references.

*The following are examples of different entries*

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The full citation should contain: name(s) of author(s) followed by a full stop, year of publication followed by a full stop, title of article referred (in sentence style, Times New Roman) followed by a full stop, name of Journal or serial publication (in title case) followed by a comma, volume number, issue number followed by a colon, page range whereon the article appears.

Alemayegu Lirenso. 1988. Food Aid and Agricultural Production in Ethiopia. *Ethiopian Journal of Development Research*, 10 (1): 59–90. (The last parts of the Journal can also be given as *Ethiopian Journal of Development Research*, Vol. 10, No 1, pp. 59–90.)

Cowley, R. 1967. The Standardization of Amharic Spelling. *Journal of Ethiopian Studies*, V. 2: 1–8.

**Note:** The volume and issue numbers should be entered as they are given in the journals cited, i.e., if the numbers are in Roman or Arabic numerals, they should not be changed.

☞ *Books*

Bahru Zewude. 1991. *A History of Modern Ethiopia, 1955–1974*. London: James Curry.

- Clapham, C. 1988. *Transformation and Continuity in Revolutionary Ethiopia*. Cambridge: Cambridge University Press.
- Donham, D. and Wendy James (Eds.). 1996. *The Southern Marches of Imperial Ethiopia*. Cambridge: Cambridge University Press.

Listing of several works by the same author should be by year of publication, the earlier work preceding the recent. Here is an example:

- Levine, Donald. 1965. *Wax and Gold: Tradition and Innovation in Ethiopian Culture*. Chicago: University of Chicago Press.
- \_\_\_\_\_ . 1974. *Greater Ethiopia: The Evolution of Multiethnic Society*. Chicago: University of Chicago Press.

#### ☞ **Contributions in books**

- Wood, Adrian P. 1982, Spontaneous Agricultural Resettlement in Ethiopia, 1950–1974. **In:** J. Clarks and L. Konsinski (Eds.), *Redistribution of Population in Africa*, pp. 1150–82. London: Heinemann.

#### ☞ **Contributions in proceedings**

- Tadesse Tamirat. 1984. Feudalism in Heaven and on Earth: Ideology and Political Structure in Mediaeval Ethiopia. **In:** *Proceedings of the Seventh International Conference of Ethiopian Studies, University of Lund 26-29 April 1982*, pp. 195–200, Edited by S. Rubenson. Addis Ababa: Institute of Ethiopian Studies.

#### ☞ **Conference papers**

- Hyden, H. 1990. ‘Ideology and the Social Sciences: The African Experience’. Paper presented at the OSSREA Social Science Conference, 8–10 May, Kampala, Uganda.

#### ☞ **Unpublished works**

- Messing, S. 1957. ‘The Highland-Plateau Amhara of Ethiopia’. Ph.D. dissertation, University of Pennsylvania.
- Alula Abate, *et al.* [these should be listed]. 1986. Evaluation of the Impact of UNICEF-Assisted Water Supply Projects in Bale, Harerge, Shewa and Wello, Ethiopia. Programme Cycle 1980–1983. *Research Report No. 30*, Institute of Development Research, Addis Ababa University, Addis Ababa.



### ☞ **Official publications**

- Central Statistical Office. 1975. *Results of the National Sample Survey Second Round, Vol. V. Land Area and Utilization*. Addis Ababa: CSA.
- World Bank. 1973. 'Agricultural Sector Survey, Vol. I, The General Report. Report no. PA-143a.' Washington: World Bank [Note: this is a report, not a book, so the title is not underlined].
- \_\_\_\_\_. 1989. *Sub-Saharan Africa: From Crisis to Sustainable Growth*. Washington: World Bank.

### ☞ **On-line sources**

Further to the details in the above categories, include the date of access and the URL of the site whereat the material was accessed.

## **9. Format**

A4 paper size with 2.5cm margins shall be the standard paper size.

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Titles should be set in title case, NOT in all caps.

Should not contain acronyms and abbreviations.

### **9.2. Endnotes**

Authors are advised to use endnotes instead of footnotes.

Endnotes should be numbered consecutively throughout each chapter or article, and placed at the end of a work, in a section titled "Notes", after any appendix and before the reference list.

### **9.3. Acknowledgements**

These should be placed at the end of the text next to the appendix but before the endnotes.

### **9.4. Headings**

Major chapter headings must be in Title Case and centred on the page. Sub-headings must also be in Title case but aligned with the left margins.

If a manuscript has subsections, the following decimal notation should be used for numbering the headings and subheadings:

1.	2.	3.
1.1	2.1	3.1
1.2	2.2	3.2

However, authors are advised to avoid using more than three *levels* of subheadings unless the complexity of the argument warrants it. Preceded by the decimal notations indicated above,

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- 2<sup>nd</sup> level titles should be set in Times New Roman 12pts, bold;
- 3<sup>rd</sup> level titles should be set in Times New Roman 12pts, bold-italics, run-on with text;

### **9.5. Text**

Text should be set in Times New Roman, 12pt font size, double-spaced.

Block quotes should be indented from both sides and set in 11pt font.

### **9.6. Tables and Figures**

- Tables should be used only where the data requires at least 2 rows/columns by 3 rows/columns. Details shorter than this shall be presented in text form.
- Should be consecutively numbered and referred at the right place in the text;
- Should have short titles;
- Each column and row of a table should bear proper titles;
- All footnotes to and all sources of tables should be placed under the tables.
- Also captions to figures should be placed immediately below the figures, followed by source information and Notes (if any) on some variables in the tables/figures.
- Keys to the different components of figures or graphs shall be placed at upper right corner within the boundary of the figure.
- Tables and figures should be used to present details and thus they should not be duplicated in text form. Unnecessary and lengthy tables and figures are discouraged.

### **9.7. Abbreviations**

Avoid use of dots in all familiar abbreviations, such as CSA, EEC, FAO, UNESCO, USA. However, dots should be placed at the end of the followings: e.g., etc., *et al.*, and other similar entries.

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- English is the Languages of the Journal. Use one form of spelling, preferably the UK English (English English), throughout the text. This should either be American (i.e., according to, for example, Merriam WEBESTER's Dictionary) or British spelling (i.e., according to the OXFORD dictionary). Do not mix or switch between the two forms.
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