

In Two Different Worlds: How Malawian Girls Experience Schooling

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Abstract

This paper reports on a qualitative case study of how Malawian girls experience schooling in single-sex versus coeducational institutions. It is a qualitative narrative depicting the socializing and learning processes which affect girls' potential to succeed in mathematics and science subjects and careers. Further I use critical reflection to describe my own experiences as a student, teacher, and researcher at one of the single-sex boarding schools.

The results confirm other research findings that single-sex school environments are effective in building high expectations and aspirations for higher education among girls. In single-sex schools, girls held higher educational expectations and occupational aspirations for non traditional careers than girls in coeducational schools. In coeducational schools girls' abilities were marginalized by school administrators, teachers, and boys. Girls were seen as a distraction to the boys and faced sexual abuse and pressure to attend to their physical appearance. The paper advocates for the expansion of single-sex boarding schools for girls, group cohesion among girls in coeducational schools, gender streaming of math and science classes, gender equity training for teachers, and the increased practice of gender fair teaching.

Keywords: gender equity, girls' education, qualitative research.

Introduction

Even though globally women continue to make gains in education and employment, much still remains to be accomplished before real gender equity and equality is achieved. Women and girls are still underrepresented in Science, technology, engineering, and mathematics programs, and get lower scores on standardized tests (National Science Foundation, 2007). Vocational programs continue to direct women into traditionally female training programs, resulting in low paying jobs. The exclusion of female students from science subjects, athletic scholarships, leadership positions, and the prevalence of sexual abuse, harassment, and bullying in schools and college campuses all add up to slow the process of achieving gender equity in education (American Association of University Women, 2007).

Historically the social and economic outcomes of women's education are shaped by gender systems that place women in a subordinate position to men (Lorber, 2005). Schools contribute to gender systems either through denial of access or the kind of education provided to men and women. The extent to which education is made available

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and is equal in terms of quality, quantity, and content is predicative of future social and economic benefits of schooling (Kelly & Elliot, 1982). Many scholars have argued that schools serve as instruments of social and structural reproduction (Apple, 1979, Anyon, 1983, Whitty, 1985, Wolpe, 1981, Kelly & Nihlen, 1982, Giroux, 1983, Althuser, 1971, Bowles & Gintis, 1976, Bourdieu, 1977). A growing body of research shows that the shortage of women in male dominated occupations is not due to lack of access or relevant intellectual ability (Jacobs, 1989). Throughout the primary school years, girls and boys maintain equal achievement levels in mathematics and science subjects. Some educators even argue that girls have a developmental edge over boys from birth. They score higher on standardized tests and are generally more mature and readier to learn than boys (Mann, 1996). But then something happens as they progress through the school ladder. By the time they leave secondary school, their scores on standardized tests are lower than boys'. In particular, boys' average performance in math and science subjects becomes higher than that of girls. Even boys' opinions of themselves and their future become higher than those of girls. It is apparent that schooling plays a significant role in perpetuating traditional gender role socialization (Sadker & Sadker, 1994).

Unequal educational attainment is closely linked to the type of school a student attends (Mallam, 1993, Orenstein, 1994). The study reported in this paper illuminates the differences and similarities between schooling at a single-sex versus coeducational school. It addresses the following questions: (1) how do school environments affect the educational and occupational expectations and aspirations of students by gender? (2) what are the potential benefits or disadvantages of single-sex schooling for girls and boys? (3) how do teachers influence girls' and boys' expectations and aspirations and gender role development?

Literature Review

Throughout the history of Western education, men and women attended separate schools. The practice of coeducation came about in the middle 19th Century when gender roles began shifting. Even then, there was some resistance from proponents of single-sex education who invoked God, morality, and the family to defend their position (Sadker & Sadker, 1994). Although educators such as John Dewey (1911) disputed the prevailing ideas, the school curriculum continued to be segregated by sex.

In response to economic and demographic changes and to the demands of the women's movement and other forms of political pressure, many countries made legal amendments that encouraged coeducation in the early 1960s. Sex discrimination was made illegal in Europe and America in the early 1970s and public single sex-schools began to disappear. It was argued that single-sex education harmed girls by depriving them of equal educational opportunities. Where programs were established separately for both boys and girls, they tended to be distinctly unequal, with fewer resources allocated to girls programs and stereotypical notions limiting vocational options. In the US, Title IX of the Education Amendments of 1972 prohibited sex discrimination in public and private institutions that receive federal financial assistance. In Europe, however, private single-sex schools continue to exist especially among the most endowed school districts.

While coeducation has been viewed as a means of promoting equality of educational opportunity, there is substantive evidence relating to the effectiveness of single-sex schools in educating girls (Mallam, 1993, Colley et. al., 1994, Riordan, 1990b, Lee & Lockheed, 1990, LePore & Warren, 1997, Smith, 1996). The Education Foundation of the American Association for University Women (AAUW) published research to indicate that mixed classes do not necessarily result in equality of educational opportunity (AAUW Report, 1992). They reported that when girls and boys occupy the same classroom space, they sometimes receive different educational experiences. Gender bias and stereotyping can be a major factor in coeducational classrooms, with girls receiving fewer opportunities for learning and problem solving than boys. In addition, it was reported that girls often feel inhibited and constrained in mixed classes, thus becoming less motivated to engage in classroom activities and in turn performing less well particularly in math, science, and computer-related subjects (AAUW Report, 1998).

A six year study of over 270,000 students conducted by the Australian Council of Educational Research in 2001 demonstrated that both boys and girls educated in single-sex classrooms scored an average 15 to 22 percentile ranks higher than their counterparts in coeducational settings (Mamslem, 2001). Recently Sax (2006) found that boys and girls learn differently therefore putting them in the same class disadvantages one group. He argues that gender-neutral education favors the learning style of one sex over the other.

Advocates of all girls' schools and women's colleges are quick to point out that graduates of these institutions are more likely than their co-educated peers to enter medical schools, choose careers in non-traditional fields, and work at the highest levels in government and corporations (Lee & Marks, 1990, Sadker & Sadker, 1994). Some reports indicate that single-sex schools help students develop assertiveness and a strong sense of identity (Smith, 1996). Single-sex schools are said to be "a unique place where women are valued and supported," (Sebrechts, 1992 p22). Further, Pollard (2006) concluded that single-sex classes enhance social and personal development and better prepare underprivileged students for roles they are likely to assume in adulthood. Riadon (1990a) established that single-sex classes addressed the social context of African and Latin American students and issues of gender bias. Students were encouraged to explore a range of roles and options they can consider in today's society. More recent research has highlighted the potential benefits of single-sex schooling to disadvantaged males who have poor success rates in the American educational system (Meyer, 2008).

Critics of coeducation argue that mixed schools have been organized for the benefit of boys and in the interest of perpetuating male dominance (Spender, 1982, Sarah & Spender, 1980, Clarriotes, 1978). Proponents of coeducation deny the existence of male domination in mixed schools, insisting that equality of educational opportunity prevails even when one sex is evidently dominant. They assert that coeducation is a preparation for real life while a single-sex education, in contrast, is an unreal experience and form of organization (Blumner, 2002, Sullivan 2001). Some critics even remind us that public schools are not intended to instruct children reading and math but also to teach commonality, tolerance, and citizenship (Weil, 2008). Feminists have countered these arguments by saying that it is possible to teach a subject from a female unique

perspective and involve the girls in learning in an environment that associates the subject with their normal lives. In all girls classrooms, girls experiences the liberation of being free to truly be themselves and not having to fit themselves into a patriarchal system that expects them to pervert their emotions and behavior into the masculine (Bracey, 2006).

Few studies have been conducted in developing countries regarding the effects of school environments on girls' educational experiences. Reports of these studies seem to indicate positive outcomes from single-sex schools in cognitive achievement. Hyde (1993) reported that girls in single-sex schools in Africa performed significantly much better in mathematics than girls in coeducational schools. Mallam (1993) found that students in "all girls" Nigerian schools favored math more than girls in coed public boarding schools, particularly when mathematics was taught by female teachers. Lee & Lockheed (1990) found that girls in single-sex schools in Nigeria outperformed other girls and held less stereotypical views about mathematics. However a paucity of qualitative studies on African girl's educational experiences in single-sex and coeducational school environments still exists. Thus this study fills the gap in qualitative knowledge about how Malawian girls and boys experience schooling in both single-sex and coeducational environments.

Contextual Background

Malawi is a small landlocked country in Sub-Saharan Africa sharing borders with Mozambique, Tanzania, and Zambia. With a population of 13 million people and a GNP of \$200 per capita, Malawi is one of the poorest countries in the world and ranks the lowest in female participation in education and employment within the Southern African region. The illiteracy rate among women is among the highest in the world, estimated at 65 percent compared to 40 percent for men. Only 9 percent of all women have attained more than four years of primary schooling and fewer than 2 percent have entered secondary schools. A negligible number of women have received university education, estimated at 1 percent (Mbilizi, 2007).

The formal education system comprises three tiers; the primary, secondary and tertiary levels. The total student enrollment in primary schools is now at 1.5 million with a student-teacher ratio of 70 to 1. There is scarcity of teaching and learning materials particularly in rural schools. The primary level has standards 1 through 8 and the official school entrance age is 6 years. At the conclusion of the primary cycle, students take national examinations that determine their eligibility for entry into secondary school (Mbilizi, 1997).

Presently, there are about 150 secondary schools, characterized as either private, government, or parochial/government aided schools. Students spend four years at this level. Overall, the secondary level admits a relatively small proportion of the relevant cohort. The net enrolment rate is less than 11 percent of all qualifying students. Only 4 percent of all girls who enter primary school find a place in secondary school. Due to the disproportionate representation of girls and boys in primary schools, more boys than girls are selected. The passing rate of girls in national examinations is lower than that of boys by 20 percent. Notably, the pass rate for girls in single-sex schools is higher than girls in coeducational schools.

School drop out rates play a pervasive role in increasing and maintaining gender gaps. At the primary level, the drop out rate for girls is 14 percent compared to 9 percent for boys. Reasons for school drop out include early marriage, excessive responsibilities within the home, sexual harassment by teachers, poverty, long distances, and lack of latrines within school compounds, teen age pregnancy, lack of role models, and lack of boarding facilities (Mbilizi, 2007).

The higher education system includes five constituent colleges of the University of Malawi, Mzuzu University, seven teacher training colleges, and a number of technical colleges. Out of all students who sit for and pass national examinations at the secondary level, fewer than 20 percent are eligible for entry into the university and only 50 percent of these are actually selected into university programs. The overall proportion of female students in university programs is 25 percent. Of these, 78 percent are enrolled in traditional subjects such as the humanities, education and nursing (Mbilizi, 1997). Clearly women are under represented in science, engineering, and technical fields.

Research Methodology

The guiding paradigm for this study is qualitative inquiry (Lincoln & Guba, 1985, Glesne & Peshkin, 1992, Yin, 1984, Patton, 1980). It is a comparative case study of 6 school environments with the following characteristics:

- School 1- single-sex, girls, boarding, urban, secondary, government aided/parochial.
- School 2- coeducational, boarding, rural, secondary, government.
- School 3- single-sex, boys, boarding, urban, secondary, government aided/parochial.
- School 4- single-sex, girls, boarding, rural, primary, government aided/parochial.
- School 5- single-sex, boys, day, urban, primary, government aided/parochial.
- School 6- coeducational, day, rural, primary, government aided/parochial.

The sampled primary schools had an average enrollment of 1,200 students and the secondary schools' average enrollment was 450 students. Only standard 7 and standard 8 pupils were sampled at the primary level and form 3 and form 4 pupils at the secondary level. The student sample size was 597 including 288 girls and 309 boys. I prepared and administered a structured questionnaire for students using ideas and concepts from the literature on student expectations and aspirations, and gender structuring in the classroom. A section of the questionnaire required students to write an essay describing their experiences with gender role socialization in the schools.

I conducted 30 interviews with purposefully selected male and female

mathematics and science teachers. In-depth tape-recorded interviews were conducted using an interview protocol adopted from Streitmatter's (1994) study on gender equity in the classroom. I provided leading questions that allowed participants to describe their experience with male and female students in their own language, words, and ways of expression (Patton, 1980, Shaffire & Robert, 1991). Extensive open-ended interviews with head teachers of the six schools were part of the initial data collection process.

This study involved formal and informal observations of teacher-student interactions and peer interactions. I conducted 20 classroom observations in classes of the teachers who were included in the sample, particularly science teachers. A teacher-student contact summary form was used to structure classroom observations and this included general categories representing dominant themes in gender equity emerging from the literature.

The qualitative data were analyzed using the constant comparative method (Glaser & Strauss, 1975). The interview data and student essays were transcribed, edited, organized and categorized into areas of interest and concern. These categories were abstracted on the basis of constant comparisons of data incidents. As the concepts developed which were supported by the data, I began thinking in terms of the theoretical properties and dimensions of each concept. Refining the concepts led to grounded theory. Then I synthesized emergent themes into a case study narrative which represents a holistic portrayal of the influence of school related factors on gender structuring.

The qualitative data analysis also involved compiling a detailed narrative of girls' experiences at a single-sex secondary boarding school (Stella Maris) and a coeducational boarding secondary school (Chiradzulu). The two secondary schools were selected from the total sample of six schools based on their rich history, programs, and philosophies. The analysis included critical reflection and a reconstruction of my lived experiences as a student, teacher, and researcher at Stella Maris combined with the experiences of other students and teachers at the school. Then I contrasted the schooling experiences of girls at Stella Maris with those of girls at Chiradzulu. The narrative below takes the reader into the life of girls at a single-sex and coeducational school through my lenses.

Growing Up With Big Sisters and Nuns

Stella Maris sits on the outskirts of Blantyre City, about 6 kilometers from the city center. It was founded in 1959 by the order of Sisters of Our Lady from Holland as a domestic science college. In 1961, it opened its doors to 22 women and by 1962, the mission of the school expanded to include a 1 year program in domestic science for primary school teachers. The domestic science and commercial education programs were phased out in 1968 and Stella Maris became a fully fledged secondary school in 1971. I know Stella Maris like the back of my hand because I spent a decade of my life within the compounds of this school, first as a student and later as a teacher and researcher.

At 12 years old, I enthusiastically woke up at 5.30 a.m. every morning, had a cold shower, and dressed neatly in a corduroy green skirt and a white sleeveless cotton

blouse before the school bell rung. I had slept on a narrow metal bed with a thin mattress, my uniform lightly dampened, neatly folded, and tacked under my pillow. I shared my dormitory with seven other girls. On some Sundays, we went to mass at the convent chapel. Some girls in our group were Catholic while a few of us were Presbyterian. Our Catholic friends were more acceptable to the nuns compared to the rest of us. They participated in the mass ceremony as “alter girls” while we sat at the back of the chapel and marveled at this rich display of faith. Rushing to the cafeteria on Sunday evening was a major highlight of my life at Stella Maris. This was the only day when rice and beef stew were served. I did not like lunch hours because beans and nsima (thick corn porridge) were served everyday. The girls who helped the cooks on Sunday night were lucky. They could scrape the rice from the bottom of the huge pots which had baked into a delicious crispy rice cake. I totally resisted breakfast which was cornmeal porridge everyday. Instead, I lived on a glass of orange “Sobo” (a beverage not juice), some cookies, and a slice of bread, which was often not so fresh. By the end of the four years, I had developed a stomach ulcer due to poor diet.

Once every fortnight, in uniform, we were allowed to leave the compounds of this heavily fenced campus. We woke up very early and stood at the huge gate anxiously waiting for the guards to open and let us out at exactly 6.00 a.m. We walked for 10 minutes on a dusty road to the nearest bus station in a shanty town called Zingwangwa. We always traveled in pairs. Luckily my best friend Mthangei lived with her mother in Ndirande, the same residential location that my family resided. First, we had to go to the city to get money from our parents. My mother was working as a human resources manager for a departmental store known as Kandodo. Her office was on the second floor above the store. I would walk up, wait a few minutes at the reception area, and be allowed to see her. Once I got some money, I would go down into the big supermarket and buy food then ride on a bus to Ndirande where Mthangei and I cooked fried chicken, rice, and vegetables within 3 hours. We had to be back on campus by noon. Missing the roll call meant that we would not be allowed to go out the next shopping day.

Nevertheless, some senior girls with boyfriends stayed out the whole day and came back after dark. They used this time to meet “sugar daddies” who bought them food and clothing. Some would get pregnant during the school year. If they were lucky, they would conceal the pregnancy by tying a cloth around their stomach until vacation time when they had an illegal abortion. Those that were unfortunate were expelled from school as soon as the matron found out. In the middle of each semester, Sister Eda would invite a qualified nurse (nun) to examine each girl to make sure they were not pregnant. While the nuns were concerned about girls' sexual behavior with men, they were not aware that in the dorms, girls were experimenting with their sexuality as well. During the first weeks of the freshman year, a senior girl would approach a young girl to become their 'sugar' or "darling' or "honey". This was done in a letter which was delivered by the senior girl's best friend. My "honey" was a fourth year girl called Esther. Her letter was delivered by her best friend Alice. Esther wrote me love letters, and I answered back. We exchanged gifts and food. These two girls watched out for me and made sure my school work was proceeding well. They made sure nobody teased me. To this day, Esther and Alice are two of my best friends.

Both were selected to pursue a college degree. I joined them at Chancellor College three years later. But our relationship in college was different. We never saw each other as lovers but best friends.

Every night we went into the school building to study. It was time to be silent. The duty mistress paced up and down the corridor to make sure no one was talking. Then examination time came. Out of 120 girls, only about 20 were selected to proceed to university. In the year that I took the national examinations, only 17 girls were selected. Five were selected into a teaching program, 7 were selected for a nursing degree program, 2 went to the business school, and 3 were selected to the college of agriculture. No one was selected for engineering, technical education, or environmental studies. Why were the girls not selected for nontraditional careers? The answer is obvious- the subjects that the school concentrated on could not qualify the girls for math and science related careers. The Catholic nuns focused more on home economics and fine art. However, it is important to note that nationally, Stella Maris had the highest number of girls being selected for college.

When I went back to Stella Maris in 1982 as a teacher, a lot had changed. Almost all the nuns that had taught me had retired but were still living in the convent. Sister Edna was still a matron in the dormitories. Two more dormitories had been built and the enrollment had increased to about 600 students. The headmistress was now a civil servant. During my old school days, the only male teacher at Stella Maris taught physical education and agriculture and was sponsored by the now defunct Malawi Young Pioneers (MYP). Five years later, there were 6 male teachers out of a staff component of 20 and all of them were teaching science subjects. Only one female teacher taught mathematics. Teaching girls made my initiation into the teaching profession an easy task. The girls were young and impressionable. They listened politely and did almost anything I asked them to. It was then that I realized the critical importance of a teacher in young women's lives. During this time, I was not gender sensitive because my training had not exposed me to women's issues. All I knew was that it was my duty to teach the girls according to the syllabus. I failed to recognize that I had the responsibility to change the practices that limited my possibilities. I taught young girls home economics, fine art, and needle work with passion and dedication, not realizing that I had become part of the vicious cycle that was reproducing traditional gender roles.

Against this backdrop, I returned to Stella Maris as a researcher two decades later with little need to uncover the cultural context of the school. I knew several things had changed over the years but not enough to discount my previous experience with the school. The headmistress was now a Malawian Catholic nun. She welcomed me warmly and gave me access to the teachers and students at her school. My first class observation was in a form 3 physical science lesson which began at 10.40 am and lasted 40 minutes. The lab was spacious and well furnished. The girls rushed to the front seats and when these were filled, some girls reluctantly moved to the back of the class. They murmured among themselves until the teacher entered the classroom.

At 49, Mrs Phoso still looked young and vibrant. She had been teaching at this school for 15 years. Based on my interview a few days before, Mrs. Phoso presented herself as a teacher who was striving to make the girls achieve high levels in science.

She believed in equality between men and women. "Planners give preference to men even when it comes to promotions. There is no justification why women cannot go to the top." Seeing Mrs. Phoso teaching confirmed my feelings about her desire to help girls succeed in science. She was firm with them and showed no sympathy for the girls' efforts to avoid learning science. The lesson was on "proton transfer in acids". She provided clear explanations of how the process occurs. The girls responded to her questions even when they were not sure of the answer. The teacher used a special technique of mixing knowledgeable girls with those who were not very responsive in group assignments. In this class, the girls were speaking loud enough for everyone to hear.

I made similar observations at the rural boarding single-sex primary school I Zomba. The young girls there were also very active during class sessions. The girls raised their hands high and snapped their fingers to attract the attention of the teachers. But the classes were too large, and it was difficult for the teacher to pay attention to everyone. I remember observing a young girl doze off in a crowded science class of about 60 tiny girls seating in rows on a dirt floor. The teacher was conducting an experiment on air pressure using very limited resources. He asked some girls to come to the front of the class to suck water up a tube while the others observed. Then he wrote notes on the board. "Stop writing and listen to me," he shouted out to the girls. But the girls would not listen. It was important for them to write down what he said so that they could study for the national examinations, I learned from one of the girls.

Sometimes it was difficult to observe the linkage between what the teachers believed in with respect to gender equity and what they actually did in the classroom. In the interviews, the teachers had advocated the need to encourage girls to work and fight hard in class. They seemed to recognize the obstacles imposed on the girls by the culture and society in trying to achieve a nontraditional profession. But what were they doing to help girls overcome these challenges in the classroom? One day, as I listened to Mrs. Kambalame, a 35-year-old math teacher. I began to realize that when it came to math lessons, nothing had changed for the girls at Stella Maris since my school days. Like my math teacher, Mrs. Kambalame did not seem to remember that often girls are scared of math. I looked around the classroom and saw some blank faces. She called on the girls who raised the hands to answer questions. She was happy when a few gifted girls seemed to grasp the lesson, and she focused her attention on them. To her, these girls would succeed in the examinations, therefore they needed greater encouragement. "I am quite aware that there are some girls who are slow, but I cannot afford to go at their pace. We have to finish the syllabus before the examinations come," she said as we talked about her lesson on the way to the break room.

Mrs. Kambalame was not the only teacher who felt that the syllabus imposed severe limitations on what they could do for the girls. Lucy Khonje, another math teacher in her mid-twenties confirmed this assertion. I met Lucy in the hall way outside the headmistresses' office situated at the farthest corner of the rectangular split level building. "I am going to teach a form 1 class. I don't mind for you to join me." As we walked down the stairs to the lower level of the building, Lucy told me that she knew me

from college. After completing her teaching degree, she married and left for Canada with her husband. She had just been back three years. The girls stood up when we entered the classroom. She introduced me and I walked to the back of the classroom. The lesson was on proportions. As Lucy was teaching, I observed how she used gender insensitive language. She asked the students to find out how many children a man would have in 5,10,15 years if he had 5 wives and the women were reproducing at a rate of 3 children per year. After the lesson, I candidly asked Lucy what she thought about the problem she had given to the girls. It is then that she told me how rigid the syllabus was. She told me that she was aware that the example was demeaning to women and that, if she had a choice, she would not use it. "I know that they are revising the textbooks at Domasi (teacher's college) to make them more gender sensitive, but until the books are released, we have no choice but to continue giving the old examples." Lucy promised that in her next lesson, she would explain to the girls why she had to use the example and make them understand that what was reflected could not happen to women in reality. Overall, the attitude of teachers left much to be desired. Despite the fact that girls at this school were optimistic about pursuing a science related career, teachers were constrained by a rigid syllabus and time limitations.

Leaving Stella Maris felt as if I was putting closure to a chapter of my life which had predicted my future life chances. One thing that was clear to me was that despite the emphasis on domestic science, the environment was conducive to girls' high academic achievement. It is not surprising that in the attitudinal survey conducted as part of this study, girls at Stella Maris reported higher educational and occupational expectations and aspirations than girls in coeducational schools. They were being given the best opportunity any student needs to attain a balanced secondary education.

Learning Silently With the Boys

Chiradzulu is my home district. My mother and father were born and raised in Chiradzulu. It is one of the poorest districts in the country. Until the 1980s there was not a single paved road, electricity or running water. Ironically Chiradzulu shares boundaries with Blantyre, the industrial city of the country. Every morning, people from the villages travel to Blantyre. The women carry heavy baskets on their heads full of vegetables to sell at the open market. The men travel on bicycles to work in the factories and Indian trading stores. They walk past one side of the wire fence of Chiradzulu Secondary School. The school is the pride of the local residents. From its inception, the local community played a vital role in the development of the school. Self-help projects conducted by parents and local villagers resulted in the construction of three teachers' houses, two hostels, and one classroom block. It was opened as a government day secondary school at the country's dawn of independence from British colonial rule in 1964. It started with two streams of form 1 and 2 along with a night school. Even though the school was a day school, most students in collaboration with local communities made some type of boarding arrangements to reside within commuting distance to the school.

Girls were first admitted in 1968. Because of the lack of electricity, students used paraffin lamps to study at night. The girls had to walk long distances early in

the morning to draw water from the and nearby rivers. These hardships led to a decision to transfer all girls to other boarding secondary schools in 1979. In 1982, an expansion program under the International Development Agency (IDA) and the World Bank resulted in more classrooms, laboratories, a library, girls' hostels, a water supply system, and electricity. The school began to readmit girls in 1984. Presently, the total enrollment is 480 pupils, 160 of which are girls.

Similar to Stella Maris, the school day runs from 7.30 a.m. to 3.30 p.m. and there are 9 teaching periods of 40 minutes in length. The curriculum is standard, including mathematics, biology, physical science, agriculture, English, Chichewa (national language), geography, bible knowledge, home economics, French, and physical education. Unlike at Stella Maris, home economics is not emphasized at this school. A typical day at Chiradzulu begins with the marking of attendance registers. When the school bell rings, students dressed in white shirts and blouses and brown pants and skirts rush from their humble looking dorms to classrooms to answer the roll call conducted by their prefects. As my days at the school went by, I realized that the deputy headmaster was the most influential person in the school. He was a very polite man. Neatly dressed in a white shirt and brown pair of pants, he came to greet me as I stepped out of the car during my first visit to the school.

There was a long queue of students and people from the village waiting to meet him. We walked past them while he gave instructions to some students to proceed to their classrooms. His office was a small room with books and papers all over the desk—nothing compared to the well decorated, spacious office of the headmistress at Stella Maris. We talked about my research plans. "I don't know what to do about the girls," he complained, "they are very shy and they don't seem to want to learn." This revelation by the deputy head of the school was to be confirmed beyond my imagination. The teachers talked about how lazy and shy the girls were. Boys accused their female schoolmates of seducing them. Girls accused teachers of undervaluing their potential and boys of mocking them. The negativity went on and on. However, amidst this pessimism, some teachers and girls were trying to make a difference.

One day I walked into a senior geometry class. The teacher was a young male who had taught at the school for only two years. Mr. Vaslatos was very friendly. As a young man he hated girls. "I did not like chatting with girls very much. My father used to tell me to stay away from girls because they are destructive," he had told me earlier. "As time went by, I started changing my views. At college I discovered that girls were not destructive. Now I am very flexible with girls," he went on. "I try to go at the pace of girls who are slow. I force girls to solve problems. So far it is working. Some girls now feel freer than before." In class Mr. Vaslatos indeed tried to involve the girls. But what I witnessed instead was a kind of passive resistance to participation by the girls. These girls had internalized the limitations of gender. Each time the teacher asked a question, some girls would raise their hands and then lower them, apparently gripped by a sudden fear that they would give a wrong answer. Those who were called on did not speak loud enough. Some girls never tried. In each classroom that I observed, the girls quickly rushed to the back

of the classroom. When group assignments were given, they quietly observed the boys attempting to solve the problem. On one occasion, not a single girl in the class had done her mathematics homework. They all gave excuses to the teacher for behaving the way they did. The boys handed in their work and were praised by the teacher.

With the exception of Mrs Luwela, all other female teachers at the school taught home economics, bible knowledge, and Chichewa. They were not in the science classrooms where girls needed their support. "Science needs people who think, not just people who are like the girls who just sit back and let the boys get ahead," Mrs Luwela remarked. "The biggest problem is proportions. There are more boys than girls. You find that in a class of 45, there are only 15 girls. The girls are outnumbered and helpless. Since the majority are boys, they tend to do everything and the girls feel left out." She concluded. The girls at Chiradzulu were not alone in this struggle to learn while being silenced by the boys. At the coeducation primary school included in this study, girls behaved in a similar fashion in the presence of boys. They did not speak loud enough, and then the boys would jeer at them. One teacher actually encouraged jeering to encourage the girls to speak up. The boys dominated the classes. On two occasions, I saw boys who volunteered to answer a question say "I have forgotten the answer." or "I don't know the answer." The boys simply wanted to attract the attention of the teacher and to dominate the class. There were very few textbooks in circulation at the coeducational primary school. The boys grouped together to share the textbooks while the girls quietly listened to the person who had been called out to read a passage from the book by the teacher. In most cases it was the boys who were called on to read from the passage. The teachers had to make conscious efforts to include the girls. In the end, the boys appeared to benefit more from the lesson than the girls. Boys helped each other understand the lesson. Girls were passive participants.

But some girls at Chiradzulu were struggling to be included. During group assignments, I saw them scrambling for a group in which most of the members were boys. They wanted to learn from the boys. I recall observing a geography lesson in which students were engaged in group work most of the time. There were two distinct groups that attracted my attention. One group was dominated by girls and the other was composed of mostly boys and two girls. The group with girls struggled unsuccessfully to solve the problem. They did not get the correct answer, but at least they tried. On the other hand, the girls who joined the boys' group did not do much but sit and listen to explanations given by the boys on how to solve the problem. This group managed to get the correct answer.

One day, as I was walking in a corridor of a classroom block facing the girls' hostel, I saw four girls standing around an open fire with what looked like science equipment in their hands. As I approached them the girls smiled and greeted me. "We are conducting an experiment," one of them said to me. "You see, we had to do this in class, but it was difficult. So we decided to try it on our own after class," another girl added. It was impossible to imagine that these were the same girls who were invisible in the classrooms. Outside the classroom, the girls had the enthusiasm to learn science.

By the time I completed my research, I was convinced that girls at Chiradzulu secondary school and other coeducational schools in the sample were being shortchanged. They were being socialized to view boys as more intelligent and privileged. This sense of powerlessness would result in a diminished sense of self and lead to their taking up a second class accommodating role. Without a sense of self, girls enter adulthood with a deficit. They are less able to fulfill their potential, less willing to take up challenges, and defy tradition in their career choices.

Discussion of Results

When I began this research I knew that my schooling at Stella Maris was more superior to what my peers had received at other schools. Among my reasons for thinking like this was not because it was a single-sex school, but due to the prestigious nature of the school. I had my own grievances towards the school because of its overarching emphasis on home economics and humanities subjects. I hypothesized that Stella Maris led to domestication or the choice of a traditional career path. What I did not realize was how effectively single-sex education was impacting the lives of young girls and boys. This research made me reach the conclusion that girls in single-sex schools were learning in a world without the destructions of the adolescent social agenda. To underscore this point, the descriptive data from student questionnaires revealed that girls (85%) and boys (93%) in single-sex schools had higher levels of aspirations for college education than girls (73%) and boys (84%) in coeducational schools. Girls (78%) and boys (83%) in single-sex schools also placed more value on the importance of achieving higher education compared to girls (57%) and boys (61%) in coeducational schools. When asked to rank the importance placed on achieving a successful career, the results showed that more girls (78%) and boys (81%) from single-sex schools ranked this item higher than girls (33%) and boys (60%) from coeducational schools. More girls (37%) and boys (64%) in single-sex schools aspired for engineering compared to girls (16%) and boys (45%) in coeducational schools. In relation to preference for traditional careers for women, the difference between girls and boys was distinct regardless of the school they attended. More girls aspired for nursing (60%) and teaching (48%) than boys (3% and 13% respectively). This finding alludes to the fact that single-sex schools have a similar impact on both girl's and boys' aspirations for higher education and non-traditional careers. However, aspirations for traditional careers among girls are the same regardless of the school environment.

While these results point to the effectiveness of single-sex schooling for both boys and girls, it is important to note that single-sex school environments had adverse effects on boy's attitudes and perceptions towards women. Less boys in single-sex schools (37%) believed that women should have the same opportunities for advancement in scientific careers compared to boys (43%) in coeducational schools, neither were they optimistic about women entering technical fields. More boys in single-sex schools (51%) agreed with the stereotype that getting married is more important in a woman's life than a career compared to boys in coeducational schools (23%). More boys in single-sex schools (40%) held the belief a woman should spend more time helping a husband's career than her own compared to boys in coeducational schools (35%). In their written

essays, boys in single-sex schools expressed very negative views about women. "I enjoy being in a community free from girls since I don't like them. I am extremely happy being at a single-sex school. It has helped me build my aspirations and expectations for a successful career. I am the type who is disturbed in the presence of girls," one boy commented. Some boys made sexist comments like, "Since at the beginning God created a man first therefore he (man) has to be considered first for him (God) not to be angry," and "Women always talk of equality, a thing which is not good. They forget that God created Eva to help Adam so girls must not cry for equality. Let men be in top ranks, leave the chance of education to men," and " Please! Women when given a chance to drink from the same cup with men I tell you the world will continue to go down the bumpy track it has already taken." Most of the boys who expressed these sexist remarks attended Catholic boarding schools. It is possible that religious influences were having impact on their attitudes towards women. The power of monolithic religions to reinforce male domination seemed to permeate the school system in Malawi.

These findings considerably extend knowledge of the links between school processes and school outcomes. For example, this study suggests that gender composition of the school influences not only high academic achievement but also shapes student attitudes towards gender roles. For girls, aspirations to science related careers and non-traditional gender identities were fostered in single-sex schools. In contrast, boys in single-sex schools embraced traditional and negative stereotypes towards women. Thus, while single-sex school environments are good for girls, it is important to recognize that expanding single-sex schooling implies that more boys will learn apart from girls. Policy measures that simply increase the supply of single-sex education for girls while ignoring the consequences of the effects of negative gender structuring among boys in single-sex schools will lead to greater gender inequality in schools and society. It is important therefore to complement such a policy with programs that would socialize boys into adopting non-stereotypical masculine identities.

Many significant insights into gender dynamics in different school environments emerged from the data. In coeducational settings, girls were often viewed as sex objects by both teachers and boys. "Some girls do bad things like attracting boys to like them. They don't sit well, they wear short dresses and like that I cannot be attentive," one boy wrote. Girls faced pressure to attend to their physical appearance, which led to a reduction of time and focus invested in their education. "You can see that girls do not attend morning assembly. The reason is that they are busy with stupid things like plaiting their hair and applying cosmetics, which they think attract men," one boy made this remark. Unlike females in single sex-schools, girls in coeducational schools were evaluated in part by their appearance and feminine characteristics. Some girls were sexually abused by male teachers. Interestingly, boys were the ones who reported incidences of sexual abuse of female students by male teachers and not the girls themselves. "Some teachers fall in love with the girls and when a teacher learns that a boy is in love with the same girl, the boy is expelled.....a good number of the girls have fallen in love with the new teachers," a boy revealed.

Generally, girls in coeducational schools felt that teachers did not treat them equally with boys in coeducational settings. Some teachers reminded girls of their

inferior status to boys. One girl wrote, “teachers say you girls you want to get married to the well-to-do men so you must relate well to the boys. Another girls said, “one day a teacher said to me, you are dull and you better go home to get married. Such comments make us to be discouraged in our studies.” Many girls gave accounts of how they were undermined by teachers. “Being at a mixed school has affected my expectations in that we (girls) have been let down by teachers who always say boys are more intelligent than girls and no matter how hard girls work they cannot compete with the boys. Such being the case we don’t work hard in class having being informed that we cannot pass in the presence of boys,” a senior girl wrote.

Overall about 60% of the teachers preferred mixed classes while 30% preferred teaching boys and 10% preferred girls. More female teachers (70%) preferred teaching girls than male teachers (40%). Many male teachers felt that teaching girls was a formidable task. But the female teachers felt sympathetic toward girls. It was as if female teachers had a sense of duty to help girls to succeed. Despite the fact that in general teachers' attitudes towards girls' education were negative, teachers in single-sex schools held more optimistic attitudes than those in coeducational schools. The implication is that mixed school settings have relatively pervasive effects on both teachers and students. Further research into the relationship between teacher attitudes and school type should be conducted. In schools, all teachers must be encouraged to practice gender fair teaching. All aspects of classroom life should consistently reinforce the message that equal educational opportunity is a reality for all students. Teachers need to incorporate non-sexist materials, books, and activities on a continual basis in the day-to-day teaching of girls and boys. They must direct attention to the stereotypes and problems that affect boys and girls. Changing stereotypes that close off student aspirations and options is not easily accomplished. It needs the help and cooperation of others who care about the well being and potential of the students including parents. Gender fair teaching is a total process. It should involve all aspects of the school and home environment.

Conclusion

The AAUW (1995) describes a good education as one that provides the tools, resources, and environments that enable each student to develop their full potential. A good education ensures full access and opportunity, equitable and developmentally appropriate treatment, and high quality results for both girls and boys. Based on results from this study and other research reports, single-sex education seems to provide a good education for African girls’ effective participation and accomplishment in science related subjects and careers. The Oprah Winfrey Academy for Girls in South Africa has set pace for the direction girls’ education needs to take if gender equity in Africa is to be accomplished. As Meyer (2008) observed, “It is a new world, especially for women, and serious educators seem to realize that single-sex schools and classrooms are not a threat, but another arrow in the quiver of education quality.” (p9)

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In Two Different Worlds: How Malawian Girls Experience Schooling.

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