GENDER DIFFERENCE AND ACADEMIC ACHIEVEMENT IN MUSIC AMONG FORM FOUR STUDENTS IN KENYA 1991-1995

by

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ABSTRACT

The purpose of this study was to compare academic achievement in Music between boys and girls at the Kenya Certificate of Secondary Education (KCSE) level in order to find out whether there is gender difference. Differences in achievement in the Music Practical, Music Theory and Average Music Mark between boys and girls were determined using the t-test.

A total of 11626 Form Four students between 1991 and 1995, of which 4831 boys and 6795 girls aged about 18, were the participants in the study. KCSE Music marks (1991-1995) that formed the instrument of the study were taken from the Kenya National Examination Council (KNEC).

Analysis of data indicated the following results: A very high statistically significant difference was observed between the means of boys and girls in the Music Practical and Average Music Mark in favour of girls; there was no statistically significant difference observed between the means of boys and girls in Music Theory; girls had significantly higher means in urban and specifically urban single-sex schools. Performance in rural, single-sex, mixed, urban mixed, rural single-sex and rural mixed schools indicated varied results. However, there existed statistically significant differences between the means of boys and girls in the Music Practical and Average Music Mark in favour of girls in the majority of cases. Conversely, statistically significantly higher means in Music Theory were observed in favour of boys in the majority of schools.

Suggested educational implications of the results arrived at in this study to teachers, the KNEC and the Ministry of Education section concerned with Music are pointed out. For example, teachers should use the differences in academic achievement pointed out in this thesis as their pointers in giving academic guidance and using teaching strategies that will help raise achievement of learners in Music, regardless of gender, and the Ministry should devise ways of promoting and hence

improving Music achievement in especially mixed school settings. Finally, a set of recommendations for future research are also made.

Key words: Music, Gender, Academic achievement, Urban schools, Rural schools, Single-sex schools, Mixed schools, Urban single-sex, Rural single-sex, Urban mixed, Rural mixed, Kenya.

CHAPTER 1

INTRODUCTION

1.1 Motivation for the study

There has been world-wide concern, especially in recent years, over the issue of gender and academic achievement in various school subjects. Particular attention has been paid to how girls perform compared to boys in Mathematics and the Sciences and other fields requiring Mathematics, especially as these subjects had somehow been taken to be men's subjects (Porter & Abeles 1979:48; Ornstein & Levine 1981:235-236; Warwick & Jatoi 1994:385). Some societies expect girls to do better in English than in Mathematics. According to Gleitman (1981:517), this belief is shared by teachers, parents and pupils who all work to make this come true. Equally true is the case in indigenous Kenyan society where young girls are encultured not to train in or play virtually any of the string and wind instruments, and quite a number of membranophones, yet play idiophones (Bebey 1975:14-16; Kenya 1977:23,28,31,35,40-41).

There are, however, areas in which one gender is known to outdo the other. For example, girls are known to develop speech at an earlier age than boys, and they are superior to boys in the linguistic skills of reading, writing, spelling and grammar (Koenigsknecht & Friedman 1976:1112-1113; Bank 1987:572; Nicholson 1993:93). Boys, on the other hand, have a better verbal reasoning. Further studies on general academic achievement portray mixed results on the gender issue (Hyde 1993:123).

Hyde (1993) cites several examples of research projects to this effect. First is a study done in Ugandan schools by Heyneman (1975:131) which found that gender was the single most important variable in explaining differences in achievement (in which achievement was measured as performance in the primary school leaving examination) with boys performing notably better than girls. Another study cited by Hyde (1993:123) that showed boys to be better achievers than girls is that done by Amuge (1987) using a national sample of secondary school leavers in Tanzania. This study found that boys out-performed girls in almost every subject.

In contrast to these are other studies that show that girls perform better than boys or as well as boys. A study done in primary schools in Mauritius by Chinapah (1983:162) found that girls out-perform boys in both rural and urban areas. Similarly, Boit (1986:99) found that girls in non-government and government-aided secondary schools in Nairobi, Kenya, performed as well as boys, but also that pupils in single-sex schools performed better than those in mixed schools.

There are also studies that have shown no differences between boys and girls in general academic achievement. Hogrebe, Nist & Newman (1985:717), for example, noted that studies in the 1930s and 1940s in reading achievement failed to show gender differences at both the elementary and high school levels. There is, however, no scientific evidence on gender difference that has been reported with regard to academic achievement in Music as a subject in the 8-4-4 system of education which is used in Kenya. It is for this reason that the present study is necessary. Good academic achievement in Music at Form Four level does not only ensure a learner a place in the only two public universities offering Music in Kenya but should, according to one of the aims of the 8-4-4 system of education, provide the learner with enough knowledge for gainful self-employment.

The 8-4-4 system of education is an outcome of the recommendation of the 1981 Presidential Working Party on the Second University in Kenya. The system consists of eight years of primary education, four years of secondary education, and four years of tertiary education depending on the discipline and the duration of the particular training (Kenya 1981:11; see Figure 3.2). Classes of the eight years of primary education are referred to as class or standard and are named using numbers from 1 to 8. Consequently, a learner who has satisfactorily completed the eight years of primary education joins secondary school. Secondary schooling lasts for four years. Instead of continuing the names as class 9 or standard 9, classes in the secondary level of learning are referred to as Forms, thus standard or class 9 becomes Form One, etc. Hence Form Four is equivalent to standard or class 12, the final year of secondary education. The average age of learners by the time they are in Form Four is about 18 years.

The Music curriculum of the 8-4-4 system of education covers, from its first year to the last year, Music Theory, Histroy of Music and performance skills in dance

and musical instruments. Secondly, the system gives equal opportunities for both boys and girls to develop their musical skills on an equal ground. As much as the 8-4-4 Music curriculum offers courses for both boys and girls, school is a place where societal ideologies are likely to be reproduced (Porter & Abeles 1979:48; Green 1997:143-144). This may mean, for example in Music, that girls may still be expected to sing and boys to play instruments as the practice is in the indigenous Kenyan society. Thus there is a need to create awareness of the achievement in Music by girls as compared to boys. This will be one way of addressing prejudices about the performance of Music by girls or boys, both at school and in society. Giving girls and boys equal music education is not only advantageous to the society but also has several educational implications. Firstly, it means recognition of one's abilities in learning music regardless of gender. Secondly, it is a way of providing opportunity for both boys and girls to explore music of all types and consequently music related careers. And lastly, it will be one way of producing enough music professionals who are capable of meeting the demands of the new curriculum. As it is at present, Kenyan schools are in dire need of music teachers and musicians of all types.

1.2 Problem of the study

Kenya, like any other developing country, lays heavy emphasis on education. Success in the Kenyan system of education is measured in terms of academic performance in school subjects. Certain school subjects like Mathematics and Science have been branded as men's subjects because men tend to perform better in them. Music, in the new 8-4-4 system of education, has not been labelled as a male or female oriented subject. In order to discover the variance in music performance among female and male students at Kenya Certificate of Secondary Education (KCSE) level, academic achievement of boys and girls in the subject will be compared. It is within this framework that the following question is posed: Is there gender difference in academic achievement in Music between boys and girls as measured by KCSE result marks?

1.3 Aim of the study

The main aim of this study was to compare academic achievement in Music between boys and girls at the KCSE level in order to find out whether there is gender difference. The study aims to examine the following objectives:

- how boys and girls perform academically in Music Practical at KCSE level
- how boys and girls perform academically in Music Theory at KCSE level
- how boys and girls perform academically in Average Music Mark (Music Practical plus Music Theory marks divided by two) at KCSE level
- how boys and girls perform academically in Music Practical, Music Theory and Average Music Mark in urban schools
- how boys and girls perform academically in Music Practical, Music Theory and Average Music Mark in rural schools
- how boys and girls perform academically in Music Practical, Music Theory and Average Music Mark in single-sex schools
- how boys and girls perform academically in Music Practical, Music Theory and Average Music Mark in mixed schools
- how boys and girls perform academically in Music Practical, Music Theory and Average Music Mark in urban single-sex schools
- how boys and girls perform academically in Music Practical, Music Theory and Average Music Mark in urban mixed schools
- how boys and girls perform academically in Music Practical, Music Theory and Average Music Mark in rural single-sex schools
- how boys and girls perform academically in Music Practical, Music Theory and Average Music Mark in rural mixed schools.

1.4 Significance of the study

For a long time Music taught in Kenyan schools consisted largely of singing. Only a handful former expatriate schools offered music for external examinations on a private basis for only a few interested learners. Therefore, there has never been a time when learners could display their academic musical capabilities on a wider scope as it is in the 8-4-4 system of education. With equal opportunity under a similar music curriculum, it is important that a study be conducted that could possibly reveal how boys and girls perform in Music academically. Academic achievement in Music is of importance to learners because it is an indicator of their academic abilities in the subject.

Several studies that have been done have compared gender differences in academic performance in various subjects under the 8-4-4 system of education,

but not in Music. It is therefore appropriate to direct this research effort towards finding out how boys and girls perform academically in Music. This study is significant since it will be the first one to compare academic achievement in Music between boys and girls at the KCSE level in Kenya. The majority of studies that have been conducted in Music have compared boys' and girls' preferences for instruments. This study still finds its relevance in probably being the first to address academic achievement in Music at the secondary level of education.

Through the combined approach of comparing academic achievement in Music Theory, Music Practical and Average Music Mark and comparing academic achievement of boys and girls on the same variables in urban, rural, single-sex, mixed, urban single-sex, urban mixed, rural single-sex and rural mixed schools, the study is likely to yield a highly integrated source of data that may be used by music educators and policy makers to improve the current Music teaching and learning in Kenya. Teachers, for example, may find the results of this study useful as an indicator of providing academic guidance to students and of planning teaching strategies that suit learners.

This study is also a contribution to other studies in the area of comparative music education. Findings of this study may stimulate further research in the area of Music Education regionally, nationally and internationally.

1.5 Theoretical framework of the study

Gender differences in academic achievement have been explained by many researchers using different theories largely arising from biology (genetic, hormones, brain structure and sensory perception), psychology (brain organisation, intellectual cognitive ability and types of thinking) and socio-cultural reasons, especially sex-role expectations and cross-cultural differences. In this section consideration is given to the most widely propagated theories.

Genetic theory on differences in achievement emphasises heredity. Maccoby & Jacklin (1974:75) came to the conclusion that sex differences in physical vulnerability do exist, but a sex difference in the effects of learning and teaching environment probably do not. Singleton (1986:72) came to a similar conclusion, stating that a simple basis to sex-related cognitive difference in general is unlikely.

Theories related to hormonal influences on the brain and maturation in relation to abilities at given tasks yield conflicting results (Singleton 1986:73). Brain structure, i.e. the size and weight of the brain, has been used to show differences in intellectual abilities of the two sexes (Nicholson 1993:86-87). It has been thought that females are intellectually inferior to men due to their relatively smaller brain size and light brain weight. But according to Halstead (1997:7), it was demonstrated earlier in this century that neither brain weight nor cerebral dimensions had an effect on intelligence.

Brain organisation theories propagate dominance or specialised functions of the left and right hemispheres of the brain. Earlier claims attached to this were that the left hemisphere was more dominant and the right less dominant. The left dominant brain was equated to males and the minor right to females. It was thus assumed that males therefore were intellectually superior to females based on the dominant left brain superiority to the minor right. According to Bowlin (1988:62), most research studies report no differences in lateralisation between the sexes. While it has been documented that each brain seems to specialise in different tasks, research studies are inconclusive in deciding the relationship of sex differences and lateralisation to academic aptitude (Bowlin 1988:58). Seward & Seward (1980:32) report that sex difference in overall mental ability has not been established.

Theories built on cultural and social influences emphasise societal influences. According to Adigwe (1992:188), sociological theory attributes sex differences to social attitudes, values, interest, aspirations and other cultural practices like the processes of socialisation. Socialisation theorists take the view that sex differences in certain abilities are culturally imposed, being due to differences in male and female learning opportunities, and this indeed seems to be the most obvious and likely cause of the differences (Fauth & Jacobs 1980:487; Halstead 1997:7). As early as 1942, Gilbert had already noticed that there was an assumed sex difference reflected in the social stereotype that women are more "artistic" than men and that the pursuit in arts is more or less a feminine activity (Gilbert 1942:19). This stereotype seems to be supported by sex differences on certain tests particularly those of musical talents. Halstead (1997:16) states that women have been found to obtain superior results in virtually all tests devised specifically

to measure musical abilities. However, Gilbert (1942:23,26) noted that these tests did not consider prior training in Music which could likely influence the results obtained. Bentley (1966:124), on the other hand, found no differences in musical abilities of boys and girls in childhood, even though the common observation was that more girls and young women sing and play instruments than do boys and young men. He, however, concluded that these differences may be due to sociological causes rather than because the female sex is better endowed with musical abilities than the male.

The assumption that music is feminine seems to run even across cultures that do not use ability and aptitude tests to justify their claims. In the Kenyan society for example, the view that music is feminine is as a result of how the word "music" as understood in the West translates into the local languages. In several Kenyan languages, song is the term used as a translation for the English word "music" (Akuno 1998:45). Song does not include instrumental music that males dominate. Because instrumental music is not song, it is not described as "music" hence the general silence of describing music as masculine. This does not mean, however, that males do not engage in music making. The tendency is rather to describe male musicians by the particular instruments they play. Thus both genders are equally engaged in music making but in different specialities: singing for females and instrumental music for males. Based on the foregoing, associating only females with music is therefore not justified.

Societal stereotypes like this, however, do not simply remain in the society at large, but find their ways into schools. Rogers (1986:159) stated that patterns of behaviour that are typical of each sex are not likely to be dropped at the school gates to be picked up again when learners go home. Schools are part of society and the girls, boys, men and women within them are subjected to the same general influence on their behaviour there as elsewhere.

The perceived appropriateness of music for girls is likely to affect both their attitudes to and performance in the subject Music taught in schools. One would then expect girls to have better achievement scores in singing and boys in instrumental music. However, the 8-4-4 school Music is not just singing for girls and instrumental music for boys. It comprises vocal techniques, instrumental

music, Theory and History of Music. The performance of girls in an examination based on such a curriculum then would not be expected to be better than that of boys. However, the labelling of Music as a girls' subject by society is also likely to influence their expectations of success in the subject, possibly because they have acquired stereotyped beliefs about themselves and Music. With this stereotype, girls are likely to have developed a positive attitude towards music that is likely to result in favourable performance in the subject as compared to boys. But given the fact that the training in Music that boys and girls have undergone during their primary and secondary schooling years is likely to have an effect on performance (Gilbert 1942:26,32), a difference in performance in Music by the genders may not be apparent.

1.6 Hypotheses

Three main hypotheses and eight sub - hypotheses have been formulated for this study. The main hypotheses are:

Hypothesis One: There is no gender difference in academic achievement in Music Practical as measured by the KCSE result marks.

Hypothesis Two: There is no gender difference in academic achievement in Music Theory as measured by the KCSE result marks.

Hypothesis Three: There is no gender difference in academic achievement in Average Music Mark as measured by the KCSE result marks.

The sub - hypotheses are:

Hypothesis Four: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in urban schools as measured by the KCSE result marks.

Hypothesis Five: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in rural schools as measured by the KCSE result marks.

Hypothesis Six: There is no gender difference in academic achievement in Music Practical, Music Theory

and Average Music Mark in single-sex schools as measured by the KCSE result marks.

Hypothesis Seven: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in mixed schools as measured by the KCSE result marks.

Hypothesis Eight: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in urban single-sex schools as measured by the KCSE result marks.

Hypothesis Nine: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in urban mixed schools as measured by the KCSE result marks.

Hypothesis Ten: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in rural single-sex schools as measured by the KCSE result marks.

Hypothesis Eleven: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in rural mixed schools as measured by the KCSE result marks.

1.7 Assumptions

The study is guided by the following assumptions:

- that learners have equal levels of musical background from primary to secondary school
- that KCSE music results are a reflection of true academic achievement in Music that are not influenced by teacher biases.

1.8 Limitations and delimitations

- The study covers only secondary schools offering Music in Kenya.
- The study only seeks to determine whether there are gender differences in academic achievement in Music.

- Only KCSE result marks will be used as a measure of academic achievement in Music. Their reliability and validity as an achievement test are accepted because of their use over the years, the fact that the setting is standardised and marking is done under supervised conditions compared to classroom tests.
- The years covered in the present study are 1991-1995 and that the results of the present study can therefore not be generalised to other years.
- It was not the purpose of this study to measure the influence of any background factors such as parental and peer influences, secondary school music teachers' competence in music teaching, teaching strategies, music teaching/learning resources, the influence of location of the school and type of school on academic achievement.

1.9 Definition of terms

1.9.1 Music

Music is a word that has several definitions according to the cultural setting in which it is used. In this particular study, Music will be defined in terms of the content of the Kenyan secondary school music curriculum. Thus Music embraces the following four areas in secondary schools:

- Basic Skills which cover the following basic elements in music:

  Time: this consists of note values and the tie, time signatures, bar lines, rests and grouping of notes.

  Melody: it includes pitch, scales, key signatures, sol-fa syllables, transposition, modulation, ornamentation, technical names of the scale, creating melodies/composition.

  Harmony: it involves the study of triads and chord progressions.

  Aurals: this comprises of rhythm, melody, intervals and cadences.
- History and Analysis comprising the study and analysis of music selected from any two of the following types: African, Western and Oriental.
- Practicals comprising performance of a dance selected from either African, Western or Oriental type; instrumental performance on two given instruments, each selected from either of the types given above.
- Project involving field work where pupils are expected to collect and preserve folk songs and dances, collect instruments, compose songs, and visit and

participate in national days, cultural festivals, music centres and recording industries.

1.9.2 Gender

The term "gender" of late has taken a wider meaning as opposed to the original use by linguists to refer to the rules associated with grammatical categories of words with masculine and feminine designation (Martin 1996:253). It follows that controversies have arisen especially in the use of the word "gender" versus the word "sex". Sex is taken to be a biological phenomenon while gender is a socio-cultural one. Others, however, argue that the causes of differences include both biological and socio-cultural factors; thus it is inappropriate to presuppose a single cause (Martin 1996:253). In this study, the term "gender" is embraced instead of "sex". This has been done with the understanding that beliefs, values and expectations held in any society about girls and boys influence their attitude towards school subjects and hence their performance in the same.

1.9.3 Academic achievement

Academic achievement is here understood to mean the measure of knowledge and cognitive abilities as depicted in the grade a learner earns in Music in the Kenya Certificate of Secondary Education.

1.9.4 Kenya Certificate of Secondary Education (KCSE)

Kenya Certificate of Secondary Education (KCSE) is an examination that learners take at the end of the four years of secondary education in the Kenyan system of education.

1.9.5 Urban and rural

Urban and Rural are used to refer to the location of a school. A school is considered to be "urban" when, according to the United Nations Educational, Scientific and Cultural Organisation (UNESCO) definition or classification it is located within an urban centre (a town with a total population of over 2000 inhabitants) while those located outside such centres are categorised as "rural" (Nyaundi 1993 cited in Agak 1995:48).

1.9.6 School type

School type as used here refers to the sex composition of a school, whether a girls' school or boys' school or mixed.

1.9.7 Single-sex school

Single-sex as used here refers to either boys' or girls' schools.

1.9.8 Mixed school

Mixed school is used to refer to a school where boys and girls learn together.

1.9.9 School

Unless otherwise stated, school is used to refer to a secondary school.

1.10 Research methods

The population of the study was 11626 (4831 male and 6795 female) secondary music learners who sat KCSE between 1991 to 1995. Data used in the study were the 1991-1995 KCSE Music Theory and Music Practical result marks collected from the Kenya National Examination Council (KNEC). The gender of the participants, school types and locations of schools were determined. Data analysis comprised computing Means and Standard deviations for the two groups of data (boys and girls). The t-test was used to test a significant difference between the means of the two groups.

1.11 Organisation of the study

Chapter 1 is the introductory part of the thesis. This leads on to chapter 2 which gives the historical background of the study. Chapter 3 describes the people of Kenya and the country's system of education. Chapter 4 contains the reviewed literature and chapter 5 gives the design of the study. Chapter 6 presents methods of data analysis, their findings and discussions related to the findings. Chapter 7 contains a summary, the conclusions arrived at in the study, the educational implications of the findings and recommendations for further studies.

1.12 Problems encountered during the study

There was a problem in finding primary literature sources relating directly to the academic achievement in Music of boys and girls. This may be due to the

inaccessibility of similar studies, if there may be some. Most of the literature found compares achievement between boys and girls in Science and Mathematics. It was also not possible to procure similar studies done in Music whose results could be used to explain the findings of the present study.

1.13 Final motivation for the study

This study sought to demonstrate the importance of Music as an academic subject especially as it relates to academic achievement in Music by boys and girls. It is hoped that this will promote the development of a music education in which the interests, experiences and values and needs of both boys and girls are taken into consideration.

CHAPTER 2

HISTORICAL BACKGROUND OF THE STUDY

2.1 Culture and gender in Music

In many cultures, men and women have been placed into two social spheres called public and private (Post 1994:36; Green 1997:13). The public sphere is said to be manly and consists of activities outside the household. The private sphere is for women and according to Post (1994:36) generally encompasses household activities that revolve around family life plus wider responsibilities taken on during events surrounding marriage, birth, and death. These spheres are determinants of the nature and the medium of music-making activities of both genders in many cultures.

Since the public sphere is designated as manly, it follows that men in many cultures have had more leisure time to perform music and greater freedom to travel between the public and the home environment for musical performances. In contrast, women's domestic orientation in many cultures allows them less time for leisure and thus for musical enjoyment. This has excluded women in many cultures partially or wholly (Post 1994:38) from the public realm and from entire genres of music. Women's musical activities are confined to performance mainly in the private (home) sphere. Post (1994:38) attests that music for women in New England in the USA historically often existed as an extension of their domestic activities. Women sang to themselves and their children in the kitchen while they did their tasks. Singing was said to make time pass quickly as they completed their domestic chores. Women, however, sometimes perform songs in public i.e. at marriages, births and funeral ceremonies, like those reported by Shehan (1987:47) and Auerbach (1987:33-40). These, according to Post (1994:39) fall under the private sphere since these events are related to the life cycle.

The opening statement of Coldwell's (1986:55) concluding section on secular musicians in medieval France shows that the status and musical life of women in medieval France was not segregated into private and public spheres as that experienced by women during the Middle Ages in the religious realm. In the context of medieval French romances, Coldwell (1986:41) states that women certainly performed just as frequently as men, and that there are some genres like the carol or dance song in which they clearly dominated. Coldwell (1986:42,43) further mentions that women performed both simple and the more elevated troubadour and trouvère chansons and that they composed and also played instruments, for example, the harp, the vielle, the psaltery, the rote, the lyre, the gigue, the guiterne, the citole and the timbre. All but the last are stringed instruments used to accompany their songs. This, however, was not true in other regions in Europe. For example, in Sweden, the official sector of professional musicians - whether in church, at court or at public concerts - was as in most parts of Europe, for centuries totally dominated by men (Johnson 1990:28).

The idea of women performing just as frequently as men, was not to remain for the centuries to follow. Fifteenth-century Italians appear to have believed that a woman's place was in the home (Brown 1986:79) and women seemed to accept and lived to these restrictions assigned them as far as music-making activities were concerned. The early and middle decades of sixteenth-century Italy brought forth women musicians who were shy to declare their music profession openly due to beliefs surrounding women and music in this society. However, the 1580s saw a sudden development of singing careers open for women (Newcomb 1986:92-99). This opened the way for more women composers in the late sixteenth and seventeenth centuries than in any other previous period in Western history according to Bowers (1986:121,146). Despite this positive change, Bowers (1986:145) in summary states that women's contribution in music-making was less than that of men, and especially in composing, women's work seemed to have been flawed. It is important to note that Bowers believes that it would have to take more sweeping changes in society to remove obstacles that stood in the way of women's creative work.

Restriction on women's musical activities prevailed throughout the eighteenth century. Major changes are noticeable with the advent of the nineteenth century according to Citron (1986:224), with a marked increase in the number of female musicians who utilised their creative talents, with a parallel rise in recognition from contemporary musicians, journalists and audiences.

Citron (1986:224) notes that several female composers rose to prominence in Germany between 1775 and 1850. However, female composers remained unknown and unsuccessful because of the common societal attitude of limiting women's horizons and confining their accomplishments to the home. Reich (1993:126), however, differentiates the professional women musicians (who against prejudices and odds of society could move out of the private sphere) of the nineteenth century from the non-professional women musicians from the aristocratic families. She mentions some of the professional women musicians by name, but notes that although they composed, sang, played instruments, conducted, instructed and judged on a professional level, their participation in musical life was private. They neither performed in public nor published their works. Possibilities for women composers gradually expanded after the middle of the nineteenth century according to Citron (1986:242). She mentions Clara Schumann as one of the few female composers who ventured forth outside the confines of the home on a regular basis. In addition, Citron states that more women engaged in genres that previously excluded them, especially orchestral music. Nineteenth century England also continued to hold similar views about women's music-making activities and it was not until the end of the century that one British woman, Dame Ethel Smyth, openly challenged the accepted double standards (Bernstein 1986:304).

Koza (1994:147-148) has done a review of studies on past music-related sex stereotypes. In this review she makes reference to her own earlier work (Koza 1988) and to other scholars like Riegel (1970), Eaklor (1982) and Tick (1983). Music-related sex stereotypes evident from her review are not different from what has been discussed above, and could thus serve as summarised beliefs about women's musical position prior to the twentieth century:

- Approached from the 19th century white middle-class understanding, music was considered a female activity. Involvement by males could call for branding of males as effeminate.
- Women wanting to retain their middle class status were to engage in music only as amateurs and not professionals.
- Women were discouraged from performing in public and thus from gaining public recognition for their musical performance.
- Women were told that they had no intellect to compose and no physical strength to perform competently on some musical instruments.
- Music was only to be a pastime activity for girls who must leave it when they married.
- Certain musical instruments were considered more appropriate for males than for females. Nearly all orchestral instruments were considered appropriate for males but not for females. Proper instruments for females included the piano, the harp and the guitar. In addition, the range of instruments deemed appropriate for middle class women was narrower than that for females in general.
- Vocal music was associated with the feminine sphere and instrumental music was considered more masculine.
- According to Koza (1992:30) women who became famous musicians in the 19th century more likely did so rather as singers than as composers, instrumentalists, conductors or scholars.

Twentieth-century women musicians have also not been free from the prejudices of the earlier centuries. According to Tick (1973) in Post (1994:44), women who performed in public in the United States at the turn of the century, who played in women's orchestras or performed parlour songs, were only a small number in the musical world. Similarly, Dhal (1984) in Post (1994:45) observes that even though women in America began to perform on instruments and in contexts once reserved for men, they were not accepted as peers to male musicians in the field of Jazz.

Discriminatory practices against women and music, reviewed above, stemmed from irrational interpretations of studies like those of brain organisation and brain structure, especially in the Western world. These interpretations led to beliefs which resulted in limited educational opportunities for women throughout history,

and general discouragement to achieve outside the realm of motherhood and the home (see Halstead 1997:3-33 for a detailed explanation). Some of these practices have been found to be reproduced in modern school settings. Green (1997:152-153), for example, found that girls in English secondary schools still engage in singing and instruments described as traditional or orchestral, most notably the flute and violin, as their domain in Music. From her findings, Green comes to the conclusion that schools perpetuate the long history of girls' and women's performance on the symbolically private side of the private/public dualism that makes the patriarchal organisation of music (Green 1997:167). Whether girls attending Kenyan secondary schools offering Music, only sing and dance as the approved practice for them in this society, will require investigation. But when societal music sex-stereotypes find their way into schools, they certainly influence attitudes of teachers and students alike and hence achievement in Music in schools.

2.2 Culture, women and instrumental music-making

2.2.1 Introduction

Restrictions on instrumental music making for women has led to women performing mainly vocal music. Restrictions to instrumental music performance in many cultures according to Post (1994:40) can often be related to women's association with the private sphere. This is so because women sang while their hands were busy performing some domestic activity while men did so at leisure times when their hands were free to use an instrument to accompany themselves. Auerbach (1987:25) reports gender restriction in musical instruments for Greek music, Petrovic (1990:73) for Yugoslavia, and Ziegler (1990:91) for Turkey. Among the Hazara women of Afghanistan, even the few instruments women play to accompany their songs are not considered "real" instruments especially when women play them (Sakata 1987:86).

2.2.2 Women and instrumental music in non-African cultures

Classical European traditions of restricting women performing instrumental music embedded in sexual-stereotyping practices began in the Renaissance according to Post (1994:40). Instruments were classified as masculine or feminine. Instruments such as the keyboard, the guitar, and the harp were classified as feminine, since women could perform them with no alteration of facial expression or physical

demeanour (Tick 1986:327). Post (1994:40) points out that sex-stereotyping in instrumental music was worse in Eastern Europe, the Middle East, South Asia and Southeast Asia especially before the middle of this century, basing her statement on visual and written information on musical performances (sources not given) from these world regions. Delzell & Leppla (1992:93-94) report gender restriction for New Guinea where "holy" flutes were only played by males, whereas females were not allowed even to look at them.

When women perform on instruments in an ensemble, their position is subordinate to that of men (Post 1994:41). To this effect, Post gives the example of a woman pianist in a New England dance ensemble popular before the middle of this century where the woman pianist provided a harmonic framework for the solo vocalist or fiddler who was almost always a man. Another example of such a subordinate role provided by women in an ensemble music performance is found among the Temiar of Peninsula Malaysia as reported by Roseman (1987:134). Women form a very important part of the chorus, singing and playing bamboo-tube stampers during ritual singing sessions and ceremonies, but they do so behind a male lead singer.

2.2.3 Women and instrumental music in African cultures

Women's involvement in music making and especially in instrumental music on the African continent has taken similar trends. Critical studies of Bebey (1975:14-16), Zake (1986:177-182) and the works of other scholars on African music show that in indigenous African societies, the male person dominates instrumental music playing. Right from childhood, it is the male child who is given tuition in instrumental music and it is he who inherits the musical skills and instruments from the father (Zake 1986:178-183; Nketia 1988:61-63). The female child has no such privileges as her place is considered to be in the kitchen. A barrier is deliberately placed so that women are hindered in training to play most instruments. Ewens (1991:16) asserts that "although women are as physically capable as most men, they are not allowed to play anything but percussive instruments". Ewens further states that women often sing, but their regular part in music is dance.

Bebey (1975:14) explains that women are forbidden to play drum because a drum is equated with a man and no woman would dare beat a husband in the public square. In addition, Bebey (1975:14) mentions that some African societies do not

allow women even to touch a drum under any circumstance. Schmidt (1990:134) states that women are not encouraged to play musical instruments in many parts of West Africa, so that it remains the men's domain while women are known for versatility in vocal music and dance. There are a few exceptions like Tuareg women who dominate poetry and music while men simply assist (DjeDje 1985:73). This is due to the high status given to women in the Tuareg community. Consequently, it is the women who play the more prestigious drums and strings (DjeDje 1985:80). However, women's major music activities on the African continent, for the most part, are singing and dancing to accompany men's instrumental music (Southern 1971:12; Kenya 1977:28,31,35).

2.2.4 Women and instrumental music in Kenya

The practice in indigenous Kenyan society with respect to instrumental music performance by women is not different from that of other African societies. Hyslop, in his study of instrumentalists and their instruments done in Kenya some twenty years ago, discovered that professional instrumentalists in Kenya are almost exclusively men. He wrote (Hyslop 1975:5):

> Professional instrumentalists in Kenya are almost exclusively men. Only once has there been a mention of women instrumentalists. Two players of the Atenesu drum from Teso [...] at the foot of Mount Elgon were taught by their mother and one of these men was also teaching his daughter.

Similarly, the only woman musician mentioned by Zake (1986:178) in the list of Kenyan indigenous musicians is a dancer.

Reasons why men dominate instrumental music in Kenya came from several beliefs or taboos (discussed later in this section) that arose from the assumed role and status of women in society compared to men. Indigenously, a woman's place is in the kitchen, i.e. her major role is to ensure that domestic work is done, the husband and children are taken care of and that enough children are born to the husband. She is given a passive and subordinate role compared to that of men. She is considered to be the weaker sex. This in essence implies that she is not expected to engage in activities that men do, i.e. activities that publicise her and are likely to make her outshine men. On the other hand, men are given prestigious, active, dominant positions in society. They are assumed to be physically and

mentally superior to women. They are knowledgeable, political leaders, religious leaders, priests, owners of property, bread-winners and the decision-makers in society. They are the ones who make instruments like string instruments, wind instruments and drums.

Consequently, women's instrumental music was more or less restricted to percussion instruments of the idiophone type instead of the other types of indigenous Kenyan instruments, namely:

- Chordophones (strings)
- Aerophones (winds)
- Membranophones (drums).

Chordophones are mostly concentrated in the Western part of the country (see Figure 2.1). The chordophone family includes lyres, harps and fiddles. Presented below in Table 2.1 are names of some of the instruments of the chordophone family, communities who normally play these instruments, and where these communities are located in the eight provinces of Kenya (see also Figure 2.2).

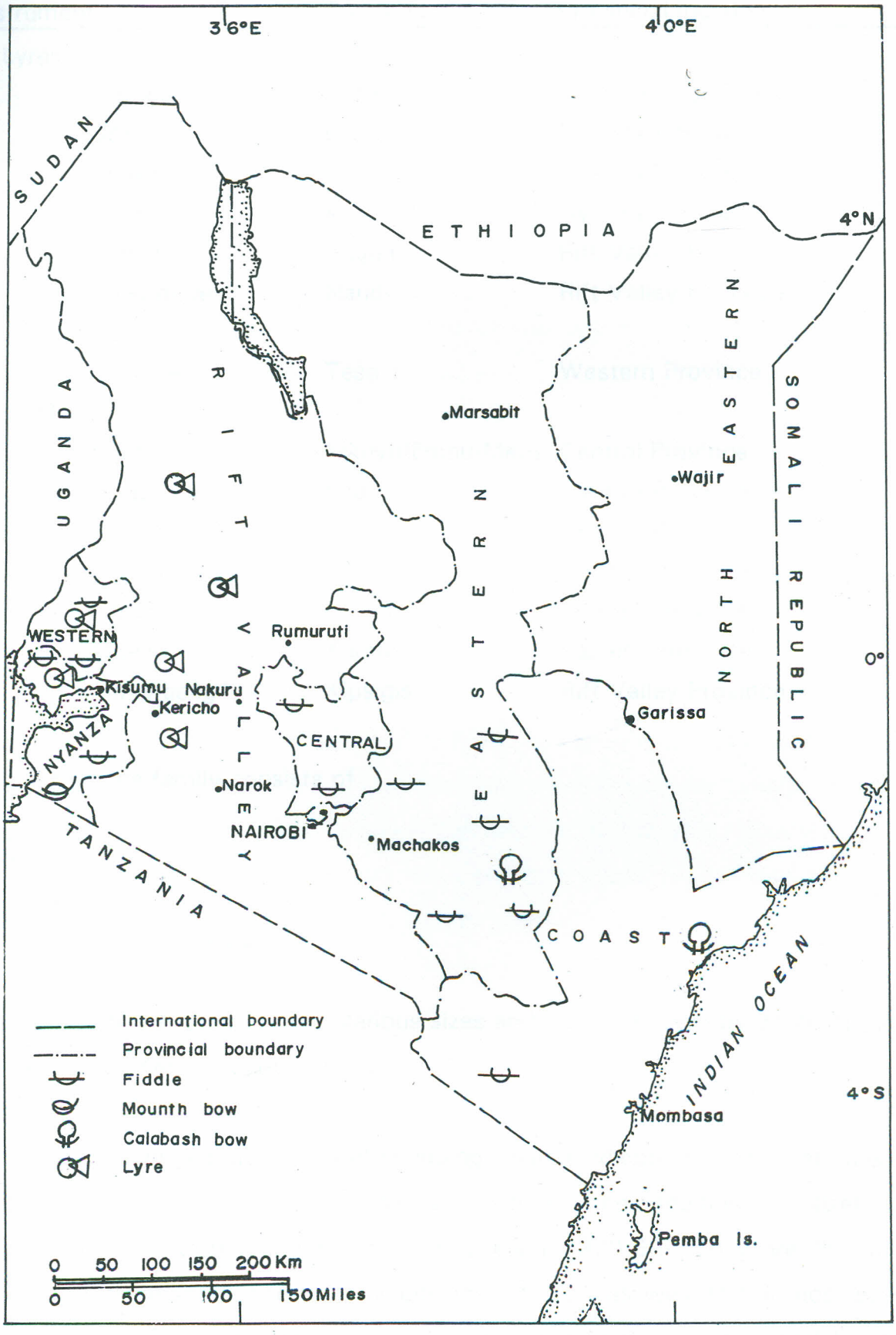

Figure 2.1 Distribution of chordophones in Kenya (adapted from Kavyu 1980:50)

Table 2.1 Some Kenyan stringed instruments, communities that play them and provincial location of the communities

Instrument	Community	Provincial location
• Lyres		
Litungu	Luhya	Western Province
Obokano	Gusii	Nyanza Province
Nyatiti	Luo	Nyanza Province
Iritungu	Kuria	Nyanza Province
Kipkandit	Tugen	Rift Valley Province
Chemonge	Nandi	Rift Valley Province
• Harps like		
Adeudeu	Teso	Western Province
• Fiddles		
Wadindi	Kikuyu/Embu/Meru	Central Province
Orutu	Luo	Nyanza Province
Entono	Kuria	Nyanza Province
Ong'eng'o	Gusii	Nyanza Province
Ishiriri	Luhya	Western Province
Mbeve	Kamba	Eastern Province
Kimengeng'	Kipsigis	Rift Valley Province

The aerophone family consists of

- trumpets
- flutes
- reed pipes
- horns of various types.

Membranophones are drums of various sizes and shapes known by different names in the various Kenyan communities.

The word Idiophone means "self-sounding" hence idiophones are instruments upon which sound may be produced without the addition of stretched membranes or vibrating strings or reeds (Nketia 1979:69). They are the most common instruments since they include the simplest as well as the most easily improvised sound producing objects. Examples of idiophones are wood blocks, clappers, shakers, rattles, ankle bells, leg bells, metal rings etc.

Of the above instruments, women generally do not play chordophones, aerophones, and drums, while they play idiophones of all types.

Beliefs barring women from playing *Litungu* in Bukusu (Luhya sub-tribe) are outlined in a research report submitted by a second year music student at Maseno University College who took a course on "African Instruments Part One" convened by the author of this thesis. These beliefs are as follows:

- Women would remain childless for life, hence, women are scared away from playing the instrument.
- *Litungu* was given by the spirits, and in the Luyha community, spirits only communicate with men and not women. Thus women cannot play the instrument.
- *Litungu* is a prestigious instrument and no woman is to play such a prestigious instrument.

The Luos on the other hand believe that should a woman touch the strings of *Nyatiti*, the Luo lyre, then the strings would naturally become weak and eventually break. She would only play *Nyatiti* on condition that she marries the lyrist, otherwise she would remain barren all her life. The playing of *Orutu* (a Luo single-stringed fiddle) by Luo women is forbidden in line with a similar belief. Among the Marachi of Busia district, it is believed that women do not play *Obukhana* for the reason that women are careless and weak and may easily tamper with the strings which are considered delicate only when women handle the instrument. The Marachi *Obukhana* player like most Kenyan indigenous musicians used to be invited to the nearby villages to perform. Since women were considered to be weak and the instrument heavy, it was and is still considered risky for them to transport the instrument walking long distances for purposes of performance. The Marachi people believe that should the instrument fall down, the spirits become angry and bring curses to their community. Similar beliefs are found among the Kisii regarding women playing *obokano*, Tugen *kipkkandit,* Teso *Adeudeu*, Kuria *Orokano* (*Obokano*) and Kikuyu fiddle *Wadindi* (see Figure 2.2 for where these communities are found in Kenya).

Figure 2.2 Distribution of Kenyan communities (adapted from Ojang & Ogendo 1982:14)

Some of these string instruments like *Obokano*, *Iritungu*, *Litungu* and *Nyatiti* are played while seated (Zake 1986:141) because of their weight. In certain cases, other instruments performed together with these instruments to provide percussive accompaniment are best regulated while seated. A *Nyatiti* player, for example has on his right toe a metal ring with which he hits the resonator of the instrument on one side to provide a percussive accompaniment. According to some Luo elders interviewed, women were not stopped from playing *Nyatiti* because they were unable to perform on the instrument, but because in the olden days women lacked proper dresses to conceal their private body parts which would naturally come into question due to the position assumed while playing the instrument. Other instruments like the single fiddles are light in weight and are held more or less in the same way as the Western violin. But even these have beliefs attached to them so that women cannot play them.

Aerophones seem to belong exclusively to men. According to one informant from the Luo community, this is so because the breath needed to produce sound in these instruments is enormously great and not manageable by women. This might appear to be true with particular aerophones which are enormously large in size like *Abu*. However, how about flutes like *Mulele* (Luhya), *Muturiru* (Kikuyu), *Asili* (Luo), *Chivoti* (Mijikenda), and the bamboo panpipes *Biringi* (Kikuyu) that are small and light and can be played by women without calling for so much breath?

There are some allowances when it comes to percussion instruments, especially the membranophone type. The drum in most Kenyan societies is a ritual instrument. According to the indigenous beliefs, it is men who lead in ritual performances, hence they are the ones to play drums. Among the Luos, however, there are specified drums like *Ohangla* which women could play. Zake (1986:176) refers to *Ohangla* as women's drums to distinguish them from those played by men. Even these were not to be performed in public, according to one informant, although Zake and one other informant mention that *Kalapapa* is performed for parties and funeral occasions. Among the Kamba people, the *Mukanda* drum, according to an informant, was originally played by old women although nowadays it is played by both genders. Another exception is found among the Teso where the *Atenesu* drum is played by women (Hyslop 1975:5). This was reiterated by an

informant-colleague from Teso. Should this be the case with other indigenous Kenyan societies, it is only an exception, and not the indigenous norm.

It is not far-fetched to think along the lines of fear by men to compete and be challenged by women in instrumental music. Having women play instruments that men play could perhaps mean women exercising equality with men. Thus having women abstain from playing similar instruments can be perceived to be a way of emphasising the subordinate role of women in society, i.e. extending, exercising and exerting men's authority over them. An instrumentalist in the indigenous Kenyan society was to travel to different places to perform. He was actually invited to perform in special societal events and celebrations like weddings, inauguration of chiefs, funerals, etc. This kind of task could not be performed by women since their work was to care for the home and children. Even if a woman accompanied her husband, her place was in dancing or singing.

Men in indigenous society are the makers of instruments, especially strings and drums. They therefore have the opportunity of becoming acquainted with some of these instruments as early as the making stage. Since they are not tied down with domestic chores, they also have extra time to train in instrumental playing. Girls, as opposed to boys, lack such privileges because they are to assist their mothers with household chores. Because they are the makers, men are thus the ones to play the instruments and not women.

Idiophones are the only instruments that are widely played by women. This may be due to the following reasons:

- First, most idiophones, except for the bull-roarer of the Tiriki, are easy to improvise by almost everybody and as such are not connected to a particular maker or spirits.
- Secondly, idiophones are not the major instruments in a performance but rather provide an accompaniment to the major instrument, song or/and dance. Women having a passive role to play in the society, which is extended to music in dancing and singing, naturally take up the less dominant instruments. From her study on women and music performance among three tribes in Sudanic Africa, DjeDje (1985:79) came to a similar conclusion regarding women and instrumental music:

> We can conclude from these observations, then, that the idiophone is the most widely played by women in Sudanic Africa, while aerophones is least used. The reason for this is that idiophones have less status and significance in the ethnic groups than drum, string, and wind instruments; and since women [...] do not play a dominant role in the more important institutions in the society - for example, they are not the political or religious leaders, they are not the major producers of food and in no way control the economy, and they do not own property - it has probably been established that they also should not assume leadership in the performance of prominent musical instruments.

Closely related to the fact that idiophones are played by women due to their less significant role in a performance, is the fact that songs were mostly composed in praise of women, since they were considered to be beautiful creatures to be admired by men. In the same way, women according to one informant are thought of to have flexible, gracefully moving bodies, more suitable for dance, compared to men's. The same argument goes for the voice. Thus the society more or less assigned women the role of dancing and singing.

Music-making is an engaging and engrossing activity. One is tempted to think that because of this nature of music, fear developed among men that should women engage in instrumental music-making, they would forget their domestic activities. It is not hard to see how this can be a problem since domestic work, especially regarding food preparation and all that goes with it, washing of clothes and caring for children, is believed by indigenous society to be done exclusively by women.

Generally, in Kenya and in most African countries, music occupied a very important position in the life of the society. It was the medium of enculturation (cultural transmission from one generation to another) and socialisation. The economic aspect that music has assumed at present was not then the case with the performance of music. Presently, even the indigenous male instrumentalists do not just perform for entertainment purposes. What this means is that societies and people are dynamic. These changes should also be directed to beliefs regulating women's musical activities.

2.2.5 Summary

From the foregoing discussion on culture, women and instrumental music-making, it is clear that women in all the cultures mentioned have been excluded from performing certain types of music. This has been done on the basis of some societal beliefs. In Europe and America, composition was considered manly and women could perform only on specified instruments. Similarly, women have been kept from performing certain instrumental music in most African countries. Women's musical performance world-wide has been mainly vocal.

2.2.6 Indigenous beliefs on women and instrumental music challenged

Some of the beliefs barring women from performing music on certain instruments, especially in Kenya, may have been rightly used in the past but with new developments in various circles, should not continue to be perpetuated. For example, refusing women to play the lyres on the ground that they would remain barren was only used to safe-guard women from attempting to sit down with the lyre between their legs since they did not have appropriate dress for such an activity. Nowadays, long and reasonably short pants have become a part of women's dress. This belief and that which implies the eventual breaking of strings of certain instruments when touched by women, need to be challenged in the absence of scientific evidence on the same. Otherwise, they should be treated as cunningly calculated methods of segregating and subjugating women's musical activities.

Beliefs relating the origin of instruments to spirits and implying that spirits can only communicate with and through the menfolk, ignore the fact that there were and still are women soothsayers, diviners and medium charmers in indigenous African societies. In the event that women who communicate to spirits do exist, society ought not to have gender-segregated musical practices along these lines. Certain beliefs were seemingly coined to bar women from playing certain instruments so they do not get invited to perform outside the home. For example, it is widely believed that women are weak and fragile and thus are not able to transport instruments from one place to the other. This problem can now find its solution in modern, easy means of movement from one spot to the other. Closely related to this is the belief that women are too weak to produce enough breath to produce musical sounds in aerophone instruments. This belief seems not to provide

convincing reasons why women could not be allowed to play the small-sized aerophones. However, if changes are made to the sizes of the large-sized aerophones, different and perhaps better playing methods, that suit both men and women, can de devised.

Men used to be and are still the makers of instruments in the indigenous Kenyan societies. In certain societies, instrumental making was a family occupation. Although this may still be true, the aim of making instruments has taken a totally new direction. Men nowadays make instruments for commercial purposes. This makes the instruments readily available for men and women alike and detaches the instruments' attachment to spirits and particular makers. With this understanding, females are free to buy and train on any instrument of their interest and choice.

2.2.7 The place of gendered musical practices in the school setting

Beliefs surrounding female and male participation in Music may carry with them several implications should they be transferred to the school setting. For example, should females continue to actively engage in vocal music and dance because of the belief that they have good singing voices, that their bodies are more flexible for dance compared to men, that spirits cannot communicate with them, and that they are too weak to perform on certain instruments? And should male students major only in instrumental music because singing is for women? Certainly not. The view taken in this thesis is that women and men are created equally and that they are given different musical gifts so that both can equally sing and dance very well. Similarly, women can also equally take part in performing instrumental music. The fact that this is so, is clearly demonstrated in societies where there is no gender bias inhibiting either gender from engaging in the full spectrum of musical activities.

The 8-4-4 system of education has introduced practical and vocationally oriented subjects in order to make learners, regardless of gender, self-reliant and make the curriculum relevant to the needs of the Kenyan society. It has introduced Music as an academic subject in schools to be examined in the same way as any other subject. The Music curriculum encourages performance of all types of music by both boys and girls. Nevertheless, old-fashioned beliefs, when allowed to infiltrate the formal school system, can impede access to experiences with a variety of

instruments and possibly to the music profession (Griswold & Chroback 1981:57). Similarly, sex-stereotyping of musical instruments should equally be discouraged in modern society.

Questions which Kenyan Music educators might like to ask, are the following: Has Kenyan society realised the same? How about parents? Can they encourage their sons and daughters to engage equally in musical activities at school if society has labelled those activities for a particular gender? Pertinent to this is the question of secondary school music teachers. Most of these teachers were trained in the old system of education. Even though they participate in the teaching of music in the 8-4-4 curriculum, their background (which is largely a borrowing from the societal musical practices) may influence their music educational practices. This may be reflected in their expectations and attitudes towards boys and girls in music teaching and learning. A good example may be the case where a teacher believes that girls are good at singing. The teacher in this case will encourage girls to sing and perhaps drill girls more in singing lessons and exercises. Consequently, if a music examination should be based on singing-related aspects, then girls would do better in such a type of examination.

In conclusion, since culture is dynamic, school subjects like Music that have been guided by some cultural beliefs need also to be dynamic. The 8-4-4 Music curriculum has embraced the idea of a unitary curriculum to have both genders participate in Music equally.

2.3 Formal schooling and gender in music before independence (1963)

The introduction of the formal school system by the missionaries in the mid-nineteenth century brought music to schools that did not elevate women to play instruments. Instead, it established a singing tradition for boys and girls (Weman 1960:116; King 1971:150) and discouraged the learning and playing of indigenous instruments and music. The report of the Phelps-Stokes Commission of 1923-24 on village school curricula, made before launching the Jeanes experimental school of 1925, reveals the type of music taught in village schools. The observation made by a Commission concerning music lessons is quoted here (King 1971:150):

> The music you hear will not be a native song but the parody of a familiar European hymn [...]. The chorus of unintelligible sounds

> is the sing-song of the syllables as they follow one another in a meaningless succession.

This quotation shows the type of music content one would meet in mission schools. School Music consisted of singing hymns, and indigenous music had no place in this curriculum. This agrees with Kirby's view quoted in Weman (1960:115) that there are two fundamental reasons why and how music was to be taught in Africa: First was the habitual use of music for religious purposes. That is why European hymns dominated the content of School Music. Second to this was that the method used was to be the traditional European one of training in School Music: the sing-song of the syllables.

It is not easy to determine whether the syllables were musical text syllables or the sol-fa syllables or both as there is evidence that the missionaries employed sol-fa in teaching music. As early as 1958, Gagg, writing on the techniques of teaching Music in West African schools, strongly recommended that music teachers become acquainted with the tonic sol-fa system in order for them to get pupils to learn tuneful sounds (Gagg 1958:1610). Rowley (1977:142), on the other hand, attributes the wide range of the impact that tonic sol-fa has had to its use by the missionaries. In South African (black) schools, for example, the method used for teaching music up to 1960, when Weman wrote his book *African music and the church in Africa*, "had been based purely on the Curwen system of tonic sol-fa [...] the exclusive use of the system shut out the African from contact with instrumental music" [...] and thus "instrumental tuition [referring to Western types of instruments] was never part of the general African school curriculum". The result of this system is that "musical education consisted of an altogether one sided cultivation of vocal music" (Weman 1960:117). Even though the 1953 primary music syllabus in Kenya allowed the use of tonic sol-fa only in schools where children were of mixed tribes, its wide use by music teachers in Kenya, even today, is evidence that the method was used beyond the limits set by the syllabus.

Consequently, School Music became completely dominated by singing, and this, according to Weman (1960:116), was the standard form practically met everywhere. Despite this, men could still learn and play some of the instruments

like the accordion and guitar that Europeans brought with them (Zake 1986:12; Ewens 1991:23,159). Paterson (1994:337) confirms that men used to train to play instruments brought by the missionaries. He wrote:

> Even before 1900, guitars were being played among the freed slave population at Frere Town on the mainland near Mombasa island. It wasn't long before other mission communities in rural areas outside Mombasa had produced a number of well-known guitarists. Sometimes referred to as Kenya's "first generation" of guitarists, this group, born between 1915 and 1925, includes Lukas Tutu, Paul Mwachupa and Fundi Konde. Their songs dwelt with secular topics but in form and harmony were similar to church music - several verses and perhaps a refrain. From the mid 1920s into the 1930s there were several dance clubs in the Mombasa area playing music for Christian Africans to do European dancing. The Nyika Club Band, for example had guitars, bass, banjo, mandolin, violin and a sax/clarinet player. There's little in the historical record of this period about what was happening musically in other parts of Kenya apart from singing and drumming - and a bit of accordion playing among the Kikuyu.

Low (1982:18) explains how Fundi Konde (still alive), one of the guitarists mentioned by Paterson above, received his musical training. Konde, at home on the coast, attended a Catholic school during the thirties and learnt many instruments, for example the flute and brass instruments. He later borrowed a guitar from a friend of his then staying in Voi (a town in the Coast province of Kenya) and learnt to play it within a week. He also obtained a guitar manual from some Black American musicians during World War II while he was staying in Burma. Although Paterson indicates that there were few records on musical activities during this period, from Low (1982:18) one gathers that acoustic guitar music was spreading in rural areas, particularly in Western Kenya, the home of the Luo and Abaluhya people.

Women's position in the home was further emphasised as girls were taught needlework, sewing, cookery and homemaking activities to make them good housewives in the future. Being religiously based, the missionary curriculum taught religious songs in schools, and girls, being the mothers to be, were to learn songs to sing for their children in the future.

The colonial government set out to make some educational reforms, especially as the impression of the village schools whose School Music programme was partly

mentioned above, left no doubt in their minds other than to proceed with the plans of the first Jeanes experimental school. The Jeanes experimental school was started in October 1925 at Kabete. As a part of its programme, the Jeanes school hoped to reform the bush school curriculum and methods of teaching. Included in the curriculum reform, was the re-introduction of African culture. The Jeanes school, according to Sifuna (1980:97), failed to be the centre for the production of progressive teaching aids for African (Kenyan) village schools as intended, yet it revived the African (Kenyan) past and prepared its students to reintroduce the old games, folk tales and African (Kenyan) music as a central part of early schooling. The irony of this was that whatever music revived in the name of African (Kenyan) culture fell under recreation in Jones' programme for African schools.

The report of the second African Education Commission (1923-24:8) on the objective of education in East Africa commended music as an essential element in recreation.

> The possibility of adapting African music, dancing and other amusements further commends recreation as an important element in education.

Further, the commission recommended music as one of the methods for education in recreation (African Education Commission 1923-24:33).

Even though attempts were made to set songs and hymns to African (Kenyan) tunes, as reflected in one of the speech day programmes at Jeanes school (King 1971:appendix iii) presented below, the reform only verified the nature of the songs by adding the Kenyan ones. School Music, even at this experimental level, remained as mere singing. In addition, it was to be used in the teaching of recreation. Thus Colonial reforms in School Music did not spell out any type of music to be performed by any particular gender. Instead singing was the major music activity engaged in by both genders.

Below is the programme for one of the Jeanes school speech day programmes. The programme lists several indigenous songs as performed by different tribes of Kenya. The programme shows the Jeanes school's intention of introducing Kenyan Music in schools instead of singing European hymns and songs.

JEANES SCHOOL SPEECH DAY

Tuesday Aug. 6th 1929, 4.45 p.m. in the School Hall

1. *African Tribal Songs*.

a) *Kikuyu Rattle song*.

The song centres around the rattle (Gicandi) and its ornaments. The singers ask riddles in turn. A full explanation would fill a book.

b) *Luo Wedding song*. The bridegroom's age-equals gather together and sing in praise of him, his work, his skill, his shield etc. The musical instrument of 8 strings (Thom) [sic] is of ancient origin. The man mentioned at the end, Gor, was a famous old Chief of South Kavirondo.

c) *Abananda* (Bantu Kavirondo)

i. *K'arimiwa*. According to a tradition of the tribe a weakly hunch-back saved people from the cannibals by cunning. They now sing in praise of him.

ii. *Mishere ulule*. The singer recites the names of people and tribes and says what they each do, making puns on their names.

iii. *Lubenzu*. The song of the bird and the beautiful maiden. She begs the feathers and is enticed far away from her own home. The bird represents the young man who will one day come and woo her.

iv. *The War Horn* sounds and all rush to the call.

2. Presentation of Permanent and Provincial Jeanes Certificates by the Hon'ble the Director of Education.

3. Jeanes School Hymns (Swahili).

1. God of our Fathers.	African Tune.
2. Praise the Lord.	African Tune.
3. Nobody Knows the trouble I've seen.	Negro Spiritual.

Speech: Chief Koinange

4. Recreational Games and Drill.

5. Show of Handwork.

1. Men's carpentry.
2. Women's sewing.

At the secondary level of education, there existed few expatriate schools that offered coaching in Music Theory for students who were interested in taking examinations in Music with the Associated Board of the Royal Schools of Music (ABRSM) in London. This was done on a private basis. Some of these schools, for example, Prince of Wales (the present Nairobi school), had a strong tradition of brass bands. Most African government secondary schools had strong choral traditions, for example, the Alliance.

2.4 Gender in School Music from independence (1963) to 1985

At the time of independence in 1963, Kenyan schools were faced with education problems of various natures. By this time, Kenya had 6 053 primary schools, 151 secondary schools and one public university (Kinunda 1994:3127). Kenya was able to tackle some of these problems through several commission surveys, reports and

recommendations. The earliest of the commissions was The Ominde Commission of 1964, followed by the 1971 Ndegwa Commission of Inquiry.

Educational reforms made after independence, through these commissions, achieved virtually nothing with regard to making Music an academic subject in which learners of both genders could participate equally. Instead, Music was treated as an extra-curricular activity and was actively engaged in by boys and girls for the annual music festivals. The Republic of Kenya appointed in 1972 an advisory commission on curriculum development. This was done in terms of an agreement with the International Development Association and was recruited and partly financed by the Overseas Development Administration of the Government of the United Kingdom. The commission was led by Gordon S. Bessey, hence its documentation is popularly called the Bessey Report. In connection with Music at the upper primary level, the Bessey Report stated the following (Kenya 1972:31):

> The section on music in the 1967 syllabus needs revision. On the whole we found that schools were doing well in singing despite limitations of the present syllabus. Our impression is that singing has been very much stimulated by a countrywide network of music festivals at district, provincial and national levels. The children very quickly respond when they were asked to sing and individuals would take the lead without hesitation. They respond vividly when performing African traditional songs with dance and movement. We especially remember the singing and dancing in Mandera. A very high quality of singing was also attained in the schools for the blind. English songs were given great purity of sound and it was a pleasure to observe the response of the younger blind children to the rhythm of their African songs. In these schools a variety of instruments were used. These include the recorder, accordions and various percussion instruments. Experience with a wider variety of instruments and more music making will stimulate the development of African music.

It is encouraging to note that there were instruments in some of the schools. However, based on the circumstances under which they are mentioned, it can be inferred that they were used to accompany songs and dances for the music festivals.

At the secondary level, the commission appreciated the efforts made by schools to encourage Art and Music, but stated that the work of schools in these subjects

often took place outside the regular teaching time (caption 5.43) implying that they were carried out as extra-curricular activities. There were isolated schools in the Central and Rift Valley provinces (Kenya 1972: appendix J) that offered music for external examination between Forms One and Six. These were the former British expatriate schools (Floyd 1996:189). For the fifth and sixth Forms (in the older system of education) the commission, however, recommended that one of the proposed Sixth Form Colleges make provision for the teaching of Art and Music (caption 5.78).

Besides music taught at primary and secondary schools, Teacher Training Colleges (TTCs) had a common music curriculum for all trainees. But music was not compulsory except for those who chose it as a teaching subject. Some study is needed to compare the number of males and females who chose music as a teaching subject during this period. The then only public University, Kenyatta University College (KUC), had a Music Department that also offered Music for teaching to all students, male or female.

In conclusion, School Music at the primary and secondary levels at this time was mainly singing, both for leisure and annual music festivals. Both boys and girls participated equally in these activities. TTCs allowed for a choice of subject, and at KUC, both genders had a similar curriculum. There was, however, no effort made towards a music education that could prepare learners later on to take their stand as musicians of various types, i.e. singers, instrumentalists, music theorists and music historians, in Kenya.

2.5 Gender in School Music under the new 8-4-4 system of education (1985)

The 8-4-4 system of education, started in 1985, introduced music as a recognised academic examinable subject in primary schools nation-wide. All secondary schools in the old system of education ought to have been offering music as from 1968, since the first secondary music curriculum was drawn up in 1967. However, being categorised as an elective subject, depending on the availability of teachers and equipment, only a few schools could offer Music. It was, however, under the 8-4-4 system of education that Music officially became an examinable compulsory subject for all primary schools in Kenya.

At the secondary level, Music is still considered an elective subject. The difference is that many secondary schools now offer Music as an academic subject and not just singing. Prior to this, Music was an examinable subject only at the teacher training colleges, teacher diploma colleges and Kenyatta University college. It is when the 8-4-4 syllabus began operating at the primary level of education that teachers, learners and parents began to think and talk of a grade in Music at this level. When music classes consisted only of singing, only group singing and choir performances could be assessed. In the 8-4-4 secondary Music classes, the Music curriculum demands an academic accomplishment of the same musical tasks for both boys and girls, as opposed to the culturally biased music training for boys or the singing tradition introduced by the missionaries in schools for all pupils. It is with this background that a comparative study of the academic achievement in Music between boys and girls at the KCSE level takes the central place of this research.

CHAPTER 3

KENYA: THE LAND AND ITS PEOPLE

3.1 Geographical information

Kenya is a country on the East African Coast, with a land mass of 582,646 square kilometres. To the north it is bordered by Ethiopia, to the south by Tanzania, to the north west by Sudan, to the west by Uganda, and to the east by Somalia. It has a coast line of about 400 kilometres along the Indian Ocean. It is a land with contrasting geographical features: coastal lowlands to the plateau, highlands to the great Rift Valley, and parts of the largest fresh water lake in Africa, Lake Victoria. The highlands are bisected into the western and eastern parts by the great Rift Valley. The Eastern Highlands comprise Mount Kenya (the second highest mountain in Africa) and the Aberdare Ranges which rise to 5200 meters and 2992 meters respectively. The western highlands rise to the highest peak of 4321 meters at Mount Elgon.

Kenya's regional administration system is inherited from the colonial British rule. It comprises provinces, districts, divisions, locations and sub-locations. The country is divided into eight provinces: Central, Coast, Eastern, Nairobi, North Eastern, Nyanza, Rift Valley, and Western (see Figure 3.1). Each province is further divided into districts, and districts into divisions, then divisions to locations, and locations to sub-locations.

3.2 Demographic information

According to the 1989 population census, Kenya had a population of 21.4 million people. This population was projected to rise to 22.9 million by 1990 with a growth rate of 3.4%. The growth rate has declined since the 1970s and early 1980s owing to a successful population education programme and family planning strategies by both governmental and non-governmental organisations. Nevertheless, 50% of the population is made up of youths under the age of 15 years. This explains to a large extent the insatiable demand for education and the continuing need to expand educational facilities (see Kenya 1994/95:20-22).

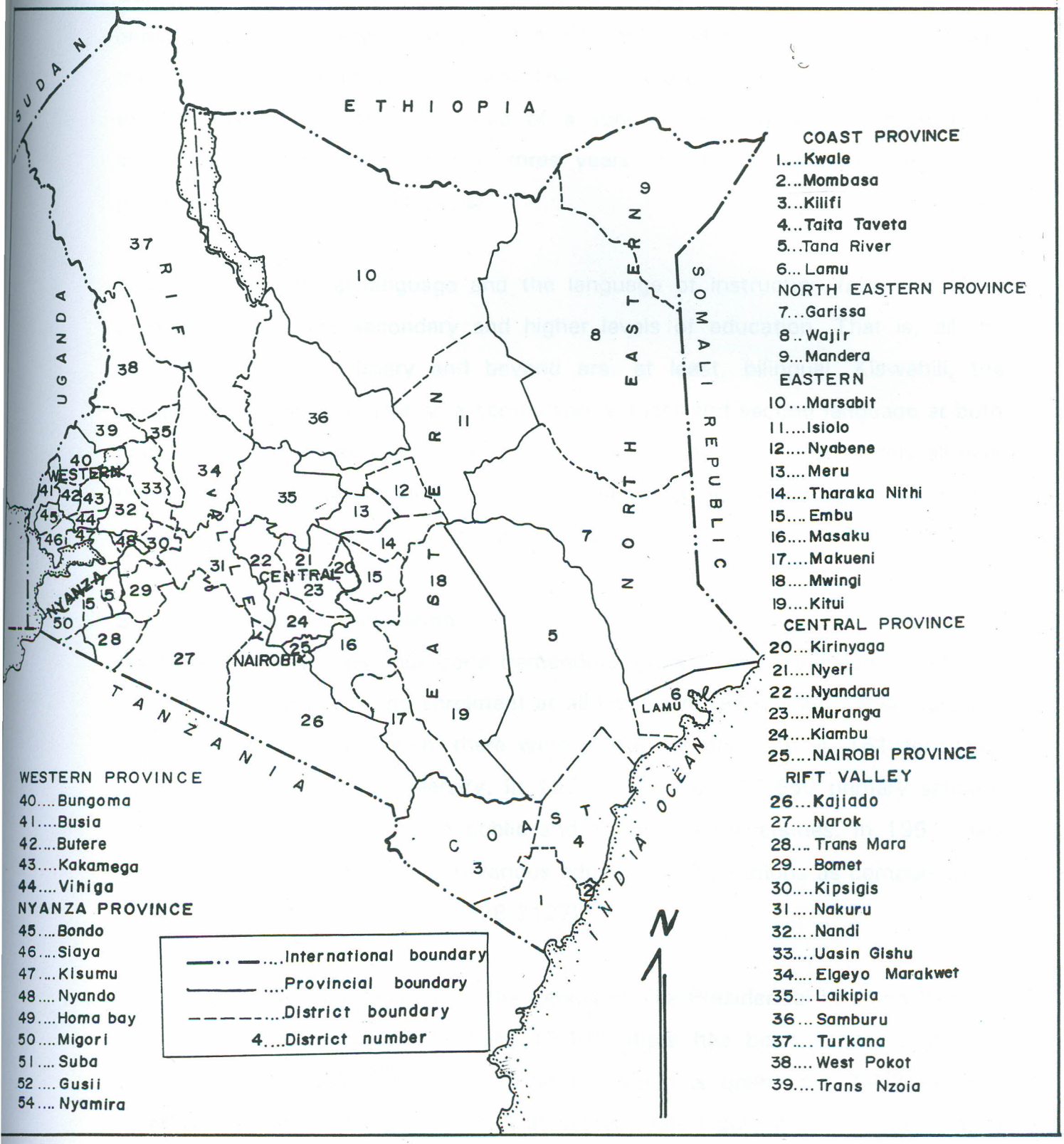

Figure 3.1 Kenya's administrative structure (by Otieno 1998)

There are about 42 ethnic/language groups in Kenya. In addition, there are a number of languages spoken among the migrant communities, such as Hindu and Gujarati among Indians, and Urdu among Pakistanis. The education system endeavours to preserve and promote the rich culture, values, and heritage transmitted through these languages. The language policy states that the mother tongue, within the catchment area of a school, be used as the language of instruction in pre-school, the first three years of primary, and adult education programmes (Kinunda 1994:3125).

English is the official language and the language of instruction from the upper primary level to the secondary and higher levels of education. That is, all the students at upper primary and beyond are, at least, bilingual. Kiswahili, the national language, is taught as a compulsory subject and second language at both primary and secondary levels of the educational system. It is used widely all over the country and the whole of the East African region extending as far as the eastern part of the Democratic Republic of Congo.

3.3 Formal system of education

Education in Kenya has undergone tremendous growth and expansion in terms of educational institutions and enrolment at all levels. In 1963 when Kenya achieved its independence from Britain, there were 6,058 primary schools, 151 secondary schools and one public university. In 1991 there were 17,650 primary schools, 2,647 secondary schools, four public and 11 private universities. In 1991 there were 7 million youths enrolled in various educational institutions as compared to 1 million in 1963 (Kinunda 1994:3126-3127).

Following the recommendation of the Report of The Presidential Working Party on the Second University (Kenya 1981:10-11), there has been a new system of education, the 8-4-4 system of education, which is unlike the 7-4-2-3-system inherited from the colonial powers. This system (see Figure 3.2) consists of eight years of primary education, four years of secondary education, and four years of tertiary education (Figure 3:2) depending on the discipline and the duration of the particular training (Kenya 1981:11; 1984:2; 1992a:6).

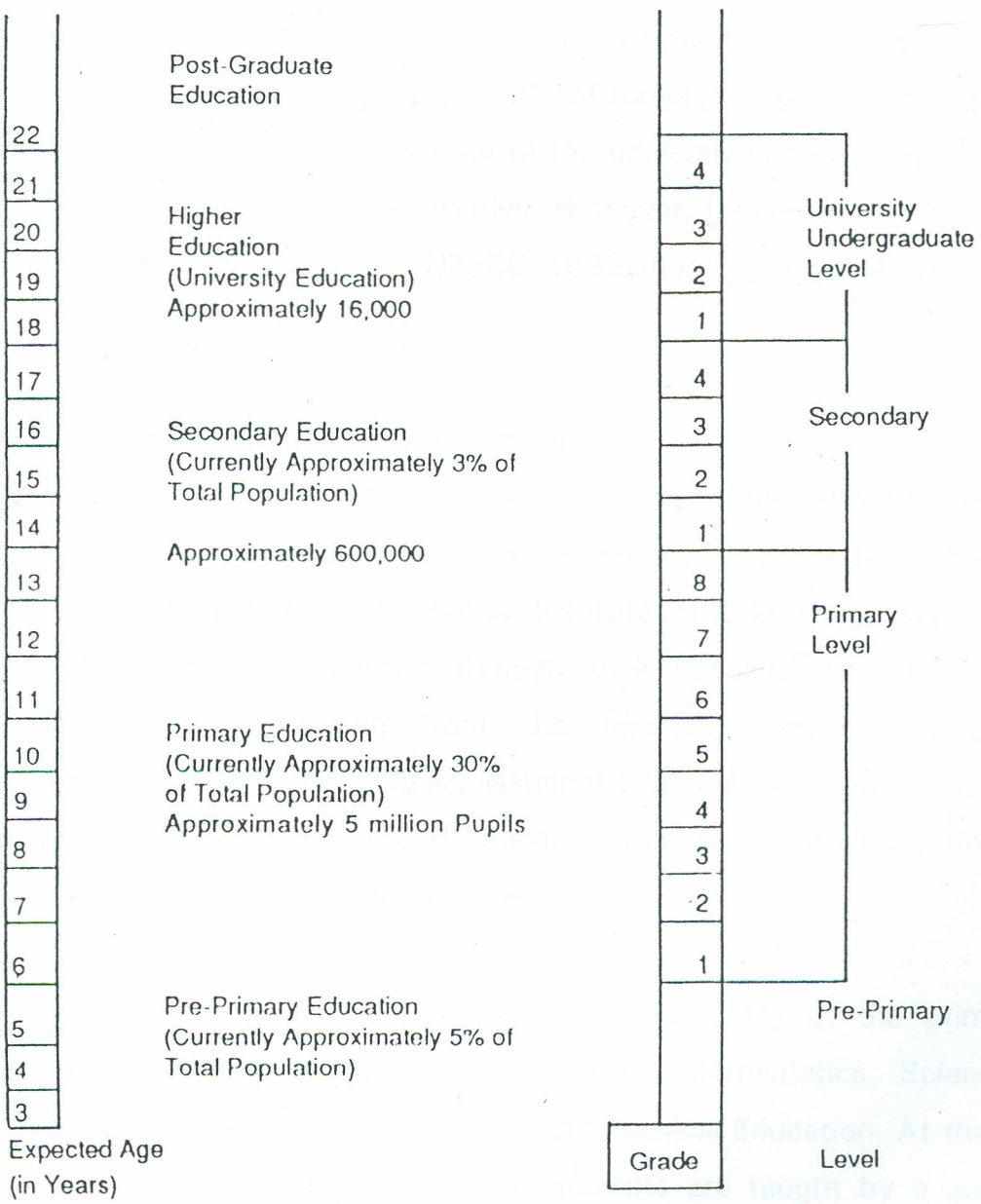

Figure 3.2 Structure of the 8-4-4 system of education (cf. Eshiwani 1993:44)

Primary education starts for most children at the age of six years. In 1991 there were about 5.5 million pupils enrolled in primary education. The national participation rate was 96% in 1991 of the children within the age group of 6-14. However, only 69% of a given cohort reaches Standard 8, at the end of primary education. Girls make up 48.7% of the total enrolment but there are disparities in gender between provinces. During the same year the enrolment at the secondary school was 614,161 which was 27% of the relevant 14-18 years age group. The enrolment of university students in the four public universities was 41,674 during the 1991-92 academic year. Only 2% of those joining the formal education system make it to higher education because the universities cannot admit all the students who qualify, due to limited facilities. However, this level of education registered a growth of 4.9% in 1991 (UNESCO 1992 report cited in Agak 1995:13; Kinunda 1994:3127).

3.4 Curriculum and teaching methodology

The body charged with the responsibility of preparing the national curricula for pre-primary, primary, and secondary education, teacher education, technical institutes, and adult education is the Kenya Institute of Education (KIE). The universities develop their own curricula through their senates. Participants in curriculum development are drawn from the relevant subject inspectors, teachers, representatives from the Kenya National Examination Council (KNEC), curriculum specialists from the Institute of Education and interested parties from governmental and non-governmental organisations.

All learners cover a common curriculum nationally at the primary level. This includes languages (English and Kiswahili), Mathematics, Science, Agriculture, Social studies, Art and Craft, Music, and Physical Education. At the lower levels of primary education, i.e. Classes 1-4, subjects are taught by a general classroom teacher while for the upper Classes 5-8 there are special subject teachers. Teachers use a variety of teaching methods like lectures, group work, projects and take-away assignments.

The secondary school curriculum, however, is more diversified. Subjects taught include the following:

Communication:

- English

- Foreign languages
- Kiswahili

Mathematics

Sciences:

- Biological Sciences
- Physical Sciences

Humanities:

- Geography
- History and government
- Religious Education
- Social Education and Ethics

Applied Education:

- Agriculture
- Industrial Education

  Electrical Technology

  Metal Technology

  Power Technology

  Wood Technology

Business Education:

- Accounts
- Commerce
- Typing and Office Practice

Home Science:

- Clothing and Textiles
- Food and Nutrition

Art

Music

Physical Education

Thirteen (13) subjects are offered in Forms One and Two as follows (see Kenya 1984:5-8):

- Agriculture
- Biological Science
- English
- Geography
- History and Government
- Kiswahili
- Mathematics
- Physical Science
- Religious Education;

one subject from

- Business Education
- Home Science
- Industrial Education;

another one subject from

- Art
- Music
- Physical Education
- Social Education and Ethics.

The choice of a foreign language is optional.

Music is one of the elective subjects. It is offered by secondary schools which have trained music teachers and music equipment for the course. While the information given in *Ministry of Education, Science & Technology: The 8-4-4 System of Education* (Kenya 1984:7) concerning examinable subjects to be taken in Forms Three and Four indicate nine examinable subjects and two non-examinable subjects, the *National Report from Kenya, International Conference on Education 43 Session Geneva on the Development of Education 1991 to 1992* (Kenya 1992a:16-17) reports that the number of examinable subjects at the end of the secondary cycle was reduced from 10 to 8 in 1991, whereby a student is to

study three core subjects, two science subjects and one subject from three clusters as shown below.

Core subjects:

- English
- Kiswahili
- Mathematics

Sciences:

- Biology/Biological Sciences
- Chemistry
- Physical Science
- Physics

Social Sciences:

- Geography
- History and Government
- Religious Education
- Social Education and Ethics

Applied/Practical Skills Subjects:

- Agriculture
- Aviation Technology
- Building Construction
- Ceramics
- Drawing and Design
- Electricity
- Home Science
- Leather Work
- Metal Work
- Motor Mechanics
- Power Mechanics
- Woodwork

Cultural subjects:

- Arabic
- Art and Design
- Commerce
- Economics
- French
- German
- Music
- Typing with Office Practice.

Curriculum supervision is the responsibility of the Inspectorate of Schools and evaluation of the curriculum is ensured through examinations.

3.5 The 8-4-4 Secondary Music curriculum (1986)

The secondary cycle of the 8-4-4 education system was introduced in schools in January 1986 following the adoption of the new system of education in 1985. The development of the four year secondary education curriculum was undertaken by KIE in 1984 and 1985. According to the 1992 Secondary School Syllabus Volume Four, the 8-4-4 secondary Music curriculum consists of sub-sections to be covered in all the Forms, i.e. One to Four, in every year of study. The title of the content of these sub-sections is similar for all the four years but the actual content advances in difficulty and variety from one year of study to the next higher year. The sub-sections comprise four different areas (see Kenya 1992b:5-12):

- *Basic Skills* which involves:

Time:	Note values and the tie
	Time signatures
	Bar lines
	Rests
	Grouping of notes
Melody:	Pitch
	Scales
	Key signatures
	Sol-fa syllables
	Modulation

	Ornamentation
	Technical names of the scale
	Creating melodies/composition
Harmony:	Triads
	Chord progressions
Aurals:	Rhythm
	Melody
	Interval
	Cadences

- *History and Analysis* comprising the study and analysis of music selected from any two of the following types: African, Western and Oriental.
- *Practicals* comprising performance of a dance selected from either African, Western or Oriental type; instrumental performance on two given instruments, each selected from either of the types given above.
- *Project* involving field work where pupils are expected to collect and preserve folk songs and dances, collect instruments, compose songs, and visit and participate in national days, cultural festivals, music centres and recording industries.

However, in examinations, a part of basic skills and history and analysis form the Music Theory paper which is Paper 2 (see Appendix C). The Music Practical paper (Paper 1, see Appendix B) consists of parts A and B and it comprises performance of prescribed pieces, scales, aural work and performance of prescribed pieces on instruments (see Appendix B). Paper 1 was originally numbered 423 and the Music Theory paper, 424. However, after the revision of the syllabus in 1992, number 511 is currently used for both papers instead of the previous ones (see Appendix B & C). The revision, however, did not alter the examination format. The 1993 Music Practical examination is not included in Appendix B for the present study because it could not be found despite all the possible attempts made.

In the examination, part A of the Music Practical paper lasts 10 minutes (see Appendix B). It consists of the following parts:

- an African piece

- a Western piece
- technical exercises
- sight reading.

Part B which is the aural section lasts 50 minutes (see Appendix B). This part of the examination is pre-recorded on audio cassettes which examiners play for candidates at the time of examination. It has five compulsory questions:

- writing rhythm on monotone
- writing two played melodies inserting key and time signatures
- recognising by ear and describing the intervals played
- recognising and identifying cadences played
- recognising and naming modulations used in the melodies played.

The Music Practical paper is sat before the Music Theory paper (Paper 2). Both parts A and B of Paper 1 are marked out of 50. Marks for the paper are handed over to KNEC which keeps it until Paper 2 is done and marked.

The Music Theory paper (see Appendix C) lasts two and a half hours. The paper consists of three sections: A, B and C. Section A tests basic skills; section B tests history and analysis and section C tests general music knowledge. Candidates are required to answer questions from all the sections. The paper is marked out of 100. The average marks of both papers 1 and 2 are worked out at KNEC. It is this Music Average Mark that is given back to heads of schools as the grade in Music a learner has earned.

KNEC, however, keeps record of raw marks for both Music Theory and Music Practical papers. Both the Music Theory and the Music Practical marks were released by the KNEC for the purposes of this study, making it possible to compare achievement in Music Practical as well as Music Theory. Overall achievement in Music was also compared using the average marks derived from the Music Theory and the Music Practical marks combined. In this study, overall achievement in Music is referred to as Average Music Mark (see Aim of the study, 1.3, and Hypothesis Three, 1.6).

3.6 The system of examinations and educational assessment

A pupil's performance is evaluated through continuous assessment in class work and tests. There are also end of term and end of the year examinations which are school based. There has been, since 1965, a national examination, called Certificate of Primary Education (CPE), taken by learners at the end of primary education. The examination consisted of multiple choice tests in Mathematics, English and a general paper (Science, Geography, History, Geography and Civics). CPE functioned as a selection instrument for further schooling until 1985 when it gave way to the Kenya Certificate of Primary Education (KCPE). The latter is thought of as being more relevant to the realities of life of school leavers since it involves practically oriented subjects (Home Science, Music, Carpentry, Agriculture, etc.).

Only 50% of those completing primary education join secondary schools, which is just 27% of the relevant age group. At the end of secondary education, pupils sit for the Kenya Certificate of Secondary Education (KCSE). It is the KCSE that is used for selecting students for university education and other post-secondary institutions (Kenya 1992a:6).

KNEC is the body responsible for the management of examinations. It is also in charge of certification for primary and secondary education and post-school training institutions except for universities and diploma teachers' colleges, which administer their own examinations.

CHAPTER 4

A REVIEW OF RELATED LITERATURE

4.1 Related literature from other subject areas

Comparative studies in most academic subjects report lower achievement among girls as compared to their male counterparts. This is reflected in studies that have been done nationally, reports of studies from other African countries and other international studies. In this review, emphasis is placed on comparative studies in academic achievement of boys and girls in school subjects.

In a periodical produced by the Forum for African Women Educationalists (FAWE) entitled *The Education of Girls and Women in Africa,* it is stated that most countries in the sub-Saharan region report lower performance among girls, especially in Mathematics, Science and technical subjects (FAWE n.d:6). A summary of the performance of girls in three different African countries, namely Zambia, Ethiopia and Kenya, is further given here as examples: For Zambia, it is stated that the performance of girls as compared to boys is lower in all examination subjects at the primary level and in the whole country (FAWE n.d:6). The results of another study conducted with data collected from all types of Zambian schools in 1989 confirm the statement (Ndimbire 1995:1). The study showed that females persistently performed worse in Mathematics than their male counterparts. The study further revealed that an average of 50% of the females as compared to 31% of the males in single-sex schools failed in Mathematics whereas in co-educational schools, female performance was even worse: 56% females failed as compared to 37% males. In Ethiopia, FAWE (n.d:6) reports that girls performed more poorly than boys in all three examinations (not named) in 1989.

In Kenya, FAWE (n.d:6) draws examples from the recent analysis of student performance in primary and secondary promotion national examinations. As FAWE (n.d:6) reports, these examinations indicate that apart from languages, girls' academic achievement is lower than that of boys, with greater disparities between the genders in Mathematics and Science. A similar conclusion is reiterated in an anonymous and undated article entitled *Education for Girls and Women* found in

the Institute of Research and Postgraduate Studies library at Maseno University College. In this article, the author raises concern over the consistently poor performance of girls in Mathematics and Sciences. FAWE, however, drew conclusions after working out the arithmetic mean of three subjects, namely English, Mathematics and Physics, from KCSE results of 1989-1993. The means were worked out for three different types of combination of schools: first for all the students who sat for the exams, secondly from a sample of 13 single-sex schools each, and thirdly from 9 mixed schools. The mean female score in Mathematics averaged 21 as compared to 32 for boys. In Physics, the mean female score averaged 31 as compared to 37.6 for boys. The mean score in English for both genders was virtually the same: 56.9 for girls and 57.2 for boys.

Other comparative studies that have been done on gender differences in academic performance also portray girls as lower achievers in Science subjects. A study conducted by Obura (1993:100-101), for example, shows similar patterns, especially in Science subjects at the secondary level. According to this study, girls do poorly in Biology (pure biology): girls 29%, boys 33%; Biological Sciences (Biology & environmental study and human health): girls 12%, boys 18%; Mathematics: girls 8%, boys 18%; and Physics (pure physics); girls, 38%, boys 52%. However, the study shows that both genders do extremely poorly in Physical Sciences (a combination of physics and chemistry): girls 7%, boys 3%, but that girls do better in Religious Education compared to boys: girls 72%, boys 50%.

As much as studies so far cited consistently portray girls as poor achievers in Mathematics and the Sciences, some studies aimed at finding cognitive differences between the two genders report very few and minor differences in some of these areas. Maccoby & Jacklin (1974:63-133) state that a major analysis of more than 2,000 studies on the topic of cognitive differences between boys and girls found only a few clear-cut dissimilarities between the two sexes. No differences were found between boys and girls in the cognitive areas that were studied, i.e. general intelligence, learning memory, formation of concepts, reasoning tasks, problem solving and creativity. The consistent cognitive differences that were found to exist, based on data analysis, appeared mainly in middle childhood. These are: Girls do better in a wide range of tasks involving word skills whereas boys excel in Mathematics and in spatial relations. In Hyde's opinion (1981:894), these

differences were small. Feingold (1988:101) found these differences to have diminished gradually over the last 30 years. Witt, Dunbar & Hoover (1994:242) reiterate the smallness of the differences and claim them to be of no practical importance.

Large differences were, however, noted among the Grade 7 and 8 pupils talented in Mathematics who took the Maths portion of the Scholastic Aptitude test (SAT). The male/female ratio was 13:1 for scores above 700. That is to say there were 13 boys for every girl who scored above 700 marks in the Mathematics portion of the SAT. Differences were also found in specific skills within the cognitive areas. For example, boys tend to do better in Algebra problems while girls do just as well in arithmetic and geometry and better in computation according to Marshal (1984:201-202). Linn & Peterson (1985:1492) also noted that while boys do better on some measures of spatial skills, girls do just as well on other measures that require a more analytic strategy and that are more closely related to mathematical and scientific reasoning. Olds & Papalia (1988:421) point out that these gender differences are changeable. They argue that training in Mathematics skills can significantly improve performance by both males and females.

It is in the area of languages, according to the report given by FAWE (n.d:6), that girls perform academically as well as boys. A similar report has been given in Accounting (Park, Hayes & Foster 1994:352). One area that depicts girls as better achievers than boys is the area of reading literacy. It is noted in some of these studies that the differences are increasingly becoming minimal to such an extent that they are of little significant educational value (Agak 1995:85). Equal academic performance in languages by boys and girls is also reflected in a study conducted to find out whether reading literacy would be a predictor in academic achievement in the Kenya Certificate of Primary Education (KCPE). According to this study, Linear Structural Equations (Lisrel) analysis was used to group the subjects at KCPE into two domains: those that require general reasoning ability i.e. Geography, Home Science, Mathematics, Music and Science, and those that are verbally loaded, that is English and Kiswahili (Agak 1995:93).

While a comparison of the mean performance on all the subjects at KCPE level was done, girls had lower means in subjects that were linked to general reasoning

ability but there was no difference in the means of boys and girls on subjects that were verbally loaded (English and Kiswahili).

The fact that girls do academically better in languages raises many theoretical issues as to what girls can achieve academically in Music. Languages, according to the study done by Agak (1995:93-94), require verbal reasoning, i.e. the ability to understand or manipulate concepts framed in words. Verbal reasoning according to Bennett (1952) as cited in Agak (1986:7) manifests its facets in fluency, abstraction, generalisation, organisation, classification and thinking constructively.

Verbal reasoning is known from research findings to be a function of the left hemisphere of the brain (Maccoby & Jacklin 1974:125-126; Singleton 1986:74) while the right hemisphere is generally known to direct musical performances among other activities (Olds & Papalia 1988:63). This seems to suggest that girls are only good at subjects requiring verbal reasoning. However, Singleton (1986: 74) states that evidence from dichotic listening tests and tachistoscopic tasks shows no consistent sex differences in brain lateralisation of language functions. Moreover, Shutter-Dyson & Gabriel (1981:264), using evidence from recent work on dichotic listening, also states that the former distinction between the 'verbal' and the 'musical' hemisphere is untenable. The reason is that the musical stimuli of various kinds seem to be processed sometimes in one, sometimes in the other, and mostly in both hemispheres.

Earlier development of verbal reasoning among girls shows their superiority over boys until high school level in solving intellectual problems that require such reasoning. A study that has already been cited above (Agak 1995:13) seems to suggest that at KCPE level, Music as a subject requires mainly general reasoning ability but subject analysis indicated that solving musical problems involves verbal abilities as well. The present study will want to establish the degree of variation on academic achievement in Music (Theory and Practical) between boys and girls: whether Music is a female or male oriented subject, or whether Music is a subject not to be branded with any particular gender.

4.2 Related literature in Music

There is no evidence of a comparative study in gender and academic achievement in Music that has been done in Kenya. If such studies have been done elsewhere, their findings have not been readily available. Studies in comparative music education whose findings are readily available are those that have been done in America and other Western cultures. These studies have compared instrumental preferences among boys and girls and some of these studies reveal sex stereotyping in instrumental music. Zervoudakes & Tanur (1994:58) state that musical instruments are gendered and that certain instruments are considered feminine and others masculine. They nevertheless point out that instruments assigned to either gender differ over time and with various age groups.

Studies in the American culture that have specifically addressed gender association of musical instruments according to Delzell & Leppla (1992:94) are those done by Abeles & Porter (1978) and Griswold & Chroback (1981). Abeles & Porter's research consisted of four related studies (Abeles & Porter 1978:67-73). In the first series, adults were to hypothetically choose instruments for their hypothetical children. Adult preferences showed that the sex of the child determined the type of instrument chosen. Thus clarinet, flute and violin were preferred for daughters, and drum, trombone and trumpet were chosen for boys. Saxophone and cello were considered neutral. In the second series where music majors and non-majors were asked to make paired comparisons as to the femininity/masculinity of the same instruments, similar results were obtained. While flute, violin and clarinet were judged most feminine, the drum, trombone and trumpet were considered most masculine. Cello and saxophone were given a middle ranking. When Delzell & Leppla (1992:96-97) replicated this part of Abeles & Porter's study, the paired comparison rankings of the instruments by music majors and non-majors were similar to that observed by Abeles & Porter, even though a considerable narrowing of the range of masculinity was observed.

In the third series, a tape recording of the same eight instruments was played to children and they were asked to indicate their preferences (Abeles & Porter 1978:69). Preferences were scored using the scaled scores of masculinity/femininity derived from a college-student study. Little difference was shown between boys and girls in mean preference scores at the lower Grades K-2.

In Grades 3-5, increasing differences were noticed with boys achieving more masculine scores and girls more feminine. Delzell & Leppla (1992:97-100) also conducted a similar study with fourth grade students indicating their preferences for a selected similar eight instruments. They found more boys than girls wanting to play drums and saxophone. The preferences for girls was a little broader and included flutes, drums, saxophones and clarinets.

Griswold & Chroback (1981:58) conducted their study to extend the scope of Abeles & Porter's study (1978) by including more instruments and an instrumental and a choral conductor category. They further explored sex-stereotyping as a function of gender and college majors. Music and non-music majors were asked to rate instruments and music-related occupations using a Likert-type, masculine-feminine scale. Results showed that music and non-music majors, regardless of their gender, associated gender with the names of certain instruments and occupations (Griswold & Chroback 1981:60). The harp, flute, piccolo, glockenspiel, and choral conductor had feminine connotations. Instrumental conductor, saxophone, drum, trumpet, string bass, and tuba had masculine connotations. They further state that these findings confirmed the results reported by Abeles & Porter (1978).

One other type of comparative study that has been done in Music is that which addresses preferences in Music as a subject between boys and girls. An example of such a study is that done by Lightbody, Siann, Stocks & Walsh (1996:13-25). Lightbody and his co-authors' research consisted of three series in which secondary school pupils completed a questionnaire concerned with enjoyment of school, enjoyment of subjects, and what they attributed to be academic success. When comparisons were made on the second series dealing with subject enjoyment, results showed that girls were more likely to report liking English, French, German, History, Drama, Music and Home Economics and to a lesser (but statistically significant) extent Art, Media Studies, and Personal and Social Education. Music was missing on the boys' list. They were reported as liking Science, Craft and Design Technology, Physical Education, Information Technology and to a lesser (but statistically significant) extent Mathematics (Lightbody et al. 1996:18).

Already in 1949, the findings of Farnsworth (1949:250-251) based upon self-rating scales, show that girls are more interested in music than boys. According to his findings, disparity between boys and girls in liking music was noticed for both serious and popular music. Music journal editors (1951) as reported by Gibbs (1972:14) did not only agree with Farnsworth's findings, but also claimed a larger preference for serious (classical) music by girls. Some studies show the opposite. An example is a study by Baumann (1960:79) which found no differences in musical preferences between boys and girls.

In conclusion, a greater number of studies cited in this review have shown that girls are poor achievers in most Science subjects. No study was found that compared academic achievement of boys and girls in Music. It is hoped that this study will provide data on which future comparisons on academic achievement of boys and girls can be made. However, since other music-related studies reviewed show girls to be more interested in Music than boys, it can be predicted that girls are likely to do better in Music compared to boys at the KCSE level for the very reason that learners tend to do better in subjects they like and have an interest in.

4.3 Critique of reviewed sources

Literature reviewed for this study consisted of books and journal articles. Several government documents on the development of education in Kenya were also reviewed. The literature study that was done on education in Kenya offered very valuable information on the education process but had no information on achievement in School Music. Instead, it showed that Music was not considered an important subject in the curriculum until the inception of the 8-4-4 system of education.

Since there are no studies that have been done comparing academic achievement of girls and boys in Music, the present study relied on journal articles on gender differences and academic achievement in other subjects as sources for literature review. A few journal articles on comparative music education provided comparative literature on the instrumental preferences of boys and girls but had no useful information for comparing academic achievement between the two genders. They are Abeles & Porter (1978), "*The sex-stereotyping of musical*

instruments"; Porter & Abeles (1979), *"So your daughter wants to be a drummer?"*; Griswold & Chroback (1981), *"Sex-role association of music instruments by gender and major"*; and Delzell & Leppla (1992), *"Gender association of musical instruments and preferences of Fourth-Grade students for selected instruments"*.

Of the books reviewed on gender and music, the book *Gender, Music and Education* by Lucy Green (1997) was the only book which, although approaching the subject from a historical perspective, had some information for music education of both boys and girls in the contemporary school situation. Hence it had some applicable information for the present study. Other books on gender and music reviewed are very useful for cultural studies on gender and music but have no literature on academic achievement in Music between boys and girls. These books are: *Women making music: The western art tradition*, edited by Bowers & Tick (1986); *Women and music in a cross-cultural perspective*, edited by Koskoff (1987); and *Music, gender and culture*, edited by Herdon & Ziegler (1990).

Interviews (see Chapter 5.3) provided valuable information on gender and music in the indigenous Kenyan societies and on the development of Music Education in Kenya.

CHAPTER 5

THE DESIGN OF THE STUDY

5.1 Population

The population of the study was 11626 Form Four Music learners from all secondary schools in Kenya offering Music who sat KCSE between 1991 and 1995. Of the 11626 participants of the study, 4831 (41.6%) are boys and 6795 (58.4%) are girls. The 8-4-4 system of education was implemented as from January 1985, hence the first Form One intake under the system joined secondary schools in January 1986. This group of Form One intake sat their KCSE in 1989. The years 1989 and 1990 were not included in this study as they were considered to be periods when schools were adjusting to the new system.

5.2 Procedure

First the researcher sought permission from the Office of the President to carry out the research in the country. The researcher used the Research Clearance Permit to obtain the list of all secondary schools that offer Music in the country from the KNEC. The same permit enabled the researcher to obtain KCSE results of both Music Theory and Music Practical marks from the KNEC. The permit was also used to gain access to official governmental documents and archive materials. In addition, the permit enabled the researcher to conduct interviews to gather additional information on the development of Music Education in the country.

The KCSE Music results printout that was obtained from the KNEC lists the marks, the centre/school number, index numbers and names of each candidate, but not the school names. The centre numbers in the printout are the same as the ones on the list of all secondary schools offering Music so that schools were easily matched with the centres in order that coding of the school type, location of school and gender of candidates for each school could be done. Centres/schools were identified as single-sex or mixed by simply using the title of the school. Generally, secondary schools in Kenya have titles as X Boys', X Girls' or X Mixed schools. Where such titles were missing, the researcher made

enquiries from colleagues and/or students of Maseno University residing in the particular districts.

Schools were coded as urban or rural using one of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) definition or classification guidelines which define a school as urban when it is located within an urban centre (a town with a total population of over 2000 inhabitants) and those located outside such centres as "rural" (see Chapter 1.9.5).

The gender of candidates was primarily identified as either male or female by first names. Where this was not possible, the particular form of the second name in Kenya is often an indication of gender (for example, among the Luos, girls' names begin with an A, but boys' names commence with an O). In cases where both names could not help in identifying the candidate, the author made enquiries from students of Maseno University residing in the particular districts.

5.3 Instrumentation

The study used KCSE results as the source of data. The KCSE results were used as a measure of learners' academic performance in Music, because they were considered to be valid and reliable. KCSE is an examination that is publicly known to have evolved over the years and thus has a symbiotic relation with what is actually taught in the classroom. Examination items are also set in such a way that the items contained in the KCSE are similar in difficulty and format. Secondly, the examinations are regulated and handled by a centralised body of professionals: the Secondary School Examination Committee. This has a dual implication: firstly, KCSE is widely accepted by teachers, educationists and the general public (Makau, n.d:3), so that any research based on these results is likely to be taken more seriously than that based on classroom tests which are not standardised. Secondly, marking is done under closely supervised and controlled conditions so that there are no teacher biases that are likely to interfere with the results. KCSE thus serves as a type of achievement test, measuring an individual's knowledge in a given subject. With respect to this study, KCSE served as an achievement test measuring an individual's knowledge in Music.

According to the KCSE regulations and syllabus of 1989/90, the KCSE Music examination consists of two papers: a Practical paper on African music, song with dance, and Western music, and a second written paper on basic music skills, history and analysis and general music knowledge. The 1989/90 KCSE regulations and syllabus does not mention Oriental music although it is included in the teaching syllabus. It could not be examined due to lack of teachers with knowledge and skills to teach this type of music. It is a requirement that a candidate must pass in the Practical paper in order to obtain a credit in Music. Subject results are indicated by grades from A to E where A is interpreted as very good, B as good, C as average, D as weak and E as Poor.

The letter grades represent specific points: A is 12 points; A- = 11, B+ = 10, B = 9, B- = 8, C+ = 7, C = 6, C- = 5, D+ = 4, D = 3, D- = 2 and E = 1. Marks for which an A is awarded depend on the performance of the particular year so that there are no fixed marks for all of the grades shown above.

Although the study was mainly quantitative, a qualitative method of interview was also used to gather data on the development of Music Education in Kenya and on culture, women and music-making in indigenous Kenyan society. Interviews conducted on the latter were informal and the people interviewed varied. Some were lecturers at Kenyatta and Maseno Universities. Some were retired music and non-music teachers while others were elders in society with a great wealth of knowledge in indigenous cultural norms and values. The names of the persons interviewed are not included in the present study since the researcher obtained no permission from them to do so. The responses from the interviewees were interpreted and supported by written records from authors on African music (see Chapter 2.2.4 and 2.3).

5.4 Treatment of data

KCSE Music Theory and Music Practical result marks collected were compiled. While compilation was being done, any irregular cases that appeared were omitted in the final list. The following are the irregular cases that appeared and were omitted from the final data:

- Candidates against whose names appeared only one mark, either for Music Theory or Music Practical

- Candidates who had no marks reflected against their names
- Centres/schools whose titles did not match candidates, for example where the title was reading X Girls school while candidates' names shown were all boys' and vice versa, or a mixture of boys and girls
- Centres/schools that appeared in the KNEC mark sheets while the centre could not be found in KNEC list of schools offering Music
- All private centres because they do not operate as regular secondary schools
- Centres/schools which presented only one candidate who could not be identified as either male or female
- Centres/schools which presented only one candidate identifiable as male or female but the name of the centre/s could not help identify whether the centres represented single or mixed schools
- Centres/schools which had no marks indicated against the name of candidates.

The final data for this study was therefore free from any anomalies that could cause discrepancies in the results obtained. The anomalies listed above could have occurred due to the following reasons:

- Failure of candidates from a school to sit the examinations after enrolment, resulting in no marks indicated against their names.
- A candidate could have been sick or hospitalised and therefore not present to sit the examinations.
- There could have been errors in the spelling of names that made it difficult to identify the gender of a candidate.
- The current district administrative restructuring that Kenya is undergoing could possibly have made it difficult to correctly identify a centre, or caused a centre not to appear in the KNEC list of schools offering Music for the simple reason that a school might have shifted to another district and there used a different number.
- Due to lack of enough secondary school music teachers who can be evenly deployed in all centres, especially for conducting Music Practical examinations, candidates from several schools are likely to converge at one centre for the examinations in Music, resulting in a centre reflecting mixed groups while it should be reflecting single groups.

Compilation was done and marks were entered in different columns as follows: Serial number, Mark 1, Mark 2, Gender, Location and School type.

- The serial number column was for indicating numerically the number of students.
- The mark 1 column was for indicating the Music Practical marks.
- The mark 2 column was for indicating the Music Theory marks.
- The gender column was for indicating the gender of the candidates. Number 1 was used to indicate male students and number 2 female students.
- The location column was for indicating whether a school is situated in an urban or rural area. Number 1 was used to represent schools located in urban areas and number 2 for schools located in rural areas.
- The type column was used to indicate whether a school was single-sex or mixed. Number 1 was used to indicate single-sex schools and 2 mixed schools.

5.5 Data analysis

Analysis consisted of descriptive statistics that entailed arithmetic means, standard deviations, etc. of the two groups of data (boys and girls) under study. The t-test was employed to detect a significant difference between the means of the two independent groups.

CHAPTER 6

ANALYSIS OF DATA AND DISCUSSION OF THE FINDINGS

6.1 Introduction

The purpose of this study was to compare academic achievement in Music between boys and girls at the KCSE level in order to find out whether there is gender difference. To achieve this aim, eleven hypotheses were formulated and tested (see Chapter 1.6).

This chapter will present an analysis of the quantitative data. Each hypothesis and the result is presented as a major section of this chapter. A number of t-tests were performed since the study involved comparing means between the two groups (boys and girls). The software used for the data processing was a product called SAS®[1].

Preliminary information about the study will be given first.

6.2 The preliminaries of the study

Kenyan schools offering Music in 1991 numbered 178; in 1992 the number was 237, and in 1993 the number increased yet again to 258. The year 1994 witnessed another increment to 315 and in 1995 the number was 318. This number excludes all private centres where the KCSE Music examination was taken during the five years of the study (see Chapter 5 for an explanation). There was fluctuation in increment. The largest increment was witnessed in 1992 when 59 more secondary schools took to the teaching of Music. There was an increase of 21 the following year, then an increment of 57 in 1994, with only 3 more schools joining in 1995.

The population of the study drawn from all the schools after catering for irregularities (see Chapter 5) is shown in Figure 6.1. It consisted of 11626 learners

[1] The SAS system is an integrated system of software providing complete control over data management, analysis, and presentation, and is available from SAS Institute South Africa (Pty) Ltd, 1st Floor North Wing, President Place, 1 Hood Avenue, Rosebank. P. O. Box 3469, Parklands, 2121.

(N=11626) over the five years of which 6795 learners (58.4%) were girls and 4831 learners (41.6%) were boys. Since the study was not comparing performance by years, data was treated as one whole; hence, there was no categorisation of population by years. However, a study that compares achievement by years could be equally interesting (see Recommendations for further study, Chapter 7.3).

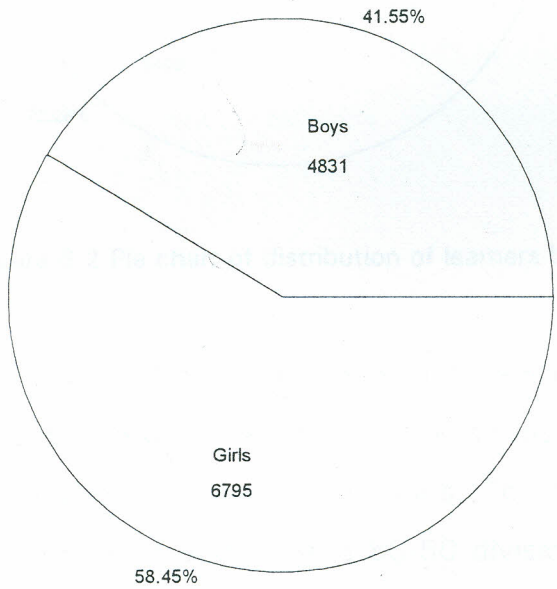

Figure 6.1 Pie chart of distribution of learners by gender

Schools that offer Music fall under the following categories: urban, rural, single-sex and mixed (co-educational). Distribution of learners by location is shown in Figure 6.2. Urban schools had only 3223 (27.7%) learners of the total population, while rural schools had 8403 (72.3%) learners. There were thus more than double the number of learners in rural compared to urban schools, a reflection of the general educational situation throughout Kenya.

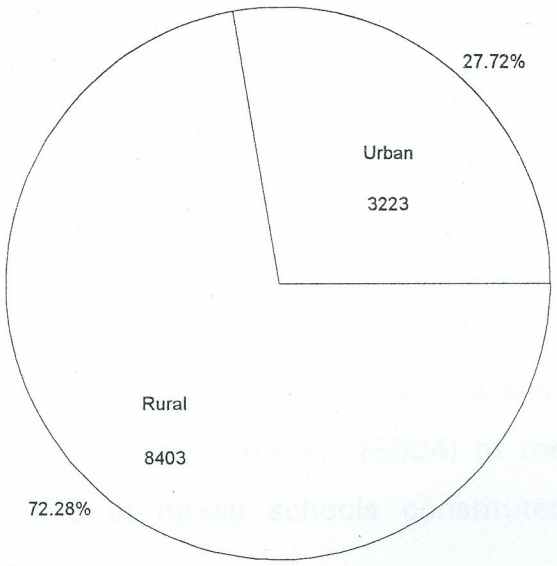

Figure 6.2 Pie chart of distribution of learners by location

Table 6.1 shows the distribution of learners by gender in urban and rural schools. The number of learners in urban schools was 3223 of which 1547 (13.31%) were boys while 1676 (14.42%) were girls. The percentage of boys and girls in urban schools are therefore close to a 50-50 division, closer than was the case with the distribution in many other situations.

Table 6.1 Two way contingency table of gender by location

Frequency Percent Row % Column %	Urban	Rural	Total
Boys	1547	3284	4831
	13.31	28.25	41.55
	32.02	67.98	
	48.00	39.08	
Girls	1676	5119	6795
	14.42	44.03	58.45
	24.67	75.33	
	52.00	60.92	
Total	3223	8403	11626
	27.72	72.28	100.00

In rural schools, the total number of learners was 8403. They were distributed as follows: 5119 (44.03%) were girls and 3284 (28.25%) were boys.

From the foregoing discussion, the following observations are made: the majority of learners that do Music, both in rural and urban schools, are girls; the majority of male learners of the study, namely 67.98%, were in rural schools while only 32.02% were in urban schools. Similarly, the majority of female learners of the study, that is 75.33%, were in rural schools while only 24.67% were in urban schools.

Distribution of learners by school type is shown in Figure 6.3. Learners in single-sex schools constituted 68.8% (8004) of the total population of 11626 learners, while learners in mixed schools constituted only 31.2% (3622) of the total population.

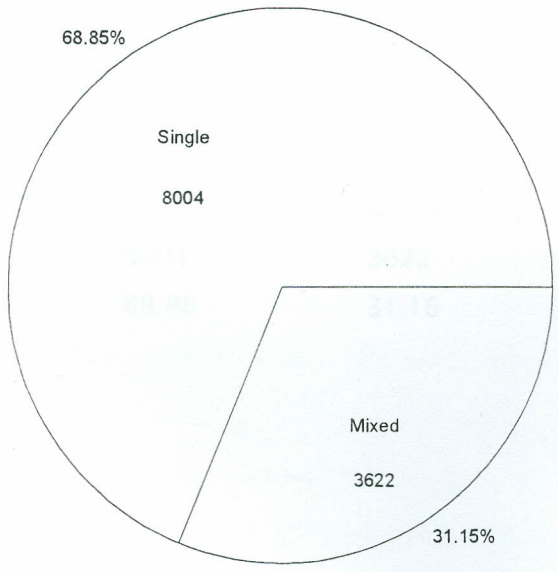

Figure 6.3 Pie chart of distribution of learners by school type

Table 6.2 presents the distribution of learners by gender in single-sex and mixed schools. Of the total learners in single-sex schools of 8004, boys formed 24.63% (2863) and girls 44.22% (5141). The total number of learners in mixed schools was 3622. They were distributed as follows: boys formed 16.93% (1968) and girls 14.23% (1654).

Table 6.2 Two way contingency table of gender by school type

Frequency Percent Row % Column %	Single-sex	Mixed	Total
Boys	2863	1968	4831
	24.63	16.93	41.55
	59.26	40.74	
	35.77	54.33	
Girls	5141	1654	6795
	44.22	14.23	58.45
	75.66	24.34	
	64.23	45.67	
Total	8004	3622	11626
	68.85	31.15	100.00

Tables 6.3 and 6.4 show the distribution of learners by gender in the various school types and locations. Table 6.3 shows the distribution of boys in urban single-sex, urban mixed, rural single sex and rural mixed schools

Table 6.3 Two way contingency table of gender (boys) by location and school type

Frequency Percent Row % Column %	Single-sex	Mixed	Total
Urban	1140	407	1547
	23.60	8.42	32.02
	73.69	26.31	
	39.82	20.68	
Rural	1723	1561	3284
	35.67	32.31	67.98
	52.47	47.53	
	60.18	79.32	
Total	2863	1968	4831
	59.26	40.74	100.00

The number of boys in the schools named above are: Urban single-sex 1140; rural single-sex 1723; urban mixed 407 and rural mixed 1561.

Table 6.4 shows the distribution of girls in the same schools. As can be seen in the Table, the number of girls in the various schools are as follows: Urban single-sex 1319; rural single-sex 3822; urban mixed 357 and rural mixed 1297.

Table 6.4 Two way contingency table of gender (girls) by location and school type

Frequency Percent Row % Column %	Single-sex	Mixed	Total
Urban	1319	357	1676
	19.14	5.25	24.67
	78.70	21.30	
	25.66	21.58	
Rural	3822	1297	5119
	56.25	19.09	75.33
	74.66	25.34	
	74.34	78.42	
Total	5141	1654	6795
	75.66	24.34	100.00

In this study, the following observations can be made: more girls compared to boys take Music; more single-sex than mixed schools offer Music and more rural than urban schools offer Music.

6.3 Results of the analyses

The variables in the study were Music Practical (Paper one), Music Theory (Paper two) of the KCSE Music examination and the Average Music Mark (Music Practical marks plus Music Theory marks divided by two). Raw Music Practical and Music Theory marks were used. Neither the Music Practical nor the Music Theory marks are individually used to determine whether a candidate has passed the Music examination at KCSE. It is the Average Music Mark from the two papers that determines success in the Music examination. However, since each paper is marked out of 100, and the Average Music pass mark fluctuates, depending on the scores obtained in a given year, the generally assumed pass mark of 50 for examinations marked out of 100 is here used to assess performance in the two papers and the Average Music Mark.

The cumulative frequency distribution for the Music Practical, Music Theory and Average Music Mark showed the following results: In Music Practical, 8295 (71.3%) learners scored below 50 and 3323 (28.7%) scored 50 marks and above (see Appendix A). In Music Theory, 6178 (53.1%) learners scored below 50 but

5448 (46.9%) scored 50 marks and above (see Appendix A). For the Average Music Mark, 7425 (63.9%) scored on average 49.5 marks and below while 4201 (36.1%) scored 50 marks and above on average (see Appendix A). Figure 6.4 presents frequencies of Music Practical, Music Theory and Average Music Mark values obtained by pupils in Music at KCSE between 1991 and 1995.

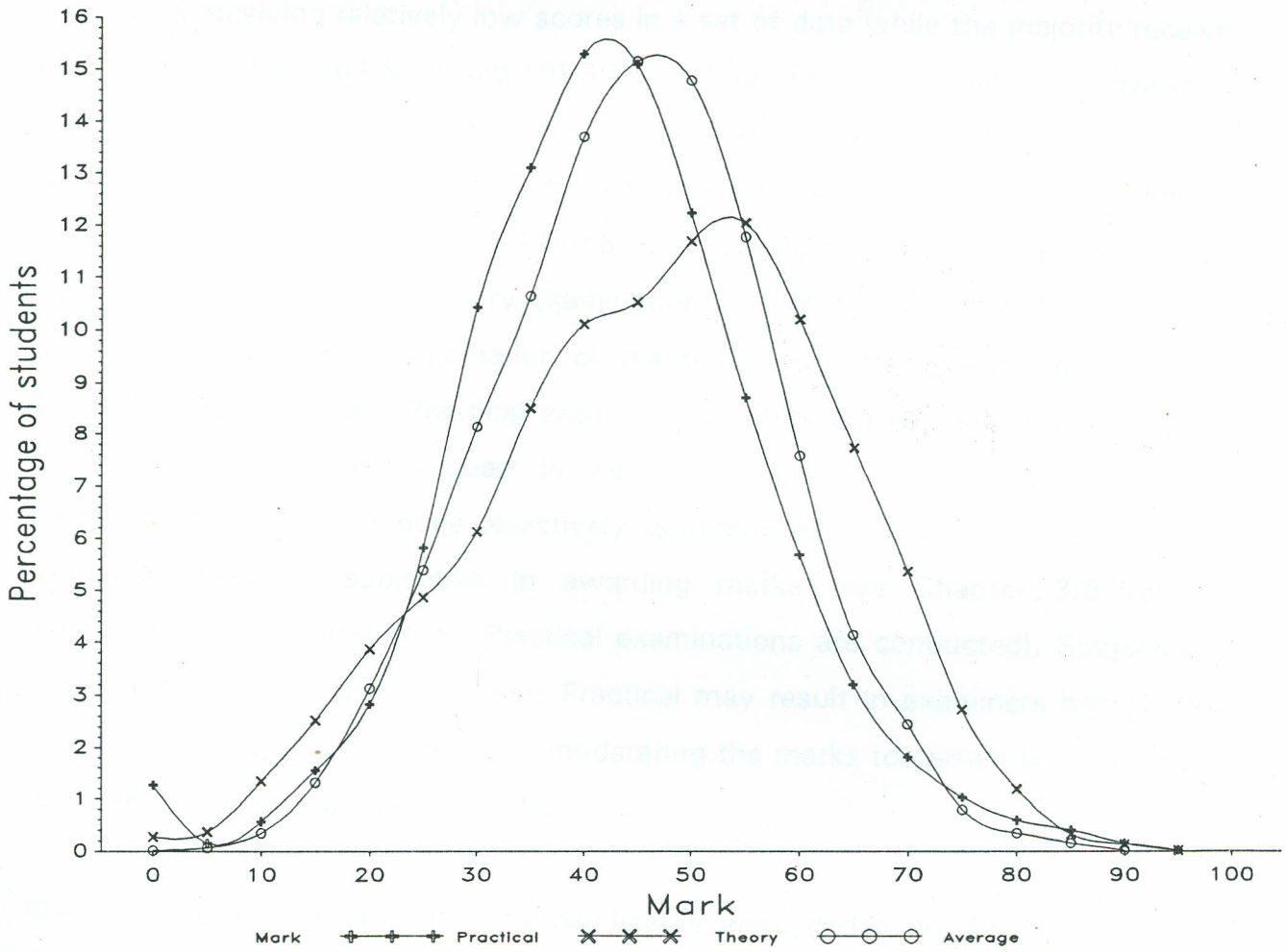

Figure 6.4 Frequency polygon for students (N = 11626) versus Music Practical, Music Theory and Average Music Mark

As can be seen from Figure 6.4, the distribution of marks for the Music Practical and Music Theory KCSE examinations taken between 1991 and 1995 is varied. The Music Practical frequency polygon shows symmetrical distribution around mark 42 that coincides with the mean and the median (see Table 6.5). The spread for the marks is narrow (SD 13.649) (see Table 6.5) and is not concentrated at either end of the distribution.

The Music Theory frequency polygon, however, does not show symmetrical distribution as shown by the Music Practical. Moreover, the spread is wider compared to that of Music Practical (SD 16.163 against 13. 649) (see Table 6.5). The mean 46.995 does not coincide with the median 48 (see Table 6.5). It is slightly negatively skewed. Negative skewness is normally a result of few individuals receiving relatively low scores in a set of data while the majority receive higher scores (Fraenkel & Wallen 1993:161). Thus the slight negative skewness of the Music Theory polygon is an indication that more marks are concentrated at the upper level of distribution. The Music Theory mean is higher compared to that of Music Practical (46.995 against 42.648, see Table 6.5). This is an indication that performance in the Music Theory examination was relatively better. This could be the result of one or a combination of the following factors. Although both the Music Theory and Music Practical examinations items are set with specific marks to be awarded to every question item, the marking of the Music Theory examination questions is done objectively as compared to Music Practical in which examiners may be subjective in awarding marks (see Chapter 3.5 for an explanation on how the Music Practical examinations are conducted). Subjectivity in the awarding of marks for Music Practical may result in examiners being more rigid by not awarding high marks or moderating the marks to certain levels in order to present more standardised results.

There is also a possibility that the candidates were drilled on the Music Theory examination type questions. Hence they were more prepared for the Music Theory paper. Another possibility is that the level of difficulty of the examination was lower. The actual cause of this type of result is beyond the scope of the present study but may require further investigation.

The frequency polygon of the Average Music Mark is representative of the actual grades that are given back to Heads of schools as the grades learners have earned in Music (see Chapter 3 p. 3-12 for more explanation). The polygon shows symmetrical distribution like that shown by the Music Practical polygon.

Further comparisons on the variables are shown by the results of the descriptive statistics shown in Table 6.5.

Table 6.5 Descriptive statistics of the variables Music Practical, Music Theory and Average Music Mark

Variable	Mean	SD	Median
Music Practical	42.648	13.649	42
Music Theory	46.995	16.163	48
Average Music Mark	44.821	12.944	45

As can be read from the table, the mean for the Music Theory examination and the standard deviation (SD) were the highest (Mean 46.995; SD 16.163) respectively. Music Practical had the lowest mean (42.6), but the spread was narrower than that of Theory: SD 13.649.

6.4 **Hypothesis One:** There is no gender difference in academic achievement in Music Practical as measured by the KCSE result marks.

Table 6.6 presents the means, standard deviations (SD) of the two groups as well as the t-value and the p-value. As can be seen from the table, the means for the groups were 41.288 for boys and 43.614 for girls. The difference between these two means is small: 2.326. However, the t-value of -8.816 with a $p < .05$ indicates that the difference was statistically very highly significant. The null hypothesis is therefore rejected.

Table 6.6 Means, standard deviations, t-value and p-value for Music Practical

Variable	Gender	N	Mean	SD	t-value	p-value
Music Practical	Boys	4831	41.288	14.989	-8.816	0.0001*
	Girls	6795	43.614	12.522		

* $p < .05$

Discussion: No study had been done comparing how girls and boys perform academically in the Music Practical paper in Kenya. However, in the current study a comparison between boys' and girls' performance is made on the basis of a Music Practical paper of the KCSE Music examination (see Appendix B).

The present study may not provide a definitive explanation as to why girls seem to do better than boys in Music Practical, but offers some suggestions.

Firstly, the wide variety of questions composing the Music Practical paper may play a role. For example, the Music Practical paper consists of setwork in African and Western pieces, technical exercises and sight reading (see Appendix B, section 1). African pieces require candidates to make their own choices from either voice, dance, one stringed instrument, or a lyre, a flute and a drum set (see Appendix B, 6.1). The Western set work pieces are chosen either for voice or any other instrument (see Appendix B, 6.2). Technical exercises involve either singing or playing of scales and arpeggios, and sight reading is done for voice or the other instruments (see Appendix B, 6.5). Aurals involve recognition of intervals, cadences and modulations by ear, and writing on monotone taped or played rhythms (see Appendix B, section 2). Prescribed works and set pieces for examination are always given two years in advance. Candidates are also required to choose, for example, the African piece selection in advance. Expected levels of the rest of the items are also communicated to teachers in advance.

The Music Practical paper, therefore, has lots of vocal related elements and work that needs to be practised before examination. Thus success in this paper requires a lot of drill and practice and early preparation of pieces. Obviously this calls for time and dedication to the work given by teachers. Girls, as opposed to boys, are known to be good at taking direction from teachers, are diligent and serious with their work and display greater concern about doing well at school (Morris, Finkelstein & Fisher 1976:56; Green 1997:155).

Secondly, it may be that the majority of candidates choose Voice for both Western and African set pieces. Should this be the case, then it may provide an explanation as to why the mean of girls was very significantly higher compared to that of boys on the Music Practical paper because at this age, boys may not have well-polished

voices compared to girls. Moreover, girls enhance their knowledge in some of these test items by engaging in extra-curricular singing activities that boys seem not to care about (Green 1996:50; Green 1997:152; Brocklehurst 1999:12).

Thirdly, the paper also has lots of verbal contents, especially the aural section (see Appendix B, section 2), for which girls have been found to show better memory (Maccoby & Jacklin 1974:59).

6.5 Hypothesis Two: There is no gender difference in academic achievement in Music Theory as measured by KCSE result marks.

Means, standard deviations (SD), t-value, and p-value are presented in Table 6.7 for the two groups, boys and girls.

Table 6.7 Means, standard deviations, t-value and p-value for Music Theory

Variable	Gender	N	Mean	SD	t-value	p-value
Music Theory	Boys	4831	46.864	16.621	-0.734	0.4629
	Girls	6795	47.089	15.830		

As can be read from the table, the mean for boys was 46.864 and that for girls 47.089. No statistically significant difference was detected between the means of boys and girls ($p > .05$ with a t-value of -0.734). Therefore the null hypothesis could not be rejected.

Discussion: Equal performance in Music Theory by both boys and girls is supported by findings from a study by Harrison (1996:349) that found gender not to be a significant predicator of the Theory grades. It may also have something to do with the nature of the Theory paper. The paper consists of questions that deal with recalling the already learnt materials and the application of already learnt concepts in arriving at desired answers like completing a given melody, adding parts to a given melody and the creative ability of composing a tune (using notation) to given words (see Appendix C). Gender differences in these cognitive abilities have not been found. Maccoby & Jacklin (1974:114) found no gender differences in creative abilities of boys and girls. They also found that studies that use tasks calling for memory of both verbal and non-verbal materials present a mixed picture but, on the whole, do not show superiority of either gender. Thus they concluded

that neither gender has a superior memory capacity or superior set of skills in the storage and retrieval of information when a variety of content is considered (Maccoby & Jacklin 1974:59).

6.6 Hypothesis Three: There is no gender difference in academic achievement in Average Music Mark as measured by the KCSE result marks.

Presented in Table 6.8 are the means, standard deviations (SD), t-value as well as p-value of boys and girls for the Average Music Mark.

Table 6.8 Means, standard deviations, t-value and p-value for Average Music Mark

Variable	Gender	N	Mean	SD	t-value	p-value
Average Music Mark	Boys	4831	44.076	13.742	-5.146	0.0001*
	Girls	6795	45.351	12.318		

* $p < .05$

Table 6.8 shows the mean for boys is 44.076 and that for girls is 45.351. There is a very high statistically significant difference detected between the means: $p < .05$ with a t-value of -5.146 even though the size between the means is very small: 1.275. The null hypothesis stating no gender difference in academic achievement in the Average Music Mark is thus rejected.

Discussion: The apparent indication that girls achieve better academically in Average Music Mark (overall performance in both Music Theory and Music Practical) may find support in the fact that girls tend to have greater interest in Music as compared to boys (Hendley et al 1996:181; Lightbody et al 1996:13-25). As early as 1942, Gilbert already discovered a positive relationship between girls and achievement in Music as measured by aptitude test (Gilbert 1942:26,33). A study by Kwalwasser (1955:82-83) showed superiority by girls over boys, where girls averaged two grades higher than boys in Music. Girls have also been found to apply high standards to their own work in the intellectual academic sphere (Maccoby & Jacklin 1974:156). This may equally apply to their better achievement in Music. The findings of a recent study conducted in England supports the present study by showing that girls achieve better grades in Music. Younger & Warrington

(1996:299,300) found that more girls (67%) were awarded A-C grades in Music compared to boys (54%) in the 1994 General Certificate of Secondary Education (GCSE) examination in England.

The findings of some studies cited in Singleton (1986:109) indicate that females are more likely to attribute both success and failure to luck. Amus (1993:271) and Legette (1998:109), in their studies aimed at understanding motivational elements students cite for success or failure in Music (instrumental, vocal and general Music subjects), found the contrary. Females made more ability and effort attributions than males. Based on the foregoing, girls could have performed better in Music as a result of their belief in their ability coupled with greater interest in the subject and efforts exerted in their study of Music. Perhaps Music, like most school subjects, is heavily loaded with verbal activities (Singleton 1986:63) which might be expected to have given girls an advantage over.boys.

6.7 **Hypothesis Four:** There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in urban schools as measured by the KCSE result marks.

Descriptive statistics and the t-test results for urban schools are presented in Table 6.9. There are very high statistically significant differences observed between the means of boys and girls in Music Practical, Music Theory and Average Music Mark in urban schools. Hence the null hypothesis is rejected.

Table 6.9 Means, standard deviations, t-values and p-values for Music Practical, Music Theory and Average Music Mark for urban schools

Location	Variable	Gender	N	Mean	SD	t-value	p-value
Urban	Music Practical	Boys	1547	43.063	16.142	-5.695	0.0001*
		Girls	1676	46.075	13.639		
	Music Theory	Boys	1547	46.866	17.931	-7.146	0.0001*
		Girls	1676	51.125	15.710		
	Average Music Mar	Boys	1547	44.965	15.373	-7.232	0.0001*
		Girls	1676	48.599	12.928		

*p< .05

Discussion: Means for girls in Music Practical, Music Theory and Average Music Mark were significantly higher than those for boys. Girls thus out-performed boys in all three variables in urban schools. Better performance by girls in urban schools is supported by the findings of a study done by Agak (1995:104) in Kenya which found urban girls to perform better than urban boys in reading literacy. Chinapah (1983:162), cited in Chapter 1.2, also found that girls out-performed boys in urban schools.

Good performance by girls in urban schools may be as a result of the difference in time that boys and girls spend in the many out-of-school music activities to which they are exposed in urban areas which help to enhance their music knowledge, for example watching music programmes on television, listening to music programmes on the radio and participating in various musical events. The better performance by girls in urban schools as compared to boys may also be as a result of the possibility that girls in urban schools may not be prejudiced about their capabilities in academic achievement.

While Datta (1984:150) points out that better staffed and better equipped schools are located in urban areas, Akande (1987:78) believes that better trained teachers are also found in urban schools. Hence urban schools offering Music may have both better facilities for teaching Music and more competent teachers. It appears that when girls and boys are exposed to good facilities and the services of competent teachers as in urban schools, girls tend to benefit more as is reflected in higher means of girls compared to boys.

6.8 **Hypothesis Five:** There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in rural schools as measured by the KCSE result marks.

Table 6.10 presents the means, standard deviations (SD) as well as the t-values and p-values of boys and girls in rural schools.

Table 6.10 Means, standard deviations, t-values and p-values for Music Practical, Music Theory and Average Music Mark for rural schools

Location	Variable	Gender	N	Mean	SD	t-value	p-value
Rural	Music Practical	Boys	3284	40.452	14.341	-7.817	0.0001*
		Girls	5119	42.809	12.026		
	Music Theory	Boys	3284	46.862	15.970	3.104	0.0019*
		Girls	5119	45.767	15.646		
	Average Music Mark	Boys	3284	43.657	12.884	-2.254	0.0242*
		Girls	5119	44.288	11.922		

*p< .05

As can be seen from the table, there is a very high statistically significant difference detected between the means of girls and boys in Music Practical; a highly statistically significant difference between the means of boys and girls in Music Theory and a statistically significant difference between the means of boys and girls in Average Music Mark in rural schools. Hence the null hypothesis is rejected. Despite the statistically significant differences detected between these means, the size between them was small. For example, the size between the means of Music Theory was 1.095 and that between the means of Average Music Mark only .631.

Discussion: A study done by Agak (1995:104) in Kenya found better performance by boys compared to girls in reading literacy in rural schools. However, the findings of the present study present mixed results. Girls have obtained a statistically significantly higher mean in the Music Practical as compared to boys (42.809 and 40.452), while boys have obtained a statistically significantly higher mean in the Music Theory compared to girls (46.862 and 45.767). Girls seem to have better overall achievement as reflected in the significant difference between the mean of girls and boys in the Average Music Mark. The apparently better performance by girls is supported by a study by Chinapah (1983:162), cited in Chapter 1.2, that found that girls out-performed boys in rural schools.

6.9 Hypothesis Six: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in single-sex schools as measured by the KCSE result marks.

Descriptive statistics and the t-test results for single-sex schools are presented in Table 6.11. There is a very high statistically significant difference detected between the means of boys and girls in Music Practical ($p < .05$ with a t-value of -4.783) but there is no statistically significant difference detected in the means of boys and girls in Music Theory ($p < .05$ with a t-value of -0.611). The difference in size between the means of boys and girls in the Average Music Mark is small (.893), but there is, nevertheless, a statistically significant difference detected between the means. The null hypothesis could not be rejected with reference to the Music Theory, but is rejected for Music Practical and Average Music Mark.

Table 6.11 Means, standard deviations, t-values and p-values for Music Practical, Music Theory and Average Music Mark for single-sex schools

School type	Variable	Gender	N	Mean	SD	t-value	p-value
Single-sex	Music Practical	Boys	2863	43.826	14.982	-4.783	0.0001*
		Girls	5141	45.380	11.818		
	Music Theory	Boys	2863	48.887	16.751	-0.611	0.5409
		Girls	5141	49.118	15.255		
	Average Music Mark	Boys	2863	46.356	13.854	-2.921	0.0035*
		Girls	5141	47.249	11.642		

*$p < .05$

Discussion: The present study may not give a full explanation as to gender differences that are observed in single-sex schools. One of the possible reasons could be that girls in all-girls schools and boys in all-boys schools may likely not consider Music to be the subject for either gender (Clark & Trafford 1996:41). Boit (1986:99) found that girls in single-sex schools performed as well as boys in single-sex schools when tested for achievement in Mathematics. This supports the finding of the present study in Music Theory where no statistically significant difference was detected between the means of boys and girls. That there was no significant difference observed between means of boys and girls in Music Theory may be an indication that in single-sex schools, teachers give all learners full attention and equal treatment in the classroom and teach the Theory classes without the bias that Theory might be tougher for one gender than for the other. That girls appear to have an overall better mean is an indication that when girls are

in their own environment where nobody challenges their self-concept and self-esteem, they concentrate and perform better.

6.10 Hypothesis Seven: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in mixed schools as measured by the KCSE result marks.

Table 6.12 presents the results of descriptive statistics and the t-test. A very high statistically significant difference between the means of boys and girls was observed in Music Theory ($p < .05$ with a t-value of 5.897) in favour of boys and a high statistically significant difference observed in Average Music Mark. However, there was no statistically significant difference observed between the means of boys and girls in Music Practical. Hence the null hypothesis is rejected for Music Theory and Average Music Mark but not rejected for Music Practical.

Table 6.12 Means, standard deviations, t-values and p-values for Music Practical, Music Theory and Average Music Mark for mixed schools

School type	Variable	Gender	N	Mean	SD	t-value	p-value
Mixed	Music Practical	Boys	1968	37.597	14.216	-1.164	0.2443
		Girls	1654	38.125	13.049		
	Music Theory	Boys	1968	43.920	15.984	5.897	0.0000
		Girls	1654	40.781	15.928		
	Average Music Mark	Boys	1968	40.758	12.879	3.080	0.0021
		Girls	1654	39.453	12.498		

*$p < .05$

Discussion: Boys seem to perform better in mixed schools than girls. This is reflected in the significantly higher means in Music Theory and Average Music Mark of boys and that there is no significant difference in their means in Music Practical. The apparently better performance by boys in mixed schools may be due to classroom organisation and climate that seem to disadvantage females in mixed gender classroom settings. Lockheed & Susan (1985:189,207), for example, observed that "gender inequalities characteristic of the larger society are found in abundance in co-educational classrooms, the most common of these inequalities are [...] gender stereotype teacher-student interaction, and imbalanced cross-gender peer interaction". Male students generally get more attention from teachers

and they dominate discussions and classroom interaction at all levels. The attention that boys get from teachers is better and achievement oriented (Bozzone 1994:1; Streitmatter 1994:70).

Perhaps the Kenyan co-education, like the American one (Sandler 1987:113,115) provides a "chilly" classroom climate for females which puts them at a significant disadvantage. The chilly climate, that discourages women from participating in class, also prevents them from seeking help outside the classroom. This would have a negative effect on performance by female students.

On the other hand, most mixed schools in Kenya are day schools so that the academic performance of students in these schools is likely to be influenced by home background factors such as lighting for studies, etc. Girls in particular may be spending time that could be used for studies helping with household duties, for example, fetching water, food preparations and washing.

6.11 **Hypothesis Eight:** There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in urban single-sex schools as measured by the KCSE result marks.

Table 6.13 presents the results of descriptive statistics and the t-test for urban single-sex schools. Very high statistically significant differences between the means of boys and girls is observed in Music Theory, Music Practical and Average Music Mark. Hence the null hypothesis is rejected.

Table 6.13 Means, standard deviations, t-values and p-values for Music Practical, Music Theory and Average Music Mark for urban single-sex schools

Loc./School type	Variable	Gender	N	Mean	SD	t-value	p-value
urban single-sex	Music Practical	Boys	1140	44.43	15.954	-6.429	0.0001
		Girls	1319	48.19	12.529		
	Music Theory	Boys	1140	48.00	18.403	-8.983	0.0001
		Girls	1319	54.04	14.282		
	Average Music Mar	Boys	1140	46.22	15.497	-8.793	0.0001
		Girls	1319	51.12	11.474		

*p< .05

Discussion: The very high statistically significant differences observed between the means of boys and girls in Music Theory ($p < .05$ with a t-value of -8.983), Music Practical ($p < .05$ and t-value of -6.429) and Average Music Mark ($p < .05$ with a t-value of -8.793) are in favour of girls. Thus girls have out-performed boys in all the three variables in urban single-sex schools. The better performance by girls in urban single-sex schools could be accounted for by the advantages that both urban and single-sex schools offer for learning which seem to be exploited well by girls as opposed to boys (refer to the discussion under hypotheses 6.7 and 6.9).

6.12 **Hypothesis Nine:** There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in urban mixed schools as measured by the KCSE result marks.

The results of descriptive statistics and the t-test for urban mixed schools are presented in Table 6.14. A high statistically significant difference is observed between the means of boys and girls in Music Theory ($p < .05$ with a t-value of 2.584). A statistically significant difference is detected between the means of boys and girls in Average Music Mark ($p < .05$ with a t-value of 2.110) but there is no statistically significant difference observed between the means of boys and girls in Music Practical. Hence the null hypothesis is rejected for Music Theory and Average Music Mark but could not be rejected for Music Practical.

Table 6.14 Means, standard deviations, t-values and p-values for Music Practical, Music Theory and Average Music Mark for urban mixed schools

Loc./School type	Variable	Gender	N	Mean	SD	t-value	p-value
Urban Mixed	Music Practical	Boys	407	39.218	16.063	0.886	0.3730
		Girls	357	38.226	14.683		
	Music Theory	Boys	407	43.683	16.136	2.584	0.0044
		Girls	357	40.350	16.067		
	Average Music Mark	Boys	407	41.450	14.470	2.110	0.0351
		Girls	357	39.288	13.730		

*$p < .05$

6.13 **Hypothesis Ten:** There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in rural single-sex schools as measured by the KCSE result marks.

Table 6.15 Means, standard deviations, t-values and p-values for Music Practical, Music Theory and Average Music Mark for rural single-sex schools

Loc./School typ	Variable	Gender	N	Mean	SD	t-value	p-value
Rural Single-sex	Music Practical	Boys	1723	43.422	14.294	-2.523	0.0117
		Girls	3822	44.408	11.404		
	Music Theory	Boys	1723	49.471	15.540	4.617	0.0000
		Girls	3822	47.419	15.213		
	Average Music Mark	Boys	1723	46.446	12.655	1.497	0.1346
		Girls	3822	45.913	11.399		

*$p < .05$

Descriptive statistics and the t-test results for rural single-sex schools are presented in Table 6.15. There is a very high statistically significant difference detected between the means of boys and girls in Music Theory ($p < .05$ with a t-value of 4.617), but there is no statistically significant difference detected in the means of boys and girls in Average Music Mark ($p < .05$ with a t-value of 1.497). There is, however, a statistically significant difference detected between the means of boys and girls in Music Practical ($p < .05$ with a t-value of -2.523). The null hypothesis could not be rejected with reference to the Average Music Mark but is rejected for Music Practical and Music Theory.

6.14 **Hypothesis Eleven:** There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in rural mixed schools as measured by the KCSE result marks.

Table 6.16 presents the results of descriptive statistics and the t-test results for rural mixed schools. There is a very high statistically significant difference detected between the means of boys and girls in Music Theory ($p < .05$ with a t-value of 5.154). A high statistically significant difference is also observed between the means of boys and girls in the Average Music Mark but there is no statistically significant difference detected in the means of boys and girls in Music Practical ($p < .05$ with a t-value of -1.878). The null hypothesis could not be rejected with reference to the Music Practical but is rejected for Music Theory and Average Music Mark.

Table 6.16 Means, standard deviations, t-values and p-values for Music Practical, Music Theory and Average Music Mark for rural mixed schools

Loc./School type	Variable	Gender	N	Mean	SD	t-value	p-value
Rural mixed	Music Practical	Boys	1561	37.174	13.668	-1.878	0.0605
		Girls	1297	38.097	12.568		
	Music Theory	Boys	1561	43.982	15.948	5.154	0.0001
		Girls	1297	40.899	15.894		
	Average Music Mar	Boys	1561	40.578	12.430	2.336	0.0195
		Girls	1297	39.498	11.143		

*p< .05

In summary, the following observations can be made from the data analysis:

- Means of girls observed in Music Practical and Average Music Mark tended to be statistically significantly higher than those of boys, except in mixed schools and mixed school combinations like rural mixed and urban mixed.
- Boys tended to have statistically significantly higher means in Music Theory in rural, mixed, rural mixed and rural single-sex schools.
- Means observed in urban schools are comparatively higher than those observed in rural schools.
- Means observed in rural single-sex schools are higher than those observed in rural mixed.
- Means observed in single-sex schools are comparatively higher than those observed in mixed schools.
- Means observed in urban single-sex schools are higher than those observed in urban mixed schools.
- Performance in mixed schools and mixed school settings like rural/urban mixed seemed to be the poorest reflected in the means below 40 that were not observed in any other school settings.

In conclusion, this chapter has presented the results of descriptive statistics and the t-tests with the discussions of the findings. Chapter 7 will present the summary, conclusions and recommendations arrived at in the present study.

CHAPTER 7

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 Summary

The purpose of this study was to compare gender difference and academic achievement in Music among Form Four students in Kenya from 1991 to 1995. To accomplish this, the following hypotheses were examined:

Hypothesis One: There is no gender difference in academic achievement in Music Practical as measured by the KCSE result marks.

Hypothesis Two: There is no gender difference in academic achievement in Music Theory as measured by the KCSE result marks.

Hypothesis Three: There is no gender difference in academic achievement in Average Music Mark as measured by the KCSE result marks.

Hypothesis Four: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in urban schools as measured by the KCSE result marks.

Hypothesis Five: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in rural schools as measured by the KCSE result marks.

Hypothesis Six: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in single-sex schools as measured by the KCSE result marks.

Hypothesis Seven: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in mixed schools as measured by the KCSE result marks.

Hypothesis Eight: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in urban single-sex schools as measured by the KCSE result marks.

Hypothesis Nine: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in

urban mixed schools as measured by the KCSE result marks.

Hypothesis Ten: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in rural single-sex as measured by the KCSE result marks.

Hypothesis Eleven: There is no gender difference in academic achievement in Music Practical, Music Theory and Average Music Mark in rural mixed schools as measured by the KCSE result marks.

Participants in the study were 4831 male and 6795 female secondary learners who sat KCSE between 1991 and 1995. Data used in this study were the 1991-1995 KCSE Music Theory and Music Practical result marks collected from the KNEC.

Analyses that were carried out to assess achievement in the Music Theory, Music Practical and Average Music Mark included computing frequencies for each mark and descriptive statistics on the three marks. Several t-tests were done to analyse all the hypotheses to determine whether there were significant differences between the means of boys and girls. The levels of significance varied according to the p-values.

The results were as follows:

There was a difference in the means of the Music Practical for boys and girls. This difference was statistically very highly significant ($p < .05$ with a t-value of -8.816) in favour of girls. The formulated hypothesis stating no gender difference in academic achievement in Music Practical as measured by KCSE result marks was thus rejected.

No statistically significant difference was observed between the means of boys and girls in Music Theory ($p > .05$ with a t-value of -0.734). The hypothesis that no gender difference exists in academic achievement in Music Theory as measured by KCSE result marks could therefore not be rejected.

There was a very high statistically significant difference observed between the means of boys and girls for the Average Music Mark ($p < .05$ with a t-value of -5.146) in favour of girls. Thus the hypothesis stating no gender difference in academic achievement in Average Music Mark as measured by KCSE result marks was rejected.

Very highly statistically significant differences were observed between the means of boys and girls in Music Practical, Music Theory and Average Music Mark in urban schools ($p < .05$ with t-values of -5.695, -7.146 and -7.817) respectively in favour of girls. The null hypothesis was consequently rejected.

The t-test analysis of achievement in rural schools showed a very high statistically significant difference between the means of boys and girls in Music Practical, a high statistically significant difference between the means of boys and girls in Music Theory and a statistically significant difference between the means of boys and girls in Average Music Mark. The null hypothesis was rejected.

Analysis of achievement in single-sex schools revealed a very high statistically significant difference between the means of boys and girls in Music Practical and a high statistically significant difference between means of boys and girls in Average Music Mark, but showed no statistically significant difference between the means of boys and girls in Music Theory. Therefore, the null hypothesis was rejected with respect to Music Practical and Average Music Mark but could not be rejected for Music Theory.

Achievement assessment in mixed schools showed that there was a very high statistically significant difference between the means of boys and girls in Music Theory and a high statistically significant difference between the means of boys and girls in Average Music Mark. There was no statistically significant difference observed between the means of boys and girls in Music Practical. The null hypothesis was rejected for Music Theory and Average Music Mark but could not be rejected for Music Practical.

Results of the t-test analysis in urban single-sex schools showed very highly statistically significant differences between the means of boys and girls in Music

Practical, Music Theory and Average Music Mark. The null hypothesis stating no gender difference in academic achievement in Music was rejected.

There was a high statistically significant difference detected between the means of boys and girls in Music Theory in urban mixed schools. A statistically significant difference was detected between the means in the Average Music Mark but there was no statistically significant difference detected between the means in Music Practical. The null hypothesis was rejected for Music Theory and Average Music Mark but could not be rejected for Music Practical.

In rural single-sex schools, no statistically significant difference was detected between the means of boys and girls in the Average Music mark while a very high statistically significant difference was detected between the means of boys and girls in Music Theory and a high statistically significant difference was observed between the means of boys and girls in Music Practical. The null hypothesis could not be rejected for the Average Music Mark but was rejected for Music Theory and Music Practical.

In rural mixed schools, a very high statistically significant difference was observed between the means of boys and girls in Music Theory and a high statistically significant difference between the means of boys and girls in the Average Music Mark. However, there was no statistically significant difference detected between the means of boys and girls in Music Practical. The null hypothesis was rejected for Music Theory and Average Music Mark but could not be rejected for Music Practical.

7.2 Conclusions

Within the limits of this research and from the evidence presented, the following conclusions were arrived at.

7.2.1 Frequency distribution

Results of frequency distribution (see Appendix A) indicate that achievement in Music Theory was better than in Music Practical. The mean for the Music Theory paper (46.995) compared to that of the Music Practical (42.649, see Table 6.5)

corroborates the better performance in Music Theory. This could have come as a result of the following reasons:

- There is a possibility of subjectivity in awarding marks in Music Practical (even though there are specific marks indicated for every question) that may lead to examiners being careful not to award high marks as compared to the more objective way of awarding marks in Music Theory. This can easily come about since Music Practical examiners must agree, judging the performance of the candidate, on the marks to be awarded for each question item.
- Secondary music teachers may be better at drilling students in the Music Theory part of the 8-4-4 Music curriculum than they are at preparing them for the Music Practical section. This could be a reflection of the following possibilities:
  - Secondary music teachers may not be well trained in the skills of Music Practical as required by the 8-4-4 syllabus. This may be truly so, because there are music teachers who were trained in the old system of education which did not give training in Practical performance. There are also music teachers who have studied Music Theory privately with the ABRSM and so have no formal training in other aspects of music, like aurals. Such teachers can teach Music Theory but cannot handle Practical Music classes well.
  - Schools offering Music lack suitable equipment/resources needed for preparing learners for the Music Practical examination. For effective training of pupils for the Music Practical examination, every school must have at least a keyboard instrument to enable learners to get practical experiences with cadences, intervals and modulations of melodies in major and minor keys, etc., and a cassette player to be used in and outside the classroom for listening to prescribed pieces. The teaching of Music Practical done without these resources, results in rote learning which does not make practical musicians out of the learners.
  - The syllabus content is so wide. Unfortunately, time allocated for Music is only three hours per week which is not sufficient for teaching Music Theory and the Practical lessons effectively. It then forces teachers to resort to drilling students in Music Theory in order to cover the syllabus requirements.
- The setting standard for the Theory paper may be low so that learners found the examination very easy and therefore scored high marks.

7.2.2 Music Practical

There was a difference in means of Music Practical between boys and girls (see Table 6.6). The difference, which was statistically very highly significant in favour of girls, was observed in urban, rural, single-sex, urban single-sex and rural single-sex schools (see Tables 6.9, 6.10, 6.11, 6.13 and 6.15). On the other hand, no statistically significant difference was observed between the means of boys and girls in mixed, urban mixed and rural mixed schools (see Tables 6.12, 6.14, and 6.16). Hence, there was no incidence where boys had a statistically significantly higher mean in Music Practical compared to girls. Thus the conclusion drawn is that girls performed better academically in Music Practical as compared to boys. The Music Practical examination, as was mentioned in Chapter 6-11, has lots of verbal content in which girls are known to do better than boys. Moreover, the question items (see Appendix B) require early preparation and practice at which girls are known to be good, adhering to instructions and being serious with assignments.

The examination section on set pieces, lists, apart from voice, mainly Western instruments which may not be available in all schools offering Music. The majority of candidates are, therefore, likely to choose voice both for African music and the Western set pieces. The next possible choice would be recorder. If the majority choose voice then this would still give girls an advantage over boys since boys' voices, as was mentioned in Chapter 6-12, may not be well polished as compared to those of girls. In addition, girls engage in many extra-musical activities that give them experiences with different aspects of music that boys may not care much about.

7.2.3 Music Theory

There was no statistically significant difference found between means of boys and girls in Music Theory. Hence it appears that boys and girls academically achieved on average the same in the Music Theory paper (see Table 6.7). In urban and urban single-sex schools, however, girls had statistically significantly higher means in Music Theory compared to that of boys: 51.125 against 46.866, and 54.041 against 48.003 (see Tables 6.9 and 6.13). There were five instances, all of which are rural and mixed school settings, where boys had statistically significantly higher means in Music Theory compared to that of girls (see Tables 6.10, 6.12,

6.14, 6.15 and 6.16). It appears then that boys tend to do better in Music Theory in all schools which have no urban influence, even though boys and girls appear to be achieving the same in Music Theory in general. Conversely, urban and urban single-sex schools seem to have a positive influence on girls' achievement in Music Theory as these were the only two instances where girls had significantly higher means in Music Theory.

7.2.4 Means of boys and girls in urban and urban single-sex schools

The difference between the means of boys and girls in the Music Practical, Music Theory and Average Music Mark observed in urban and urban single-sex schools was statistically very highly significant in favour of girls. While even the means of boys in urban and urban single-sex schools are high, they are not as high as the means obtained by girls in these schools. It appears that when girls and boys are given good teachers and good learning resources as was assumed to be the case in urban schools (see Chapter 6-16), they achieved better academically in Music compared to boys. It is also interesting to note that whenever boys had a significantly higher means, it was in Music Theory and not in Music Practical and this was only in schools which had no urban influence. In addition, boys tended to have significantly higher means in Average Music Mark in similar school settings where they also achieved significantly higher means in Music Theory, i.e. mixed, urban mixed and rural mixed schools.

7.2.5 School Means compared

While the means in urban, rural and single-sex schools were 40 and above, only mixed schools and mixed school combinations had means below 40 (see Table 6.12, 6.14 and 6.16). This is an indication that academic achievement in Music in mixed schools and mixed school settings in general was lower compared to the other schools. This could be caused by the fact that most mixed schools are day schools as was explained earlier, so that learners who must go back home after classes may not find time to study effectively due to lack of proper lighting or because of helping with work at home. There is also the possibility that some of the mixed schools are in remote areas so that music inspectors are reluctant to check routinely on these schools. Hence some of these schools may offer Music because they think it is an easier alternative despite not having qualified teachers and resources.

7.2.6 The t-test results

Nearly all the t-test results performed for the present study indicated statistically significant differences between the means of boys and girls in the variables with the following exceptions:

- Music Theory (see Table 6.7)
- Music Theory in single-sex schools (see Table 6.11)
- Music Practical in mixed, urban mixed and rural mixed schools (see Tables 6.12, 6.14 and 6.16)
- Average Music Mark in rural single-sex schools (see Table 6.15).

The differences in size between some of the means for which statistically significant differences were detected, were small. The following are some of the cases:

- Music Practical 2.326 (see Table 6.7)
- Average Music Mark 1.275 (see Table 6.9)
- Music Theory and Average Music Mark in rural schools 1.095 and .631 (see Table 6.10)
- Music Practical in single-sex schools 1.554 (see Table 6.11)
- Average Music Mark in mixed and rural mixed schools 1.305 and 1.080 (see Tables 6.12 and 6.16 respectively).

These highly statistically significant differences could have been caused by the large number of participants in the present study (both girls and boys). Large numbers are prone to producing small but statistically significant differences that may have little practical importance (Amus & Radocy 1992:146). What this means, for example, is that with a mean size difference of 1.275 in the Average Music Mark (Average Music Mark being the achievement on both Music Practical and Music Theory combined, see Table 6.9) we cannot, although it is very highly statistically significant, say that one gender is cleverer than the other. Since the smallness of Mean size differences is not observed in every situation, conclusions of practical significance between the means can be drawn for example in urban and urban single-sex schools.

7.2.7 Differences in Music achievement

In view of the fact that there is no single explanation that can account for all differences between females and males in school achievement (Bügel & Buunk 1996:16), the differences between girls and boys that seem to exist in Music achievement may be an indication of differences in abilities in different aspects of Music. Thus the conclusion arrived at that girls perform better in Music as shown in the very highly statistically significant difference observed between the means of boys and girls in the Average Music Mark (see Table 6.8) should be assessed in the light of learners' capabilities in different aspects of Music. In addition, differences in achievement that appear in this study may be caused by some underlying factors like home background, peer influence, parental influence and by teacher-related factors like teaching methodologies and the provision of teaching/learning materials. These factors were recognised as important influences on achievement but could not be measured, due to the type of data used and the time period of its collection. Hence this warrants further investigation.

7.2.8 The better achievers in Music

This study points to the success of girls in Music achievement. This may have both positive and negative effects. Girls may have their self-esteem raised by finding a subject in which they perform better academically than males. This may make girls excel even more in future performances. On the other hand, male students may tend to relax and to assume that Music is a girls' subject. Teachers, as well, may have the same impression so that they may tend to concentrate more on girls in music teaching. However, teachers should use the differences in performance that have now surfaced as their pointers for improving the music capabilities of all learners, regardless of gender.

7.3 Recommendations

The following recommendations are based on the findings of this study.

7.3.1 Recommendations to the Music Inspectorate

- There is a need for the Music Inspectorate to appoint a research team to investigate the type and level of training of secondary music teachers. This kind of investigation will help identify teachers who were trained in the old

system and those who studied music privately so that they are given further training in Music. Further training can be carried out through in-service courses which the Ministry of Education can organise independently. The Ministry can also have these teachers get further training in Music at Maseno or Kenyatta Universities as mature students or through part-time courses offered during holidays.

- The Music Inspectorate should appoint a research team to investigate the possibility of uneven distribution of teaching and learning resources in schools offering Music.
- There is a need of sensitising teachers to the use of teaching methodologies other than drilling, for example discovery, project, problem solving and improvisation methods. Music teachers can learn from fellow teachers who are better in other teaching methodologies apart from drilling. Another way is by in-servicing teachers in various teaching methods. The Ministry of Education can organise such courses independently. But Kenyatta and Maseno University Music Departments can equally take up this challenge by organising methodological courses for secondary school Music teachers during vacations (April, August and December).
- An investigation should be carried out to identify the actual cause/s for low achievement in mixed schools in order to organise various ways of promoting Music in these schools. Schools that may be found to offer Music when such schools do not have qualified Music teachers or resources for teaching Music effectively must be stopped from doing so with immediate effect.

7.3.2 Recommendations to the Kenya Institute of Education (KIE)

- KIE should divide the content of the music syllabus on a termly basis. This will help reduce the content and give teachers definite areas to work on instead of masses of topics which leave teachers with lots of decisions and selections as to what is important and how to go about covering them.
- There will also be a need to specify some of the content areas, like dances, to be covered termly so that by the end of their four years of secondary music education, learners shall have covered dances and songs representative of the whole country.

7.3.3 Recommendation to the Kenya National Examination Council (KNEC)

- There is a need for the KNEC to investigate the possibility that the setting standard of the Music Theory paper may be low, and that this resulted in learners scoring high marks compared to the marks obtained in the Music Practical paper.

7.3.4 Recommendations to Music teachers

- Teachers will need to encourage boys to take part in extra musical activities and adhere to instructions that guide them in the preparation for examinations. This could be one of the ways by which the achievement of male students in Music Practical can be raised.
- Girls had significantly higher means in Music Theory in urban and urban single-sex schools only. Teachers of music in non-urban schools should look for ways of raising the achievement of girls in Music Theory.
- It is recommended that teachers use the differences in performance that have now surfaced as their pointers for improving the music capabilities of all learners, regardless of gender.

7.4 Recommendations for further study

The following recommendations for further studies are made based on the findings of this study:

- A study should be conducted by the KNEC to investigate why the Music Theory marks were skewed to the right as opposed to the Music Practical marks which were symmetrically distributed. Such a study can help identify whether the setting of the Theory paper is below the expected examination standards at the KCSE level or whether the results rather depict drilling on examination questions.

- The present study compared academic achievement between boys and girls for the period 1991-1995. A study that compares achievement in Music between boys and girls yearly could also be conducted instead of a block of years as in this case. A study like this can help monitor whether there are improvements in academic achievement in Music in the subsequent years. It can also reveal

whether the magnitude of gender differences in academic achievement in Music is either narrowing or becoming wider.

- Owing to the fact that some secondary music teachers were trained in the old system of education which did not give training in Practical performance and owing to the fact that some teachers studied music privately through the ABRSM, research should be conducted to validate empirically the competence of secondary school Music teachers in handling the requirements of the 8-4-4 music curriculum.

- Since effective teaching of Music Practical requires resources like keyboard instruments and a cassette player in addition to books, as opposed to the teaching of Music Theory which can be done only with books, an investigation should be carried out to assess if schools offering Music are equipped with relevant resources for teaching Music Practical and Music Theory.

- In view of the fact that there is no single explanation that can account for all differences between females and males in school achievement as was stated in the conclusions, there are many more other circumstantial factors that influence academic achievement that the present study did not measure, for example home background factors, parental and peer influences, teaching/learning resources, influences of location of school and school type, and teacher competence. This is because the present study used quantitative data specifically for learners' KCSE results for the period 1991-1995 that was collected from the KNEC three years later when this study was undertaken. The nature of the data and time period of its collection could not allow for such qualitative data of the same learners in the period under study. Hence, additional research that can possibly ascertain the influence of home background factors, peer and parental influences, the influence of location of schools and school types, and teaching methods on Music achievement of boys and girls should be conducted with a cohort that can allow the researcher to collect qualitative information on the same. This study and the two suggested immediately above this point can provide explanations as to why there are disparities in achievement in schools, with urban schools having higher achievement means compared to the low means in mixed schools.

- As stated in the historical background of this study, Green (1997:152-153) found that girls in English secondary schools participate in musical activities that Western societies describe as feminine. A study could be conducted to find out whether girls and boys in Kenyan secondary schools engage in musical activities that in indigenous Kenyan society are labelled as either feminine or masculine. A study like that may possibly reveal the type of instrument/s for the Western and African setwork most chosen by the majority of candidates and the impact of this on achievement. It might also partially explain the differences in academic achievement in Music Practical that are apparent in the present study.

- In the discussion of the development of Music Education in Kenya, it was found that KUC and TTCs have been offering Music for teaching for both genders. A study that compares male and female teachers who graduated from KUC and other TTCs between 1963 and 1985 could be undertaken. Such a study can possibly reveal the gender ratio in the music teaching profession and in particular at the secondary level of education. This may provide an explanation as to whether the gender of a teacher has an influence on students' achievement in Music at KCSE.

- This study could be replicated in Kenya in order to find out if similar results could be achieved over a different 5 year period, for example 1996-2000.

- A similar study can be done in other countries (Western and non-Western) that offer Music at the secondary level to see if similar results could be achieved.

7.5 Concluding remarks

The concern of this research was to investigate the possibility of gender difference in academic achievement in Music. All the postulations made at the beginning of this research assumed no gender difference in academic achievement in Music as measured by the KCSE Music result marks. This research has shown that there is a difference in the academic achievement between girls and boys in Music. In addition, the differences appeared at different school locations and different school types.

Positive action on the recommendations embodied in this thesis by the relevant authorities, i.e. music teachers, the Ministry of Education section responsible for School Music, the KIE and the KNEC, should result in improvements towards better performance in Music at KCSE level by both girls and boys.

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