

The Feminization in Higher Education in Jamaica

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Abstract

The issue of gender disparity in enrolment at private-higher educational institutions in Jamaica has never been comprehensively analysis. This issue is not new in other universities and/or colleges across the globe; but from the perspective of private institutions it is. The statistics on the gender distribution of enrolled students at higher educational institutions must be understood with the context of history and what does it mean for the future. In keeping with the purpose of this research, the following research objectives were examined herein: 1) determine the sex ratios of enrolled students from 1970-to-2017; 2) evaluate the gender inequality in student enrollment from 1970-to-2017, and 3) assess the trends in gender disparity in student enrolment for 1970-to-2017. For the present study, data were taken from documentary publications of the Planning Institute of Jamaica. The timeframe for the present study was from 1970 through to 2017 (i.e., approximately 5 decades). The data were collected on November 10, 2017. Data were recorded, stored, and retrieved using the Statistical Packages for the Social Sciences (SPSS) for Windows, Version 25.0. Descriptive statistics were calculated for all the departments on the matter of student enrolment from 1988-2017. The gender inequality in student enrolment is evident in the studied higher educational institution. There is widening of the gender gap between male and female enrolled students since 1993. In fact, over the last 49 years (almost 5 decades), only in 1990 that male-enrolment was more than that of female-enrolment, 53.3% to 46.7%, respectively. Between 1969 and 1994, the number of fully registered students by gender has been constant and thereafter there has been a gender gap in enrolment. After 2000 there has been a widening of gender gap in enrolment. Since 2009, there has been a narrowing of the gender inequality in student enrolment as a result of the geometric decline in female enrolment compared to the arithmetic decline in male-enrolment.

Keywords: Gender Inequality, Gender Socialization, Student Enrolment, Higher Education.

Introduction

The issue of gender disparity in student enrolment at Northern Caribbean University (NCU) has never been comprehensively analysis. This issue is not new in other universities and/or colleges across the globe (Adeyemi and Akpotu, 2004; Agu and Omenyi, 2013; Bunyi, 2004; Yahaya, 2004; Wan, 2017); but this is sparse for NCU. Such glaring lack of information (i.e. gender enrolment statistics) means that policy makers at NCU are not privilege to trends in gender distribution of the population. In fact, this handicap has retarded effective planning for reversing the continuous decline in registered students, particularly the gap in student population. The value of examining the gender enrolment statistics at NCU lies squarely in what Adeyemi and Akpotu (2004) mentioned in their work on relatively similar inquiry, which read:

The paper made useful suggestions to narrow the gender gap in the university enrolment in the nearest future, which included sustained enlightenment programmes, fine-tuning labour laws and accommodating female under the “educationally disadvantaged” admission policy being enjoyed by some citizens of the country (p. 361)

Among the imputed benefits of empirical research in decision making are 1) enlighten, 2) correctness in understanding phenomenon or issue, 3) forward or forecasting, and 4) navigating future terrains with historic insights. Those issues are embodied in Adeyemi and Akpotu’s aforementioned perspective, and the absence of these spells catastrophic challenges. Simply put, by failing to plan for uncertainty, we are unprepared face future challenges.

The reality that must be understood is that gender disparity in enrolment at higher education is typical to many colleges and/or universities (Lopez and Barrera, 2014). In fact, Lopez and Barrera (2014) opined that:

In 1994, 63% of recent female high school graduates and 61% of male recent high school graduates were enrolled in college in the fall following graduation. By 2012, the share of young women enrolled in college immediately after high school had increased to 71%, but it remained unchanged for young men at 61%.

Even so, the growing gender gap in college enrollment is not limited to Hispanic and black youth. In 1994, among high school graduates, 62% of young white men and 66% of young white women were enrolled in college immediately after graduation-a four percentage point gender gap. In 2012, that gap had grown to 10 percentage points as the share of young white women enrolled in college grew to 72% while the rate for men remained the same.

The statistics on the gender distribution of enrolled students at higher educational institutions must be understood with the context of history and what does it mean for the future. Wan (2017) summarized the changing dynamics of student population at higher education in Malaysia by postulating that it was traditionally a male dominated space and that the current

reality has been reversed. This was pointed out by the scholar that “However, the current situation in Malaysia as well as in many developed and developing nations is that females have outnumbered males in higher education” (p. 1). Wan argued that among the implications for the gender disparity in enrolment in Malaysia are “overly emphasized academic admission for transition from schools into higher education and the differentiated willingness of households to spend on higher education for their sons and daughters (Wan, 2107, p. 1).

The matter of the feminization of higher education is also captured in statistics for a Jamaican university, The University of the West Indies. Statistics revealed that between 2009 and 2016 approximately 70% of students who enrolled at the University of the West Indies were females (see Tables 1.1 and 1.2). A disaggregation of the enrolment statistics by campus at UWI revealed a gender distribution of 86% to 14% females to males, respectively (The University of the West Indies, 2017).

The statistics revealed a clear case of the feminization of higher education in our world and this is well document in the literature (Bekhradnia, 2009; David, 2014n 2015; Ismail, 2015; Nekatibeb, 2003; Vincent-Lancrin, 2008), which is equally the case in the OECD member countries (Vincent-Lancrin, 2008). Wan (2017) argued that this feminization of higher education was not the case long ago; but that the phenomenon is a recent trend. There are some questions this gender gap in higher education and these include 1) what accounts for males’ unwillingness to enroll in universities and/or colleges, 2) relevance of university and/or college education to the sexes, and 3) is higher education a feminized product and there it will continue to be unattractive to men. Hence, this study is an examination of the gender disparity analysis at NCU, using data from 1988 to 2017 and it is providing policy makers with insights to the phenomenon as well as recommendations to curtail this gender inequality.

In keeping with the purpose of this research, the following research objectives were examined herein:

1. Determine the sex ratios of enrolled students at NCU from 1970-to-2017;
2. Evaluate the gender inequality in student enrollment at NCU from 1970-to-2017, and
3. Assess the trends in gender disparity in student enrolment at NCU for 1970-to-2017.

To review and provide information on the aforementioned objectives, the paper is framed with human capital theory.

Theoretical Framework

A theoretical model that can be used to ground this work is the human capital theory developed by Becker (1964), which looked at decision and location choice. In this model, it was centered around student’s decision making process on a comparative basis of benefits and costs of studying (see also, Alecke, Burgard, and Mitze, 2013). Embedded in the decision

making process are the probability of completing ones study successfully, expected returns, labour market returns, cost factors including opportunity costs (Alecke, Burgard, and Mitze, 2013). Baier and Helbig (2011) had forwarded that those issues combined refer to the net utility of studying. It follows that the decision to study is based on direct individual benefits, opportunity cost, and the probability of successfully completing ones course of study, tuition cost, opportunity cost, and factors.

Alecke, Burgard, and Mitze (2013) forwarded an empirical framework that student enrolment is influenced by tuition costs and migration effects. For the theoretical consideration, they conceptualized that total enrolment rate at a certain university is influenced by migration effect and internal enrolment.

Δ (total enrollment/age-specific pop.) = Δ (internal enrollment/age-specific pop.) + Δ (net migration/age-specific pop.), where changes (Δ) in internal enrollment and net migration are expected to be unidirectional.

Where the (net) migration or mobility effect, means gross in-migration and in gross out-migration which is Δ net migration = Δ gross in-migration – Δ gross out-migration. Alecke et al. (2013) cited that “All these enrollment and migration measures are used as outcome variables in the empirical estimations...” (p. 7).

As such, a critical factor in the decision-making process of student to attend university is tuition cost and offers a rationale for its usage in an empirical model for accounting for changes in enrolment at a tertiary educational institution. Alecke and colleagues forwarded that “This brings the analysis of tuition fees inevitably to the empirical level in order to provide evidence for their impact on enrollment and mobility rates” (p. 7), and therefore set the framework for examining student enrolment at a college/ university. It is upon the human capital theory and by extension the role of tuition costs that this work is underpinned by tuition cost and other factors as independent predictors of student enrolment at a college/ university.

The present work is not establishing an empirical model to predict student enrolment at Northern Caribbean University; but, evaluating gender inequality in student enrolment. In an effort to argue the two aforementioned issues in this paper, the researcher collected and examined time series data on student enrolment at NCU from 1970 to 2017. A detailed description of the method for this paper is presented in the methods section overleaf.

Methods

For the present study, data were taken from documentary publications of the Planning Institute of Jamaica (PIOJ, 1970-2019). The timeframe for the present study was from 1970 through to 2017 (i.e., approximately 5 decades). The data were collected over a six-month period in 2019. Data were recorded, stored, and retrieved using the Statistical Packages for the Social Sciences (SPSS) for Windows, Version 25.0. Descriptive statistics were calculated

for all the departments on the matter of student enrolment from 1988-2017. Generally, this study provides descriptive statistics on students-enrolment from 1970-2017, annual percent change, and graphic depictions were used to provide a comprehensive outlook of the enrolment changes (i.e., patterns) at the university for over the last 5 decades (1970-2017). In addition to the previously mentioned concepts, sex ratios were computed for each year from 1970 to 2017. The sex ratio is the number of males enrolled for time period divided by the total number of females enrolled for the same time period, t.

Results

Table 1 presents descriptive statistics for gender enrolment at NCU, using data from 1970-2017. On average, for approximately 5 decades (47 years), female enrolment at NCU was $1,607 \pm 1860$, 95%CI: 1,067-2,147 compared to 567 ± 585 , 95%CI: 397-737 for male enrolment. Based on the large standard deviation which in each case is approximately over 100% of the mean, this indicates that there are some large values that deviate from the center of the distribution. Despite this fact, there is normality in the distribution of each data (see Table 2, overleaf).

Table 1. Descriptive statistics on student enrolment by gender

		Statistic	Std. Error	
FEMALE	Mean	1607.04	268.534	
	95% Confidence Interval for Mean	Lower Bound	1066.82	
		Upper Bound	2147.26	
	Median	330.50		
	Variance	3461309.402		
	Std. Deviation	1860.459		
	Minimum	4		
	Maximum	5604		
	Range	5600		
	Interquartile Range	3417		
	Skewness	0.670	0.343	
Kurtosis	-1.210	0.674		
MALE	Mean	567.35	84.448	
	95% Confidence Interval for Mean	Lower Bound	397.47	
		Upper Bound	737.24	
	Median	237.50		
	Variance	342308.744		
	Std. Deviation	585.072		
	Minimum	1		
	Maximum	1468		
	Range	1467		
	Interquartile Range	1229		
	Skewness	0.408	0.343	
Kurtosis	-1.653	0.674		

Table 2. Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
FEMALE	.275	48	<0.0001	.786	48	<0.0001
MALE	.266	48	<0.0001	.786	48	<0.0001

a. Lilliefors Significance Correction

Further analysis of the gender-enrolment population at NCU, there is a statistical difference between the two mean scores (see Table 3).

Table 3. One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
FEMALE	5.984	47	<0.0001	1607.042	1066.82	2147.26
MALE	6.718	47	<0.0001	567.354	397.47	737.24

Between 1969 and 1994, the number of fully registered students by gender has been constant and thereafter there has been a gender gap in enrolment. After 2000 there has been a widening of gender gap in enrolment at NCU (See Figure 1).

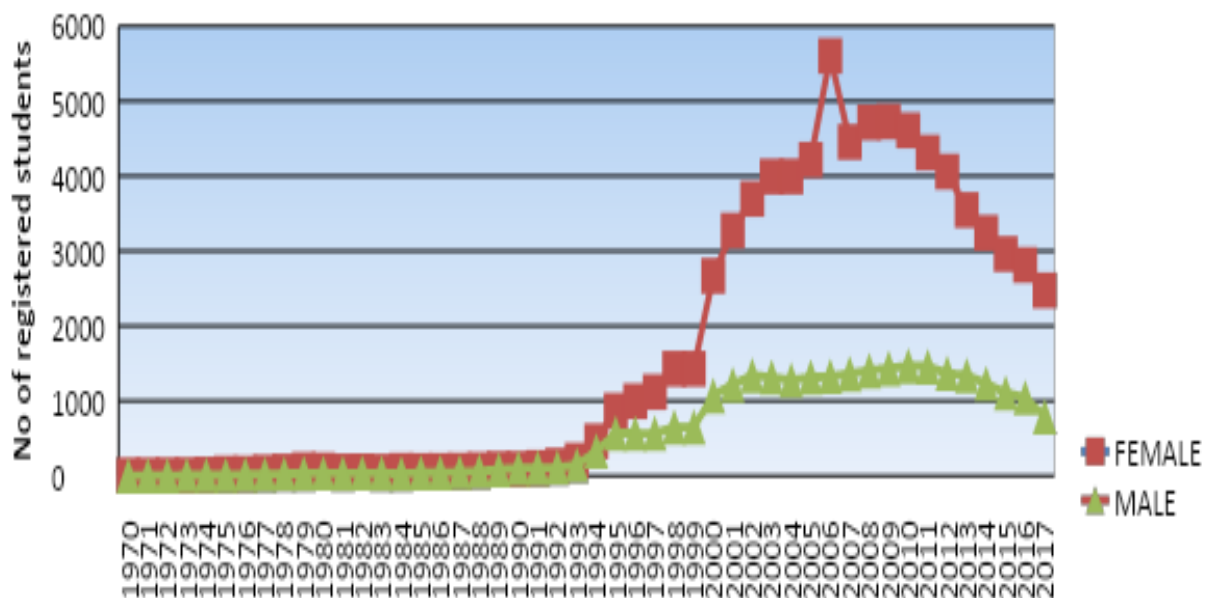


Figure 1. Number of enrolled students at NCU by gender distribution

Since 2009, there has been a narrowing of the gender inequality in student enrolment at NCU as a result of the geometric decline in female enrolment compared to the arithmetic decline in male-enrolment. It can be deduced from the data that the decline in student population at NCU has been a feminized phenomenon (see Annex 1) as substantially more females have

opted out of attending NCU compared to their male-counterparts. This reality speaks to a higher degree of dissatisfaction among females with the offerings including customer service and programme deliverables at NCU unlike their male folks. Another aspect to this finding is that NCU has been failing to provide the expectations of females, which is expressed in the geometric decline in enrolment.

A scatter plot and a super-imposed curve of female-and male-enrolment at NCU from 1970-2017 are expressed in Figure 2. A polynomial function (i.e., quadratic equation) is best fitted for the data points of gender enrolment at NCU. Figure 2. depicts the rate of change of female-enrolment at NCU increases faster than that of male-enrolment. The polynomial function that captures the relationship between the two aforementioned variables is as follows:

$$Z_t = f(M_t) \dots\dots\dots[1]$$

Where Z denotes the number of females enrolled at NCU for time period t and M being the number of enrolled-males for time period t.

$$Z = 0.001M^2 + 1.249M - 0.798 \dots\dots\dots[2]$$

The function accounts for 97.4% of the variability in female-enrolment (i.e. adjusted r = 0.973).

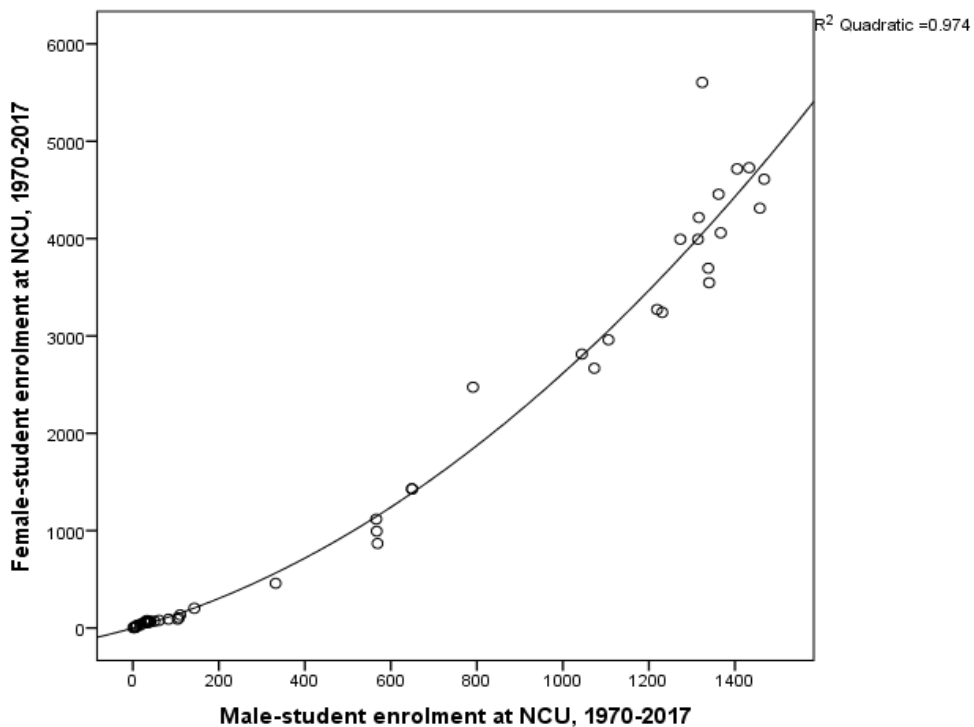


Figure 2.Scatter plots and super-imposed curve of female-and male-student enrolment at NCU, 1970-2017

Table 4. Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
MALE	1.249	.377	.393	3.310	.002
MALE ** 2	.001	.000	.599	5.049	.000
Constant	-.798	69.335		-.012	.991

The gender inequality in student enrolment at NCU is captured in Figure 3, below. Figure 3 shows that there is widening of the gender gap between male and female enrolled students at NCU since 1993. In fact, over the last 49 years (almost 5 decades), only in 1990 that male-enrolment was more than that of female-enrolment, 53.3% to 46.7%, respectively. This means that over the last 26 years (1991-2017), education at NCU has been a feminized phenomenon as substantially less men access educational programmes offered by this university.

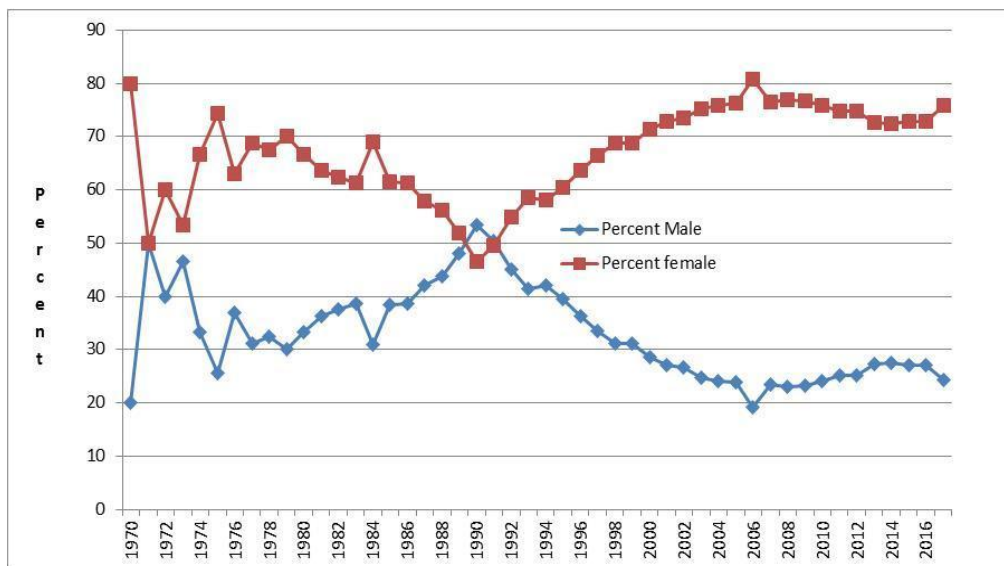


Figure 3. Percent of male and female enrolled NCU, 1970-2017

The matter of the feminization of education is evident from the enrollment numbers at NCU (see Figure 3), and this brings to focus the matter of why? Table 5 presents data on the governance of NCU since the 1970s to 2016 along with average student enrolment. The average enrolment at NCU grew exponentially under Dr. Herbert Thompson. The rationale for this rise in student-enrolment was owing to the image credited by Dr. Thompson as well as the having obtained University Status in 1999. Among the deduction from the data is the image created by Dr. Thompson and men’s association with this image and this explain the influx of males over females in 1990. Clearly, the initial euphoria created by the Dr. Thompson was short-lived as in 1991 this started the down spiraling of the male-population at NCU. The matter of failed expectation is embedded in the male-enrolment numbers and this has continued to plague NCU into the decades of the 1990s, 2000s, and 2010-2017.

Table 5. Presidents at NCU, average enrolment, and annual percentage change and decades of governance

Years	Governance of NCU: Presidents	Average Enrolment	% Change
1970-1973	C.D Standish	11	
1973-1980	L.H. Fletcher	82	645.45
1980-1985	H.L. Douce	113	37.80
1985-1990	S.A. Lashley	159	40.71
1990-2011	H.J. Thompson	3646	2,193.08
2011-2012	D. Fider	5426	48.82
2012-2016	T. Gardner	4317	-20.44

Figure 4 depicts the female to male enrolment ratio at NCU from 1970-2017. Between 1989 and 2007, there has been evidence of the feminization of enrolment at NCU with the constant rise in female-admission. The constant upward trend in female-enrolment was changed following 2006 to 2013. Historically, the female-enrolment stood between 46% and 78%, with 2006 and 1970 being anomalies (i.e. 80%) which are reflected in Figure 4 as spiked years.

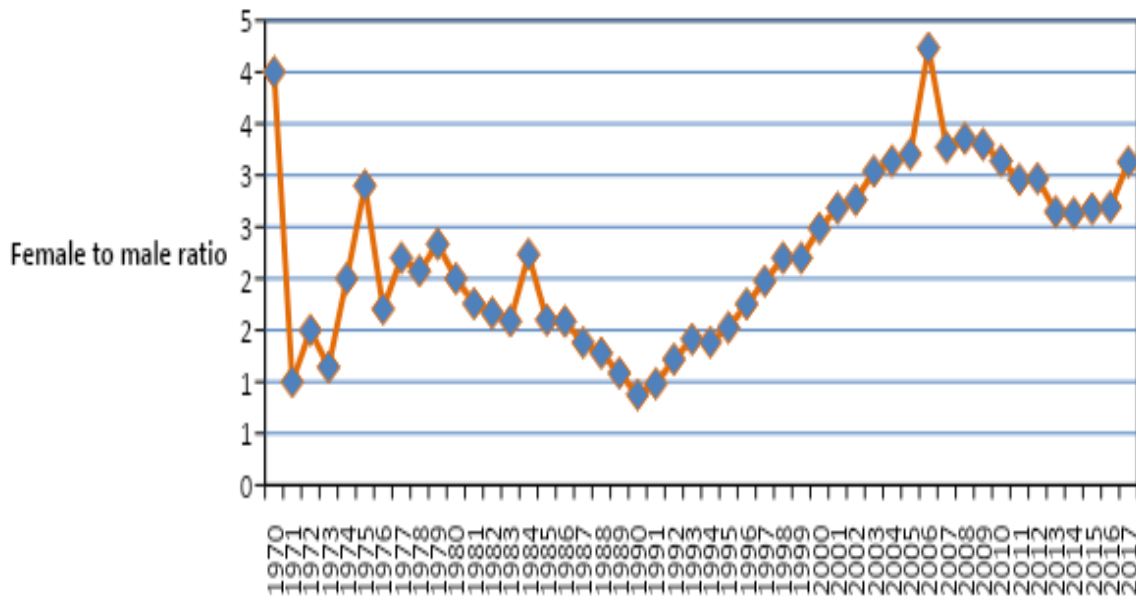


Figure 4. Female to Male ratio of enrolled student-population, 1970-2017

The sex ratio which captures the number of males per 100 females is depicted in Figure 5. On eyeballing Figure 5, there is evidence that rate of change in males per 100 female-fully registered students have been declining at an increasing rate, and that this began after 1989. However, between 1974 and 1990, the were increasing rates of male-student enrolment at NCU, with 1983 with an anomaly, a decline in periods of growth.

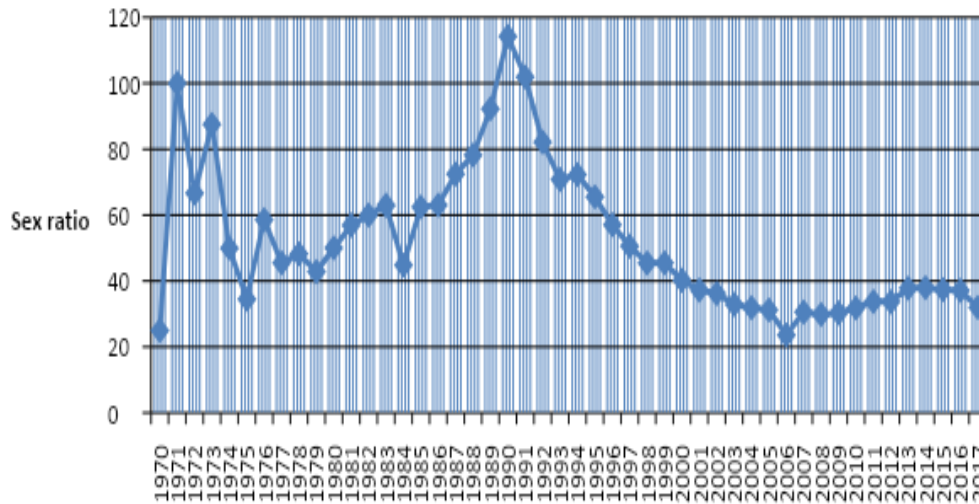


Figure 5. Sex ratio of enrolled student-population, 1970-2017

Discussion, Conclusion and Recommendation

The feminization of education is not limited to NCU; it is a global phenomenon (Adeyemi and Akpotu, 2004; David, 2015; Ismail, 2015; Lopez and Barrera, 2014; World Bank, 2008) with a national reality (The University of the West Indies, 2017). The University of the West Indies, which is the only regional university in the Caribbean, is undergoing the feminization of enrolment and this speaks volume of gender socialization in decision making at higher education. Although there is a feminization at higher education in Jamaica, the matter is even more severe at NCU when compared to than at UWI (see Table 6). The official statistics for both UWI and NCU highlight the matter of ‘genderization’ in decision on the matter of higher education in Jamaica.

Table 6. Gender distribution of enrolled students at NCU and UWI, 2010-2011, 2012-2013, and 2014-2015

Year	% Gender	UWI (in %)	NCU (in %)
2010-2011	Male	31.5	24.2
	Female	68.5	75.8
2012-2013	Male	31.3	25.2
	Female	68.7	74.8
2014-2015	Male	32.4	27.5
	Female	67.6	72.5

The human capital theory by Becker (1964) offers some explanation of people’s decision and location choices. The elements of the human capital theory are direct individual benefits, opportunity cost, probability of successfully completing ones course of study, tuition cost, and other factors (see also, Baier and Helbig, 2011; Alecke, Burgard, and Mitze, 2013). Those components can be considered to be net utility of studying (see Baier and Helbig,

2011) and they do not include decision made by ‘genderization’. Human capital theory does not comprehensively capture the tenets of a decision to attend a tertiary institution as it omitted the gender aspect of the individual. This study is unequivocally showing that decision to attend a university is also based on ‘genderization’, which is borne out in other studies (Ismail, 2015; Yahaya, 2004).

Ismail (2015) contended that “Generally, Malaysian women’s contribution to the country is high and significant, particularly in the sector of education, where females formed the majority as teachers with 72.3% compared with males, 27.7%. Statistics shows that about 38.1 % female students pursuing PhD; 52.9 % in master’s degree; 61.9 % in undergraduate and 64.8 % at Diploma level (Quick Facts, 2012 in Ismail., 2015, p. 35)”, and this speaks to the current realities and the future challenges if this is to continue. Like in Malaysia (Ismail, 2015; Wan, 2017), Nigeria (Adeyemi and Akpotu, 2004), Kenya (Bunyi, 2004), and many other nations (UNESCO, 2003), there are gender disparities (i.e., feminization) in education system, especially in the teaching profession at the primary-to-tertiary level (Burns, 2015; Nekatibeb, 2003; Mayhew, 2014; Wells, 2016; World Bank, 2017; UNESCO, 2011; Opie, 2016; Weldon, 2015), as well as pupil-enrolment at the higher educational level and this is also the case in Jamaica. This enrolment feminization that is occurring at NCU, which is also the case at UWI, needs to be tackled urgently and remedied in an effort to provide parity in education for the society. Simply put, there is a need to implement gendered strategies to curtail the feminization in the educational system (Bunyi, 2004; UNESCO, 2003; 2011; Coughlan, 2016), which must begin at the primary-to-secondary level because of the gender gap in the teaching professions and its influence on social and academic variables. This gap inequality in the teaching profession is aptly explained by UNESCO (2011):

Women and the ‘feminization’ of the teaching profession has been debated for decades, in some places for over a century. The term ‘feminisation’ has tended to apply to countries where women are a significant majority in the teaching workforce. As a result, there has been a tendency for most explorations in this subject to come from countries in the North, such as the UK, Australia and Canada, or, more recently, from South America. The debates surrounding women, the teaching profession and feminisation have been wide-ranging and, in some cases, contentious. They have included reviewing the reasons why the teaching profession became gender-imbalanced in favour of women in certain countries in the first place, and what the impacts might be on learning processes and the educational outcomes for students. Other explorations have sought to look more deeply at trends within feminization itself, including variations between education sectors and management structures. Some discussions have attempted to address what the implications of a majority-female teaching profession has meant for gender equality and relations more broadly, including women’s overall empowerment within society and the economy (p. 1)

UNESCO (2005) forwarded that “All countries have pledged to eliminate gender disparities in primary and secondary education by 2005. This was agreed at the World Education Forum

in Dakar in 2000, a year when a significant majority of the 104 million children not in primary school were girls and almost two-thirds of the 860 million non-literate people were women” (p. 34). Herein lies the problem of the continued gender enrolment inequality (or gap) in higher education as the matter began from the earlier levels. The widening of the gender gap between male and female enrollers at the tertiary level is pointing towards the extinction of male, and this spells more social issues in the future (Coughlan, 2016; Deese, 2017).

Education should play a key role in reducing the gender inequality in education because it is able to able to change attitude, transform behaviour and reduce gender stereotype (Burns, 2015). Despite the widened gender gap in enrolment at higher education as well as employment in the educational sector, which requires urgent attention, the reasons for this call is because of the effect of gender not only on decision to attend college; but, its effect on academic achievement. According to Antecol, Eren and Ozbeklik (2012):

We find that female students who were assigned to a female teacher without a strong math background suffered from lower math test scores at the end of the academic year. This negative effect however not only seems to disappear, but it becomes (marginally) positive for female students who were assigned to a female teacher with a strong math background. Finally, we do not find any effect of having a female teacher on male students’ test scores (math or reading) or female students’ reading test scores. (p. ii)

We want to end by pointing out that we do not know whether our results would hold for the students at higher levels of education (i.e., middle school/high school or postsecondary) (p. 25)

The matter of the gender being among the components in learning is not only a singulate question; but there are two sides to gender-socialization and these are perception and interpretation of things, and how its charts ones decision-making approach. Antecol, Eren and Ozbeklik offered one side to the discourse when they established that gender is associated with learning outcomes and in the same context questioning the validity of this finding at the higher levels of education. Another study by Ghazvini and Khajehpour (2011) went further than Antecol, Eren and Ozbeklik and noted that

Results show the existence of gender difference in variables under consideration, with girls showing internal locus of control, using attitude, motivation, time management, anxiety, and self-testing strategies more extensively, and getting better marks in Literature. With boys using concentration, information processing and selecting main ideas strategies more, and getting better marks in mathematics. (p. 1040)

While there are two sides to the discourse of gender and academic performance, Ghazvini and Khajehpour’s work expanded the issue to make it a cognitive matter. Within the context of the previous findings, the teaching-learning milieu should not be solely concerned about

the materials (or instruction) as characteristics of the facilitator are crucial to the process of learning. This is centered around 1) connectedness, and 2) social and emotional development of the individual from childhood (Zembar and Blume, 2009). Both connectedness and social and emotional development speak to the fact that the sexes do not conceptualize, interpret, and view life in the same framework. It can be termed that gender is a factor in both learning as well as one's decision making.

The statistics has provided ample evidence that there are gender-based decisions and this is reflected in the student population at higher education. The gender-based choices and decision-making of people are accounting for the gender gap in enrolment at tertiary institutions in Jamaica. The matter of the gender inequality in enrolment of NCU is typical and must be contextual in a wider human capital theory as people's decision to attend higher education is not only based on tuition costs, personal benefits and opportunities; but their personal characteristics play a role in the process. The fact is, who you are as it relates to your gender cannot be divorce from the individual and this framed within the wider social system.

The social system is what frames the individual perception and development of self. Using General System thinking that was developed by Ludwig Von Bertalanffy (1968), which compares social systems to a biological organism, which is a system. The writers likened the family as a social system constituting various social actors and social activities that are interrelating for an overall functioning of the family or social institution. Simply put, the family is a social system that is interacting to produce a holistic balance. He argued the General Systems Theory (GST) has been extensively used in family therapy because addressing dysfunctions in a family must apply a holistic approach to solution. Some scholars have grounded their thinking in GST from which evolved theories such as David Olson, Circumplex Model.

Circumplex Model forwards that "all the various theoretical concepts that over the years have been generated to describe family and couple dynamics can be comprised in just two polarity dimensions: the one cohesion, the other flexibility. There is a third dimension, communication, which is not a separate domain but a facilitating condition for the other two dimensions" (p. 6). It can be deduced from the aforementioned perspective that family is a social system of different social actors, interacting by the definition of roles and self-identity; emotional system –emotional bonding and connections; political dynamic – power relations and structure; and spiritual presence – a belief system. In keeping with General System Theory, the individual is a social actor, and this means that he/she is socialized into playing a role, and gender is one such role that played the individual.

Gender issues are extensively studied by sociologists, anthropologists, demographers, feminists, social workers as well as political sociologists. The issue of gender socialization begins at birth (Gleitman, et al, 2000, p. 497 in Crespi, 2003, p. 6). The social actors within the society, social system, therefore, begin being socialization from infant primarily based on

his/her gender, which is carried out as well as the teacher, pastor, parents, and other agents of the society (p. 7). In keeping with the aforementioned perspectives, Crespi employs reinforcement theory which is from operant conditioning. Reinforcement theory deals with rewarding behavior in order to increase desired outcome or actions, and punishment in an effort to reduce unacceptable behaviour (p. 7). Using path analysis, particularly advanced multivariate regression analysis technique, although a sample design was not specified, Crespi evaluates how many variables impact on the gender identity of young people. It was found that each model was weakly influenced by selected factors such as status of mother and father, gender of parents, and gender attitude of the parents as well as esteem of the young person- $R^2 \leq 0.23$. The correlation value of 23% (or 0.23) indicates a very weak statistical relationship among the significant factors that influence gender identify of a young person. A positive bivariate correlation, however, existed, between gender attitude of both parents and gender identity. Furthermore, while both parents' gender attitude impact on the gender behaviour of young-men, only the gender attitude of the mother has an influence on the gender attitude of the young-female. When the parents' parent influence the young people's parent gender attitude. This is indicating that the socialization process of infants is responsible for the long-standing gender stereotype of a society, and decision taken by the individual in later life.

It is the social system that has framed the gender stereotypes and guides the individual into taking some decision in the wider established social system. In concluding, traditional gender attitude of a society, gender stereotypes, positively influences the gender attitude of infants which dates by to their parents. Clearly, there is a psychology of gender-roles or socialization that must be noted in gender-identity and this offers some explanation of choices people making in attending higher education and choice of study. The socialization process, therefore, accounts for the framing of gender role of an infant and later choice. Therefore, it is education, particularly higher education that must begin openly forward the discourse of gender stereotypes and allowing people to recognize mythologies in traditional thinking. The reality is, tertiary educational institutions must chart a path that will allowing people to see that certain words used in society to describe men such as tough, sturdy, and handsome, and merely to reinforce gender stereotype. In addition, the same thing goes to describe female or woman such as pretty, weak, sweet, charming, and dainty. Those words are inculcated in the cognitive domain of the infant; thereby framing a certain paradigm and account for the interpretation of self-the individual based on his/her gender. The language embodies the culture-the customs, norms and values of the society or sub-system, and so tertiary educational institutions must commence the dialogue and constructions will be altered the gender-based gap in education in Jamaica.

This study has expanded the human capital theory in ones decision to pursue tertiary education. The matter of deciding to attend higher education is also depending on gender. Gender which is a social construct and that which is framed by the social system plays a crucial role in determining attendance at tertiary institutions. A part of the gender gap in

enrolment, there is gender socialization, and it extends to academic performance and other social issues for the society.

The following are some recommendations that emanates from this study:

1. Administrators should introduce male stereotype programmes such as mechanical engineering, electrical engineering, building and construction, architecture, economics and statistics, sports journalism, aeronautics and robotics, architect, draftsmanship, Martine biology, logistic management, agricultural engineering, EMT;
2. Offers sports and other scholarships to well-known male athletes in the Caribbean;
3. A policy should be implemented that gives priority and is flexible to male students this would include co-curricular activities being values in the programme requirements, exchange programme.

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ANNEX 1. Registered students by Gender, 1970-2017

YEAR	FEMALE	MALE	TOTAL	SEX RATIO	Female: Male ratio
1970	4	1	5	25	4
1971	4	4	8	100	1
1972	6	4	10	67	2
1973	8	7	15	88	1
1974	16	8	24	50	2
1975	29	10	39	34	3
1976	29	17	46	59	2
1977	44	20	64	45	2
1978	56	27	83	48	2
1979	77	33	110	43	2
1980	72	36	108	50	2
1981	58	33	91	57	2
1982	60	36	96	60	2
1983	54	34	88	63	2
1984	67	30	97	45	2
1985	64	40	104	63	2
1986	65	41	106	63	2
1987	69	50	119	72	1
1988	78	61	139	78	1
1989	90	83	173	92	1
1990	91	104	195	114	1
1991	105	107	212	102	1
1992	134	110	244	82	1
1993	202	143	345	71	1
1994	459	332	791	72	1
1995	868	569	1437	66	2
1996	994	567	1561	57	2
1997	1118	566	1684	51	2
1998	1428	649	2077	45	2
1999	1428	649	2077	45	2
2000	2668	1073	3741	40	2
2001	3272	1219	4491	37	3
2002	3696	1338	5034	36	3
2003	3993	1314	5307	33	3
2004	3994	1273	5267	32	3
2005	4217	1316	5533	31	3
2006	5604	1324	6928	24	4

2007	4456	1362	5818	31	3
2008	4716	1405	6121	30	3
2009	4728	1433	6161	30	3
2010	4610	1468	6078	32	3
2011	4312	1458	5770	34	3
2012	4059	1367	5426	34	3
2013	3547	1340	4887	38	3
2014	3242	1231	4473	38	3
2015	2960	1106	4066	37	3
2016	2813	1044	3857	37	3
2017	2474	791	3265	32	3