HIGHER EDUCATION ATTAINMENT BY GENDER, ENROLMENT AND EMPLOYMENT IN THE ANGLOPHONE CARIBBEAN

Summary of a full report submitted to Claudio Rama, Ph.D., IESALC/UNESCO October 16, 2003, Rhonda Chipman-Johnson, Ph.D. and Joan Vanderpool, Ph.D.

ABSTRACT

Commissioned by the International Institute for Higher Education in Latin America and the Caribbean (IESALC), this study involved a review of available data and information pertaining to gender participation in higher education and higher education level attainment of the working population within selected nations in the Anglophone Caribbean. A comparative review of the overall participation of Caribbean students in higher education institutions in the United States of America was also included.

The study confirmed that higher education participation by Caribbean students is increasing both at home and abroad. However female enrolment in, and graduation from, Caribbean colleges and universities, within those Anglophone nations profiled in this study, usually outnumber that of males. Exceptions were found in the areas of engineering and technology. Indeed should enrolment trends at the University of the West Indies and Barbados Community College continue at the present rate, by the year 2010/11, it is projected that their female to male ratio might be as high as 2.6:1 and 3.2:1 respectively. While at The College of the Bahamas, should graduation trends continue, it is projected that the ratio of females to males graduating could increase to a high of 8:1 by the year 2010.

A term of reference for this study was to demonstrate the evolution of a gender gap in higher education participation and attainment over the past 25 years. However, higher education institutions within the Anglophone Caribbean were established more recently than those in Latin America and the Spanish speaking Caribbean nations.

It was apparent that in their early years those higher education institutions selected for use in this study, that have been in existence for 20 years or more, have not always recorded institutional data in formats that are commonly used today. It is only within recent times that data has been recorded by gender and/or area of study. In some institutions, while enrolment data were readily available graduation data were not (or vice versa).

Within Anglophone nations and territories, further research and planning that addresses male enrolment in higher education is urgently needed. This could be greatly facilitated when higher education institutions within the region agree upon higher education performance indicators and share common record-keeping processes and institutional research practices.

INTRODUCTION

Within recent decades, numerous local and international meetings and conferences have stimulated and sustained dialogue which has led to agreement within and among nations on systematic approaches to solving the problems of development. Indeed many of their proposed solutions focus upon the achievement of educational goals.

A common characteristic of international agreements and conventions is the use of reliable research data to inform policy, and generate theory and/or action. Such agreements also require frameworks and indicators that could help to organise, summarise and analyse reliable data and report it in a manner that could be comprehended by a broad audience.

The Millennium Declaration for example, signed in September 2000 by 147 heads of state and government, was passed unanimously by the United Nations General Assembly in order to reaffirm their commitment to poverty reduction and elimination. This Declaration set out eight Millennium Development Goals (MDGs) as a framework for measuring development progress. One of these goals recognises the need to empower women and promote gender equality as effective ways "to combat poverty and stimulate development that is sustainable" (p. 21-22). The achievement of gender equality in all levels of education including the tertiary level is targeted to take place no later than 2015.

Another example of international effort relevant to development and education is the World Education Indicators (WEI) pilot programme launched in 1997 by 11 countries together with UNESCO and the OECD. Financed by the World Bank, one of the objectives of the pilot programme was to encourage participating countries to agree on indicators that "genuinely indicate education performance relative to policy objectives and measure the current state of education in an internationally valid and efficient manner" (OECD: 2000: p.5). The WEI pilot programme was reported in a document entitled "Investing in Education: Analysis of the 1999 World Education Indicators". In this document the authors discuss comparative analyses of participating WEI countries relevant to the task of managing various dimensions of demand and supply for education.

Purpose, Significance and Scope the Study

Several Caribbean nations are members of international organisations that focus on development issues and goals and many are signatories to the relevant agreements and

conventions. However, research data needed to inform the process of attaining or achieving these international goals, from and about these nations, are noticeably missing in reports and other documents generated by such agreements and conventions.

The purpose of this study was to provide a report on higher education attainment by gender, enrolment and employment in the Anglophone Caribbean.

Informal observations have been made within several countries of the Anglophone Caribbean that, unlike many other developing countries of the world, the participation and attainment of girls and women in higher education is high. Indeed, in The Bahamas concern about the achievement of gender equality refers to increasing the participation and attainment rates of males in higher education, while the converse is true for many other developing countries. It was therefore necessary to initiate formal studies that would seek and obtain information and statistical data that might allow for analyses and inform discussions about trends and gaps that have or have not developed in higher education participation and attainment within the past twenty-five years, 1987 to 2003.

The basic research questions that guided the design and implementation of the study were:

1. What is the current situation regarding gender and higher education attainment from local and global perspectives?
2. What reliable and accessible data concerning enrolment and graduation are readily available from higher education institutions?
3. What data about the employment of persons who have attained education beyond secondary level are accessible from national census records and other national household survey data?
4. What is the most effective way to organise, summarise and display the data obtained in the preceding questions?
5. Does an analysis of the data obtained, provide any insights and recommendations concerning higher education generally and/or higher education attainment and gender specifically?

Parameters of the Study/Limitations Delimitations

In this report, the term ‘higher education’ is used interchangeably with ‘tertiary education’ and refers to education offered by post-secondary colleges and universities. The report is limited to those nations in the Anglophone Caribbean from which relevant and

reliable data could be accessed when the research was conducted i.e., during the period May to September 2003.

The study examined data relevant to higher education participation and attainment by gender. Higher education performance was not a term of reference for the report. A limited budget precluded collection of data from primary sources. The full report included:

1. An overview which describes the context of the study;
2. Individual country profiles of the selected nations including indicators of development status;
3. A compilation of higher education institutional data comprising:
   3.1 Enrolment of persons within tertiary level (universities or non-university institutions of higher education classified by gender, area/field of study, type of institution and sector (public or private);
   3.2 Graduation of persons from tertiary level (universities or non-university) institutions of higher education classified by gender, area/field of study, type of institution and sector (public or private);
4. A compilation of data obtained from national censuses and/or national surveys concerning:
   4.1 Tertiary educational attainment of the working population, classified by gender and employment status.
   4.2 Employed persons by sex and educational attainment;
   4.3 Labour force by sex and educational attainment.
5. An analysis and discussion of the economic and social rates of return to higher education within selected Caribbean nations.

METHODOLGY

The study depended on the use of secondary data. A critical concern was the identification of reliable sources of statistics and other information. Higher education data was therefore sought only from official publications of higher education institutions or directly from senior administrators therein who have oversight of the collection of such data. Employment and labour force information and statistical data were sought only from national census reports and the findings of other national surveys.

In the full report, displays of data whether by tables or graphs show totals, percentages and ratios on the basis of the evolution of gender gaps in higher education over the last 25

years classified by trends over five-year-periods (wherever possible) running from the initial reference year to the present year i.e. 1978-2003.

The countries profiled in the study (The Bahamas, Barbados, Jamaica, St. Lucia, and Trinidad and Tobago) are those for which sufficient and reliable information was available and/or accessible. Data was organized using summaries and displays in ways common to international reports such as those generated by OECD and UNESCO. However, lack of data about annual earnings precluded quantitative analysis of economic and social rates of return of higher education.

Overview of Anglophone Caribbean

The Caribbean can be "broadly defined as the islands located in the Caribbean Sea plus some of the Continental countries touched by that sea" (Miller, 1999). Seventeen different

Table 1 Country Profile table: Selected Indicators & Feature

Country	HDI Rank 2003	Population 2002	Surface Area (square miles)	GDP 2000/01 $U.S.	Historical Independence	Race/ Ethnicity
The Bahamas	49	313,990	13,888 Archipelego Comprising 700 Islands	16,270	Independence – 1973 Colonisers: British	85% Black
Barbados	27	269,380	430 One Island	15,560	Independence – 1966 Colonisers: British	90% Black
Jamaica	78	2.6 M	10,900 One Island	3,720	Independence – 1962 Colonisers: British	Black Majority
Saint Lucia	71	152,580	620 One Island	4,003	Independence – 1962 Colonisers: British, French	Black Majority
Trinidad & Tobago	54	1.3 M	5,120 Two Islands	9,100	Independence - 1962 Colonisers: Spanish, British, Dutch, French	41% black or of African decent, 40% of East Indian

HDI = Human Development Indicators 2003 - United Nations Development Programme
WORLD DEVELOPMENT INDICATORS Database, August 2003

islands or territories comprise the Anglophone Caribbean. They are Anguilla, Antigua and Barbuda, The Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, and the Turks and Caicos Islands. All of the territories have obtained independence from Britain save five: Anguilla, British Virgin Islands, Cayman Islands, Montserrat, and the Turks and Caicos Islands. While each territory is unique in some respects, the islands share many commonalities including language, history and established traditions and institutions. Selected indicators and features for The Bahamas, Barbados, Jamaica, St. Lucia, and Trinidad and Tobago are profiled in the Table 1.

FINDINGS

We encountered many challenges in our quest for reliable data, including but not limited to those outlined below. When seeking data from **higher education institutions** for example we experienced varying degrees of difficulty gaining access to and/or obtaining data. We found that:

1. Some institutions did not respond to our requests (no reason given).
2. Some institutions could not respond to our requests because of limited staff available to handle the request. Data may be available from these institutions but it would have require a longer period of time for them to compile it and share it with us.
3. Some institutions could not respond to our requests because while they do have enrolment and graduation data, those data are either not available for any significant period of time or if it is, or if they are, they are not reported by gender and/or area of study.
4. The aggregation of data, within fields and areas, varies among institutions and sometimes even within institutional reports.
5. The institutions that responded to our request were not able to provide both graduation and enrolment data for a twenty five year period. Some of them provided graduation data but no enrolment data or vice-versa.

Admittedly, the information from the higher education institutions was requested during times when available staffing would be strained e.g. of end of term/semester, during the summer months and the beginning of term/semester.

When seeking data from **national census reports or other national surveys**, we found that while most Census questionnaires include a question on higher education

attainment, summaries for those responses are not available unless a specific request is made to run them. The period of time between the collection of census data and the availability of reports varies from country to country; therefore census data for 2000 and 2001 are not available as of this writing e.g., Trinidad and Tobago. Aggregation of data within fields and areas varies from country to country and sometimes even within country reports. Some statistical departments promised data, but they did not actually send data. In the case of Jamaica, the Statistical Institute was being re-located. Notwithstanding these challenges the data obtained revealed the following.

Higher Education: Enrolment and Graduation

Overall participation rates for students within local, regional and international higher education institutions in the countries reviewed have increased during the past twenty-five years.

Female Participation: Overall

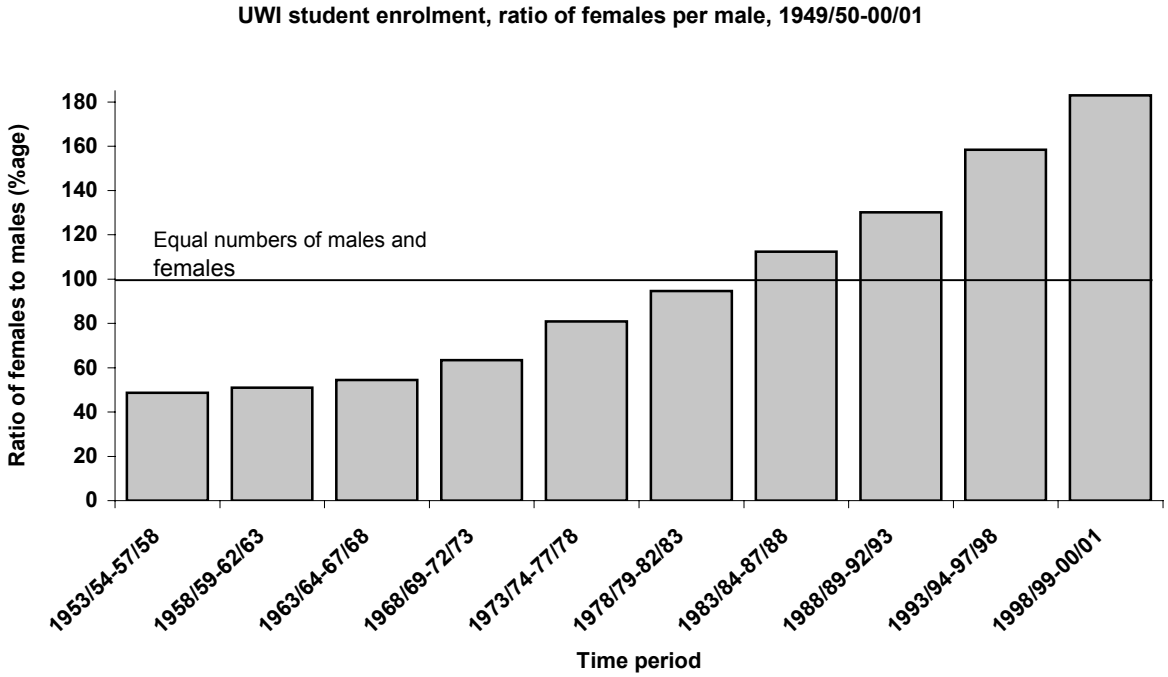
An examination of both enrolment and graduation data for all of the institutions reviewed (with the exception of the Trinidad and Tobago Institute of Technology) revealed that female participation in higher education was higher than that of males in all cases.

The increase of female participation generally (within the higher education institutions from which enrolment and graduation data for at least 25 years could be accessed) was readily apparent from as early as 1982-83 at the University of the West Indies and 1977 at The College of The Bahamas. For the University of the West Indies female enrolment has increased steadily over the last 20 years and now stands at a ratio of 2:1. It should be noted that the rate of female participation at UWI campuses varied from campus to campus (UWI Official Statistics 2000 – 2001). At the College of The Bahamas female enrolment has increased to 4:1. Although not a dramatic increase as that seen at The College of The Bahamas, at the Barbados Community College the female to male ratio has now reached 2:1. In the case of Northern Caribbean University the number of females have virtually doubled since 1999.

For those institutions from which 20 years or less of enrolment or graduation data were available, female participation rates are higher than those of males from the first year of the recorded years. For higher education institutions, and/or departments within those institutions that specialise in traditionally male dominated areas and fields of study female

participation rates are lower. For example, female enrolment for the Trinidad and Tobago Institute of Technology was only 17% for the year 2001.

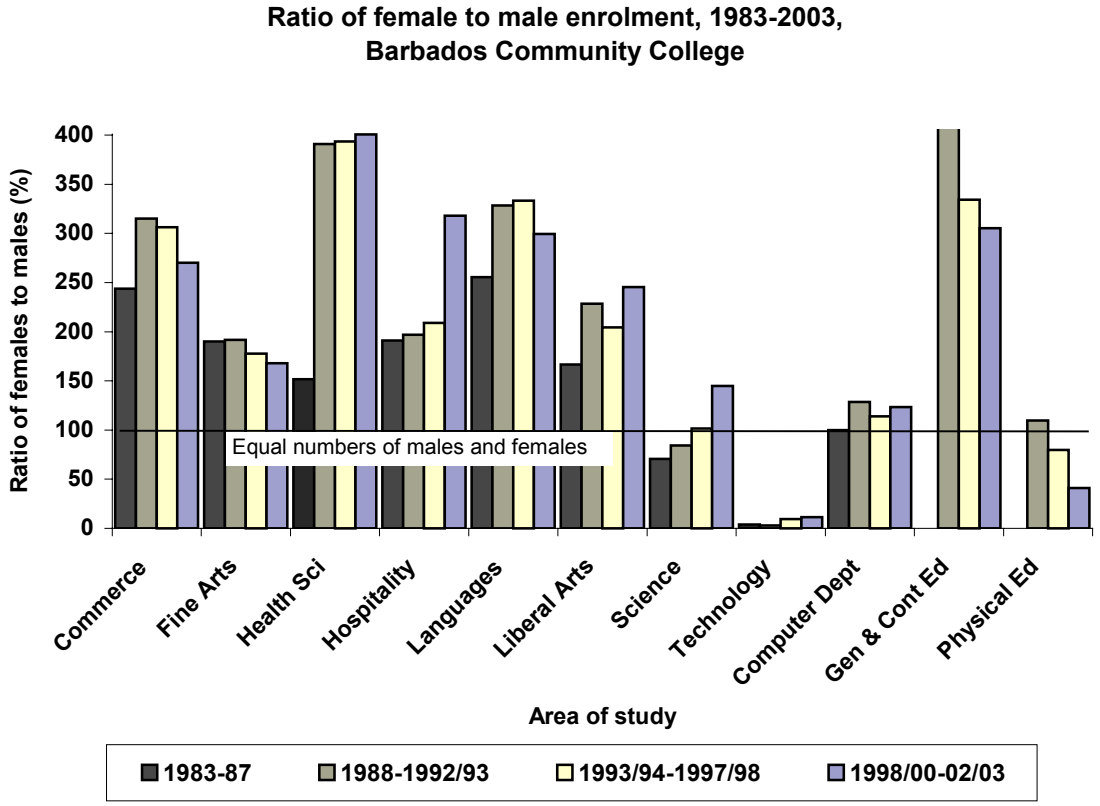
Figure 1 UWI student enrolment, ratio of female per male 1949 - 2001



Female participation: By field of study

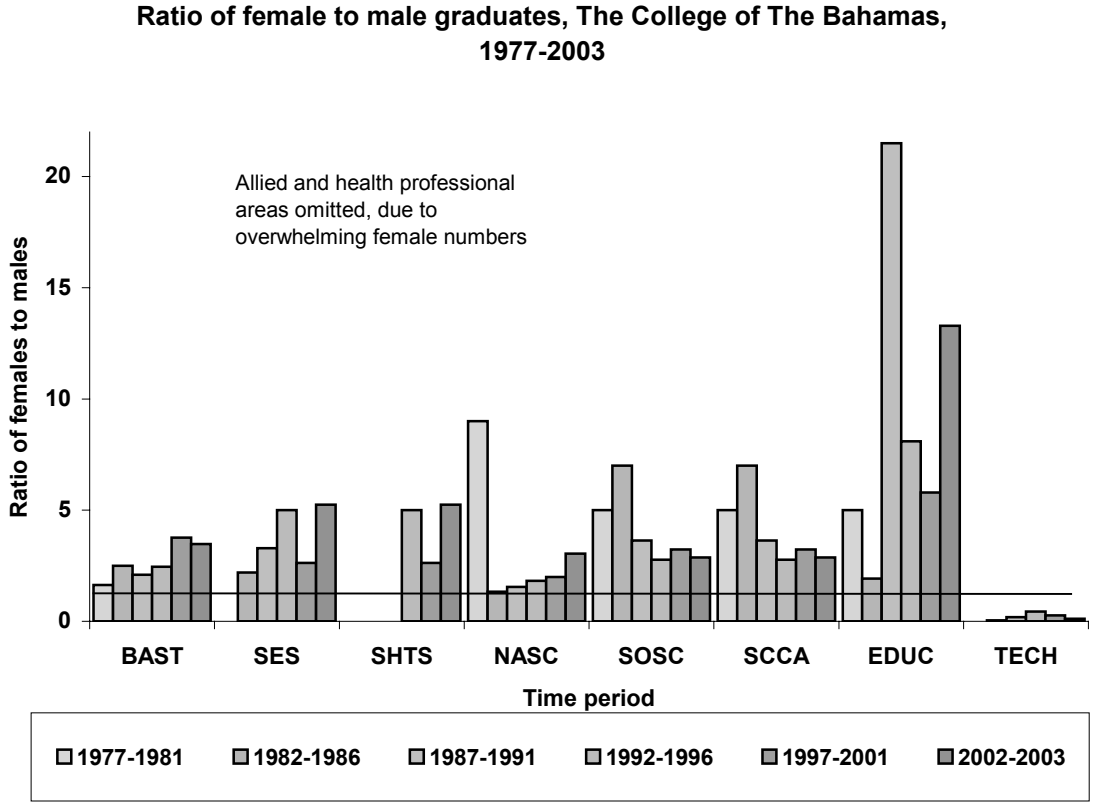
Although relevant enrolment and graduation data required for this study were not always recorded by gender at most of the institutions that responded to our request for data, for many of the years under review, the increase of female participation classified by area or field of study was readily apparent. The females outnumbered males in practically all areas of studies at all of the institutions reviewed in the study. Notable exceptions are areas of study such as technology and engineering, which are still dominated by males. Areas such as health sciences, which include nursing, continue to show a preponderance of females. This pattern is particularly evident at The College of The Bahamas, Barbados Community College and Northern Caribbean University.

Figure 2 Barbados Community College - ratio of female to male enrolment by area of study, 1983-2003



Review of the Barbados Community College enrolment data reveals that while female participation increased in fields of study formerly dominated by males, it appears to have decreased in areas formerly dominated by females (Figure 2). Enrolment in commerce, fine arts, physical education and general and continuing education has decreased steadily during the past 15 years. From these data it is also apparent that during the past five years there has been a decrease in female enrolment in languages. Even in the area of the natural sciences, a traditionally male-dominated area of study, at most of the institutions under review, there has been a greater proportion of females. In the case of Barbados Community College for the period 1983 to 1993 there were more males enrolled in Science. However since 1994 there has been a dramatic increase in the number of females enrolled in this area of study.

Figure 3 College of The Bahamas - ratio of female to male graduation by area of study, 1977-2003



A review of graduation data from institutions of higher education classified by gender and area/field of study reveals that consistently, females are graduating in larger numbers than males. For example, throughout the years there has been a higher ratio of females to males graduating from The College of The Bahamas. It should be noted that in the first five years the total number of students is small thus the ratios for those years are not robust.

At the Bahamas Baptist Community College during the period 1999-2002 in the field of business/administration female graduates outnumbered males more than 2:1. Moreover, graduates from the field of education were exclusively female. In fact for most of the institutions where education programmes were offered females significantly outnumbered males.

The graduation pattern at all three campuses of UWI in 2001 shows a preponderance of females even in areas such as the medical sciences. Similarly,

graduation data from Success Training College (Bahamas) reveal that females are graduating in much larger numbers than males with the exception of the area of technology.

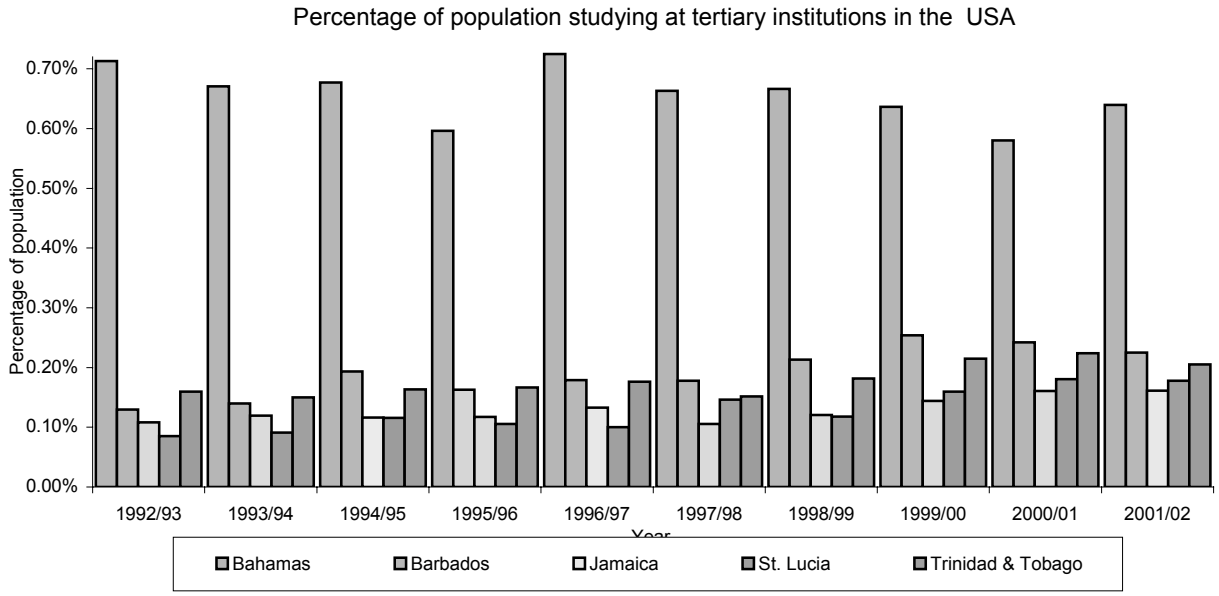
It is projected that if the present trends in enrolment and graduation rates discussed above continue, the male to female ratios will reach the levels outlined in Table 2.

Table 2 Estimated Increases in Female to Male Ratios at UWI, BCC, and COB

Country	Projected ratio increases					
	2005/6			2010/11		
	Low	Medium	High	Low	Medium	High
UWI (Enrolment)	2.0:1	2.1:1	2.3:1	2.3:1	2.5:1	2.6:1
Barbados (Enrolment)	1.9:1	2.3:1	2.8:1	2.1:1	2.6:1	3.2:1
COB	3.2:1	4.7:1	7.2:1	4.1:1	6.1:1	8:1

N.B. Low and High Values are at the 95% Confidence limits above the predicted values (Medium)

Figure 4 Caribbean Students studying in the U.S.



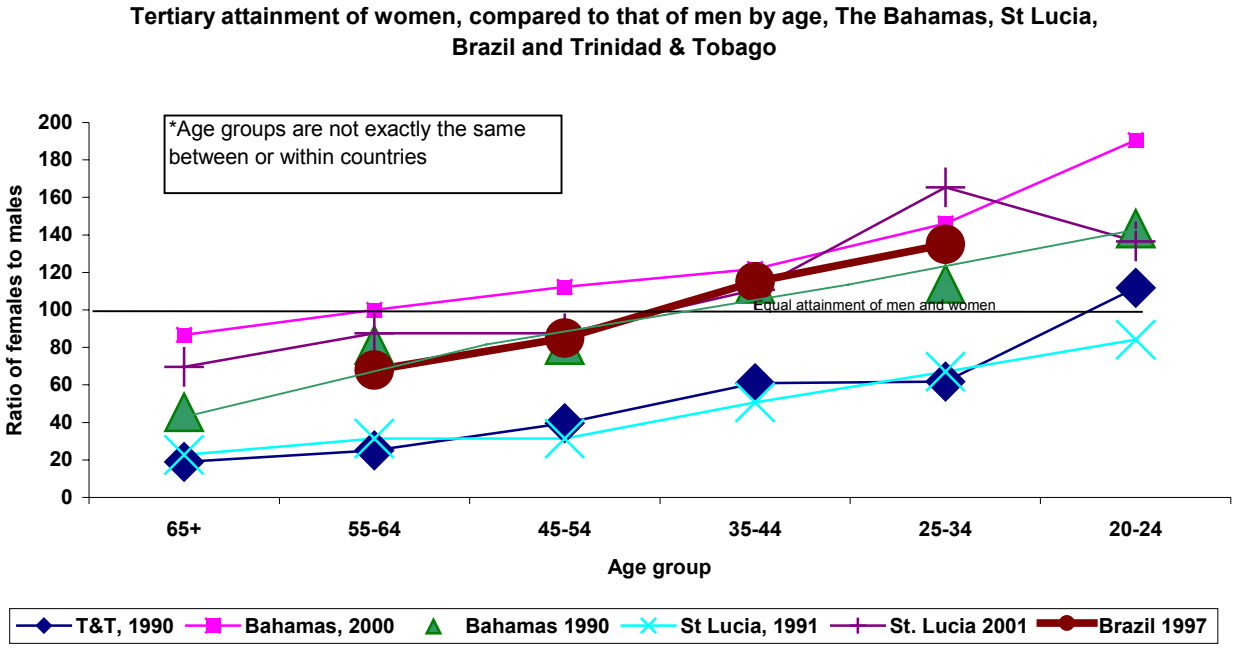
Source: Institute of International Education 1993-2000 Data Archives

While the focus of this paper has been placed on gender participation in higher education institutions in the Anglophone Caribbean, it should be kept in mind that persons from these countries also pursue studies abroad. A review of available data on foreign student participation in the United States of America is offered in figure 4. It is apparent that for the past decade the percentage of Bahamian students studying in U.S. colleges and universities is greater than it is for the other nations reviewed. The percentage of Barbadians and Trinidadians studying in the U.S., is much lower.

Tertiary Educational Attainment of the Working Population, Classified by Gender and Employment Status;

A review of census data reveals that within the working population the tertiary attainment of women compared to that of men has increased. In figures 5 and 16, Census data were used to display the differences across successive generations. In these figures Brazil is used as a point of reference relevant to cross generational patterns displayed in figure 2.10 in the OECD Investing in Education: Analysis of the 1999 World Indicators Report (p. 73).

Figure 5 Comparison of tertiary attainment by gender, Bahamas, St. Lucia, Trinidad & Tobago, and Brazil



Using 1997, 2000 and 2001 data, the tertiary attainment rate of men in both the 55-64 and 45-54 age groups exceed that of women in all countries reviewed in this report. However in the 25 to 34 age group the rate of women exceeds that of men. In the younger age groups for all countries with the exception of St Lucia, females are outnumbering males in the attainment of tertiary education. Within the older age groups 55+ males outnumbered females.

Although there has been an increase in tertiary attainment for all genders in all countries within the last 10 yrs in all age groups, The Bahamas appears to have attained greater universality of attainment sooner that the other nations reviewed (Figures 5 and 6). In the case of St Lucia, 1991 Census data show that phenomenal strides have been made.

Labour Force by Educational Attainment and Gender

Data obtained from the International Labour Organisation, Caribbean Statistics Database (2001/02) reveals that in St. Lucia and The Bahamas, there are more women than men in the labour force. The ratio of females to the number of males employed is greater in The Bahamas than it is in Trinidad and Tobago and Barbados (Figure 7).

There appears to have been an increase in the number of females employed in Barbados and a slight decrease in their numbers in Trinidad and Tobago and The Bahamas. The female to male ratio is more marked for St. Lucia. The males in Barbados and Trinidad appear to be taking greater advantage of higher education opportunities than their counterparts in The Bahamas.

On-line reviews of Caribbean Labour Statistics for The Bahamas (1991-1999), Barbados (1992-1999), St. Lucia (1993 – 2000), and Trinidad and Tobago (1991-2001) were available at the International Labour Organisation Website, when this study was undertaken. In Trinidad, the males with tertiary education in the labour force generally outnumber the females. However since 1996 this increase has been more marked.

In Barbados generally, there is a match in the number of males and females with tertiary education in the labour force with the exception of 1994 and 1995 where there is clearly a greater number of males. In the case of The Bahamas females, with tertiary education in the labour force, consistently outnumbered males. While a drop in 1996 is obvious – this could be an artifact of the data collection. In St. Lucia there is little difference in the ratio of females to males as the numbers are relatively close.

Figure 6 Comparison of tertiary attainment by gender and age, Bahamas, Barbados, St. Lucia and Brazil

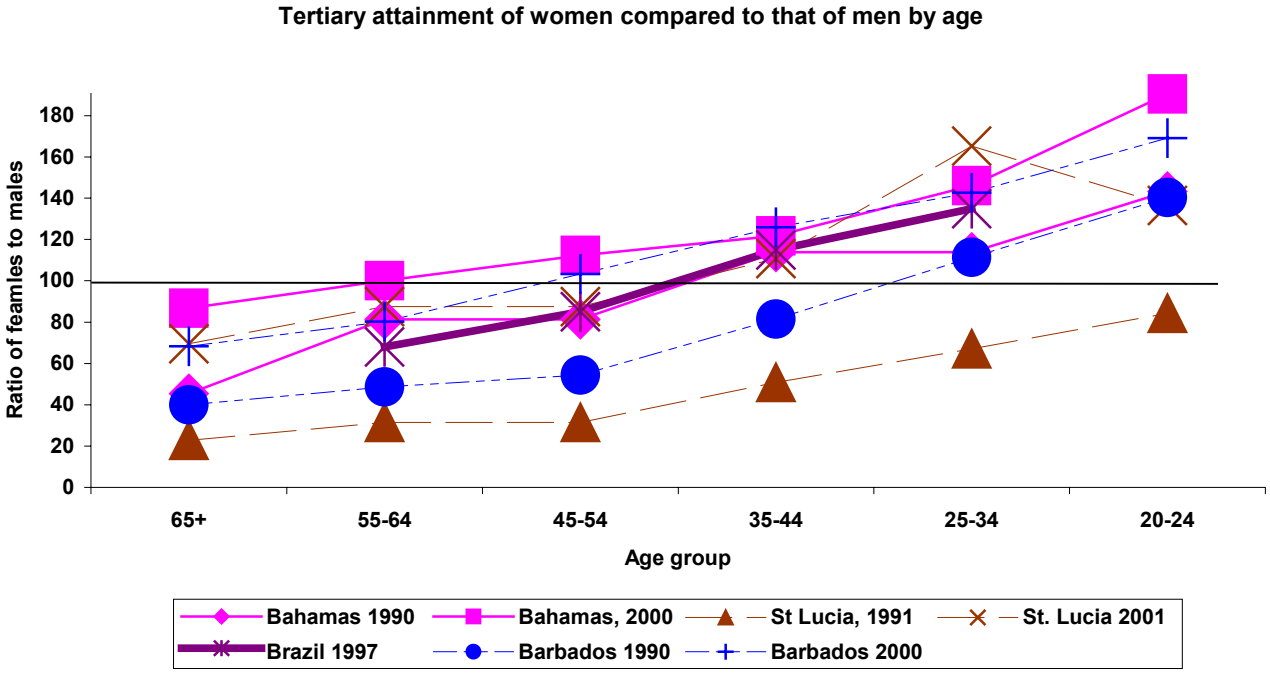
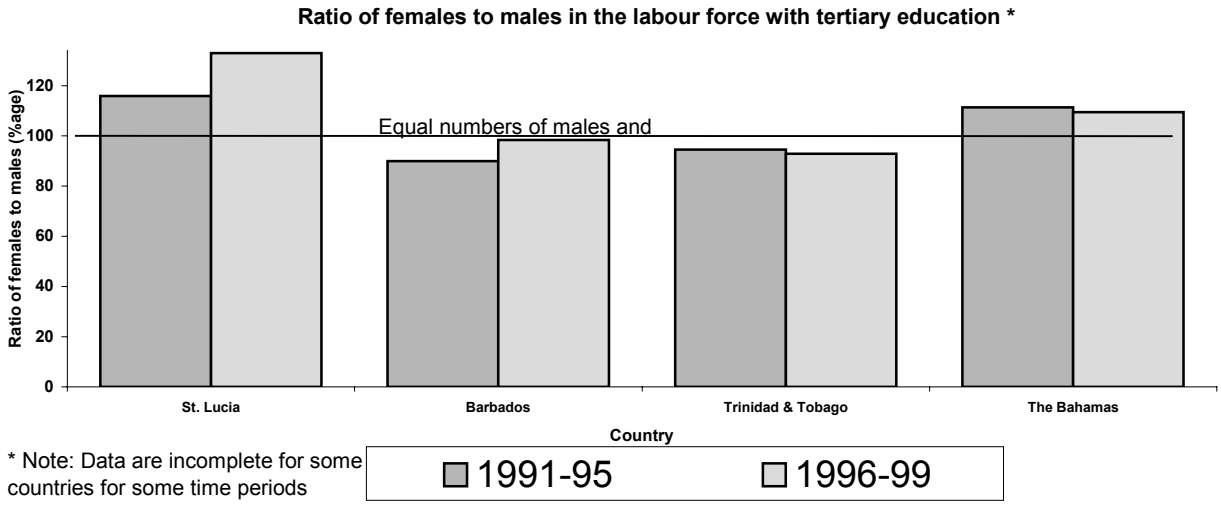
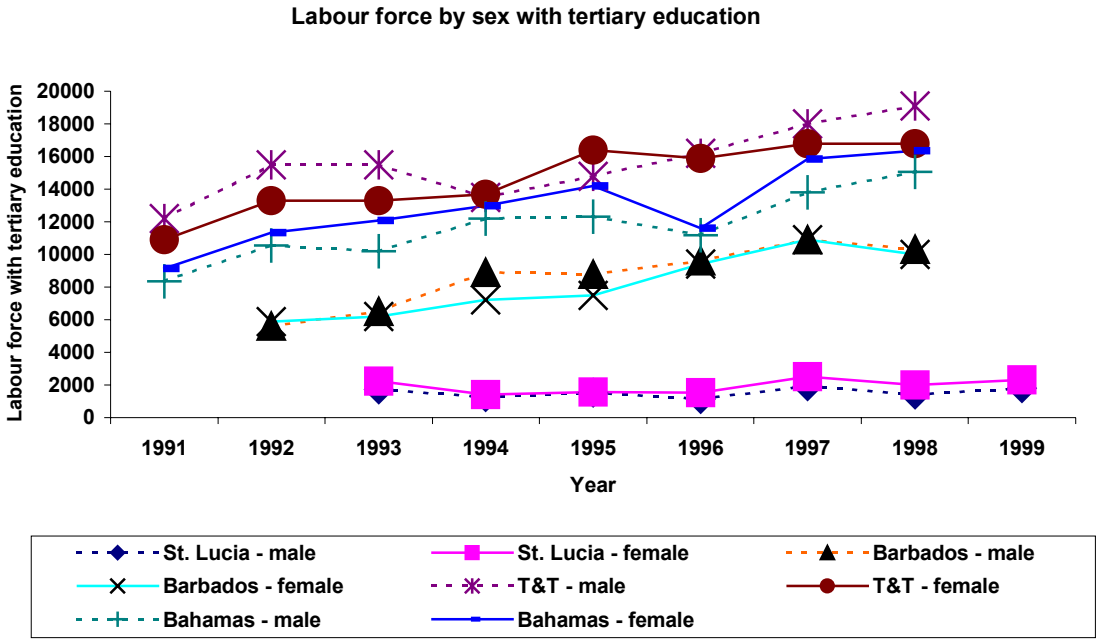


Figure 7 Ratio of employed persons with tertiary education by gender, Bahamas, Barbados, St. Lucia and Trinidad and Tobago



* Note: Data are incomplete for some countries for some time periods

Figure 8 Ratio of employed persons with tertiary education by gender



Discussion

Analysis of the data obtained provide insights and recommendations concerning higher education generally and/or higher education attainment and gender specifically. This study's findings confirm local observations and published studies, which suggest that there is increasing participation in higher education in several nations in the Anglophone Caribbean. In both the public and private institutions included in this study, the pattern of higher female participation prevailed in all cases.

The increase in female participation however has been significantly higher than that of males for the past two decades, or more, in higher education institutions in Barbados, Jamaica and The Bahamas. Indeed, for more recently established institutions (particularly liberal arts colleges and universities) total female enrolment and graduation rates have always been higher for females than they have been for males. Moreover, the increase in ratio for female to male participation if it continues as it is, it will lead to ratios as high as 2.3:1 at UWI; 2.8:1 at BCC; and 7.2:1 at COB in the year 2005/6. For the year 2010/11 these ratios will soar as high as 2.6:1 at UWI; 3.2 at BCC; and 8:1 at COB!

The preponderance of Bahamians studying in U.S. higher education institutions is clearly displayed in Figure 4. The vast disparity in the number of Bahamian students in the U.S. compared to the other nations under review may be attributable to several factors including: proximity to the U.S.; availability of scholarships from government and private sources; affordability; heavy marketing and recruitment efforts of U.S. higher education institutions seeking to attract Bahamian students; the lack of a UWI campus; and the lack (until recently) of opportunities for students to pursue Bachelor degree studies at home.

Given that The Bahamas is a consistent supporter of the University of The West Indies as the regional university the question needs to be asked why Bahamian students are noticeably under-represented in the majority of its programmes at Mona, Barbados, and St. Augustine campuses (UWI Official Statistics 2000/2001*)*. A research question that could legitimately be used in future research studies would be "Are Bahamian students being "pulled toward" the north, or "pushed away" from the south?" One such "push away" factor might be the perceived hassle to gain access to or information from UWI.

In any discussion regarding higher education participation in the Anglophone Caribbean, the effect of being a UWI campus territory should not be underestimated. The large number of Jamaicans at the Mona Campus, Barbadians at the Cave Hill Campus, and Trinidadians at the St. Augustine Campus attest to the fact that students are taking advantage of local opportunities and the provision of tertiary education in their respective countries.

Within the working population the increase in the number of women with higher education attainment does not appear to be as dramatic as it does in the enrolment and graduation data obtained for this study. There may be several reasons for this. One reason could be that when competing for the same job, males are most likely to be hired. Another reason could be that more females than males are likely to defer and or interrupt their careers in order to raise a family. And still another reason could be that jobs, which require qualifications in male dominated areas and fields of study, might be more plentiful.

The availability of lucrative work for males in areas such as fishing, tourism, casinos etc., in which many individuals with only a high school degree (or less) can earn more than persons with advanced degrees, may be a possible deterrent to higher education participation. This raises another question for future research i.e., "Is it necessary for males to participate in higher education? Or, on the other hand, if male participation in higher education is valued in Anglophone Caribbean societies, what kinds of higher education opportunities would be most attractive and/or accessible for them?

Although there are apparent similarities, there are distinct differences among and between Anglophone Caribbean nations and territories. Care must therefore be taken to acknowledge the diversity that exists within the Anglophone Caribbean, relevant to higher education and other issues. Nevertheless, there is a clear need to try and account for the high female participation (or conversely the low male participation) in higher education in places like The Bahamas.

The lack of data collected by national surveys that provide information on salaries precludes a quantitative analysis of the economic and social rates of return to higher education. However some observations relevant to positive outcomes of higher education in The Bahamas are readily apparent.

The increased provision of tertiary education opportunities for The Bahamas has led to the development of professionals who are now employed in jobs traditionally held by expatriates. Areas such as medicine, accountancy, engineering, and hospitality management, to name a few, are no longer dominated by expatriate labour. The College of The Bahamas has helped to provide practically all of the teachers now employed in local primary schools as well as the nurses in both public and private medical facilities. In fact, in its early years the composition of College of The Bahamas faculty was 70% Non-Bahamian and 30% Bahamian. Today, due to increased, Bahamian participation in colleges and universities at home and abroad this situation has reversed to 70% Bahamian and 30% expatriates.

The increasing trend, which is clearly evident, of Bahamian employment in so many business, professional and government workplaces due to the increased participation of Bahamians in higher education has both social and economic ramifications. Bahamian employees are more likely to spend their income within The Bahamas than their non-Bahamian counterparts. It is apparent that the more Bahamians employed in key decision-making areas (that impact cultural, political and economic activities and events) the more likely it is that issues relevant to Bahamian needs will receive attention.

A closer look is needed to explain the social and economic ramifications of increasing trends in the employment of *females,* due to their increased participation in higher education, in so many business, professional and government workplaces.

CONCLUSION AND RECOMMENDATIONS

While the educational performance of individuals is usually compared within the context of classrooms and job markets, the overall educational performance of societies and nations

is most often compared within the context of sustainable development within an increasingly global world economy. Indeed, the recent emphasis on knowledge as a defining characteristic of world economies places an additional demand on countries to monitor their educational institutions and systems and compare them with others. Such comparison requires the development and use of indicators that would allow for reliable description of activities and achievements. Notwithstanding the demand or purpose, the basis for comparative analysis depends not only upon the collection of statistical data but also upon information about the historical, socio-economic, and political realities of the societies in which such educational performance and achievement occur.

The gap between genders in higher education participation in the Anglophone nations reviewed in this study is widening significantly, in favour of females. The social and economic impact of limited male enrolment in, and/or graduation from, higher education institutions at home and abroad cannot be determined by institutional or national statistics alone. Further studies that would address the questions raised in the discussion are necessary as are, assessments of knowledge, attitudes and perceptions of males about and toward higher education. Such data could be gathered using quantitative and qualitative research approaches. Qualitative studies that would generate the observations and insights of persons within Anglophone Caribbean communities might be particularly useful. Such studies could identify specific problems relevant to male participation in higher education, offer solutions to those problems, and generate public support for the implementation of social and institutional policies that may be needed to solve them.

In order to support the research activity recommended above, all attempts to harmonise data collection and record keeping in statistical departments and higher education institutions within the Anglophone Caribbean region need to be more actively encouraged.

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