Gender Differences in Academic Performance: A Case of Psychology Students at the University of Zambia

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Abstract
Gender disparity in academic performance and general access to educational opportunities globally and particularly in Zambia has been evident for a long time. This led to the Zambian Government coming up with affirmative action policies to enable more females’ access equal educational opportunities. However, the dynamics of the specific academic performance of each sex, especially at tertiary level has not received much attention in terms of research. Hence it was the aim of this paper to examine the academic performance through a thorough review of literature. An example of the academic performance of the psychology degree students at the University of Zambia (UNZA) has been used to discuss the literature. Through the comprehensive analysis of literature, we found four factors emerged that can influence performance, namely: socio-economic factors, course of study, innate differences and Psychological factors. It was also found that over a period of five years from 2009 to 2013 female psychology students at UNZA consistently obtained a better classification of degrees than the males in psychology. It is possible to speculate that the female students gravitate towards registering for psychology because of their intrinsic liking for the Psychology courses. It is therefore possible to present the argument that the affinity of female students for psychology courses would make them study psychology more than their male counterparts and therefore perhaps achieve better results.

1. Introduction
The gender disparity in academic performance and general access to educational opportunities in the majority world and particularly in Zambia has for a long while been evident, this has been exemplified in entry result requirements from primary – to – secondary and even tertiary levels where female pupils and students have been availed lower entry requirement results. Such affirmative action has been deemed a necessity, especially in Africa, as a mitigating measure in perceived gender, social and even cultural factors that may have hinder female pupils and students from accessing equal educational opportunities at the various levels of education (Mumba, 2002).

This noted however, the dynamics of the specific academic performance of each sex, especially at tertiary level has not received much attention in terms of research. This is more so in the Zambian context where limited literature is available that compares the academic performance of males and females and that attempts to give the reasons for the gender disparities, if any, in academic performance.

The rationale of this paper therefore is to examine the academic performance of male and female students especially at tertiary level and to see whether there are any differences in performance between the two genders and to identify the possible reasons for these differences.

The paper draws upon literature which has dealt with gender differences in academic performance and highlights possible reasons for these differences. The paper draws upon literature from Western countries,

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specifically the USA, the UK and Australia where research on gender differences in academic performance has been considerable and then focuses on regional performance especially in Zambia. The socio-political, cultural and socio-economic contexts in developed countries, however, differ from those of Southern Africa in many aspects of development (education, technology, economy, etc.), but there are possibilities to draw parallels, albeit in a limited way.

Through considering parallels and differences between Western industrial cultures and Africa, the paper examines issues pertinent to the African social–cultural dynamic. This research will enlighten teachers in all disciplines, educators and policy makers to gain insights into how male and female pupils and students perform in varying fields and how culture and other social factors may account for these differentials in academic performance between males and females.

2. Global Perspective on Gender Differences in Academic Performance

Various research studies around the world has suggested that academic performance between males and females at age 15 is tilted towards girls in reading, in mathematics, boys outperform girls in some countries and economies but differences are generally smaller and in science, gender differences are small and there is no consistent pattern across countries (Graetz, 1995; Considine & Zappala, 2002). Student’s’ attitudes also seem to play an important role in shaping gender differences in academic performance as observed in mathematics and reading and gender stereotypical attitudes towards these subjects arise early on (Graetz, 1995).

Gender gaps are seen to be much more prominent among low and high achieving students. In reading, there are many more boys lacking basic skills than girls, while in mathematics boys are more likely than girls to be among the best performing students (Graetz, 1995). Academic performance is also affected by a number of factors including admission points, social economic status and school background. Geiser and Santelices (2007), Acato (2006), and Swart (1999) all argue that admission points which are a reflection of the previous performance influence future academic performance. The Universities Admission Center (2006) reports that tertiary institutions in Austria have found that a selection rank based on a student’s overall academic achievement is the best single predictor of tertiary success for most tertiary courses.

Concern about gender differences in education throughout much of the twentieth century has tended to focus on the disadvantages and underachievement of girls. More recently however, the underachievement of boys in reading and the underachievement of girls in natural sciences have become the focus of public policy attention (Graetz, 1995).

Research carried out at The Middle East Technical University (METU), which is a large public university in Turkey, has revealed reasons for certain gender disparities in academic performance, it suggests that academic performance is affected by a host of factors including individual and household characteristics such as student ability, motivation and the quality of secondary education obtained. Furthermore, the gender of the student may also be a factor in determining student performance. Childhood training and experience, gender differences in attitudes, parental and teacher expectations and behaviors, differential course taking and biological differences between the sexes may all be instrumental in giving rise to gender differences in achievement (Feingold, 1988). The rather high gender disparity in various spheres of public life and the patriarchal social structure in Turkey may also lead to poorer academic performance among female university students.

3. Factors Influencing Academic Performance

Through review of literature, the following factors were identified to be contributing to academic performance in students. Some of these factors are discussed in light of the academic performance of psychology students at the University of Zambia.
(a) Socio-Economic Factors

According to Graetz (1995), one’s educational success depends very strongly on social economic status of the parents. Considine and Zappala (2002) also argue that families where the parents are advantaged socially, educationally and economically foster a high level of achievement in their children.

Considine and Zappala (2002) suggest that this is because students from high social economic backgrounds are well exposed to scholastic materials, which aid their performance. Sentamu (2003), Kwesiga (2002) and Portes and Macleod (1996) as cited in Considine and Zappala (2002) all argue that the type of school a child attends influences academic achievement. According to Minnesota measures (2007), a report on higher education performance, which was produced by the University of Minnesota, the most reliable predictor of student success in college is the academic preparation of students in high school. According to the Minnesota Measures (2007) Report students who completed more rigorous courses in core academic subjects in high school irrespective of gender tended to score consistently higher on standardized tests and college entrance assessments and were more likely to participate and succeed in college than those who did not complete more rigorous courses in high school.

There was no gender disparity addressed here as the differentiating variable was completion of rigorous courses in core courses in high school as a predictor of success in college amongst the male and female college students rather than their gender.

(b) Innate Differences

Studies have attributed these disparities to several main factors. First of these is an innate difference in the brain function of males and females. Females have the advantage in their left hemisphere with speaking, reading and writing. Their right hemisphere allows females to feel empathy and to better understand and reflect on their feelings and the feelings of others. Both hemispheres actively contribute to necessary literacy practices. On the other hand, boys use their left hemisphere to recall facts and rules and to categorize, while their right-hemisphere is used with visual-spatial and visual-motor skills, which enable them to excel in topics like geography, science, and math. Additionally hindering literacy instruction for males is an unwritten Boy Code society has placed on males keeping them from feeling and/or expressing their emotions. Males are therefore less likely to share opinions about literature and less likely to express to a teacher when having difficulty, feeling frustrated or just plain not understanding the material. Instead, males fidget, get distracted, receive reprimands and often quit all together (Taylor, 2004)

Booth, Johns, and Bruce (2004) draw attention to the fact that at both national and international levels male students do not do as well as girls in reading and writing and appear more often in special education classes and are less likely to go to university. Boys face a multitude of difficulties when it comes to literacy and these difficulties include, but are not limited to, individual gender identity, social and cultural issues, religion, technology, school cultures, teaching styles, curriculum, and the failures of pre-service and in-service teaching courses.

It is also important to consider two aspects of boys and literacy education as raised by Booth et al drawing on the work of Smith and Wilhelm (2002). The first is achievement. Boys typically take longer to learn than girls do, although they excel over females when it comes to "information retrieval and work-related literacy tasks". It is important, therefore, for the instructor to provide the appropriate activities to highlight boys’ strengths in literacy and properly support their weaknesses. Also, boys tend to read less than girls in their free time, this could play a role in the fact that girls typically "comprehend narrative and expository texts better than boys do". In his book "Grown Up Digital" Tapscott (2009) suggests that there are other methods to consider in order to reach boys when it comes to literacy: "Boys tend to be able to read visual images better. A study from California State University (Hayward) saw test scores increase by 11 to 16 percent when teaching methods were changed to incorporate more images" Tapscott (2009).

In countries where the standard university course is taught lecture-style, with the bulk of learning done within independent studying and reading, it may not be so surprising that not as many males are participating
at the undergraduate level. By simply understanding how boys learn best, and catering to those needs, educators at all levels should be able to close the literacy gap between boys and girls (Tapscott 2009).

(c) Psychological Factors

Another aspect to consider that is of importance to boys' literacy education is attitude. Smith and Wilhelm (2002) highlight that boys typically have a "lower estimation of their reading abilities" than girls do. Boys value reading less and, as previously stated, spend less time in leisure reading. At the elementary level more boys than girls labeled themselves as "non-readers" and by high school 50 percent of male students designated themselves as such. (Booth Johns, and Bruce 2004). This lack of esteem when it comes to reading could coincide with certain societal and cultural values that feminize literacy and push boys towards subjects deemed more masculine like physics, math, and technology. Martino (2008) states the importance of "challenging social expectations about what it means to be male and understanding how these expectations impact on boy's participation in schooling". It is often society, through the creation and sustaining of gender norms, that creates these gaps and causes boys to shy away from femininity in order to guard their masculinity hence these gender stereotypes may act to affect how each student performs depending on the course they are taking and on whether the student is male or female.

This gap for males in regards to literacy may prove a hindrance for future prospects as the abilities to read, write and speak fluently are crucial to success in society, higher education and the workplace. Inadequate literacy skills reduce employment prospects and limit participation in society. With one of the goals for education being the providing of a base for a successful and rich future for all students, it is important for the education system to make the changes necessary to "close the gap" between males and females in literacy instruction (Martino 2008).

Furthermore, in analyzing academic performance of males and females and the factors that contribute to differences in academic performance, an issue that arises that is crucial is the way each sex understands and deals with issues of stress, more especially at tertiary level.

Studying at university is considered to be a chronic stressful experience due to the pressure on students to perform and succeed. When the university experience is perceived by a student as negative, motivation to perform and academic results can be adversely affected (Amirkhan, 1998; Struthers, Peny & Menee, 2000). This stated, the level of stress each sex perceives they encounter is likely to affect academic performance. Research has revealed that male participants report a lower number of academic stressors than those indicated by females (Misra et al., 2000). Furthermore, female students have reported more stressful incidents in their lives and perceive they experience a higher number of stressors in an academic environment (McDonough & Walters, 2001)

A higher level of exposure to stressful situations by women than men is described as the Differential Exposure Hypothesis (Roxburgh, 1996). This theory argues that it is the greater level of exposure by women as conceptualised by Roxburgh that results in them experiencing higher levels of stress. In contrast, the Differential Vulnerability Hypothesis argues that it is a tendency by women to view situations as being more stressful that underlies the gender difference (McDonough & Walters, 2001). Hence the psychological perspective in the analysis of reasons for the differences in academic performance of males and females. This is because individual perceptions on stress and mental coping mechanisms act to affect academic performance. An investigation on how student's perceive stress and how stress affects academic performance and the effect stress has on each sex revealed certain crucial information.

Perceived stress at the end of a semester significantly differed between female and male students 52.9 percent of female students described feeling 'stressed' or 'highly stressed' compared with 42.4 percent of male students. In contrast 30.5 percent of male students described themselves as 'slightly' or 'not at all' stressed compared with 14.4 percent of female students. This finding provides further support for females reporting a perception of higher levels of stress than males (Caltabiano & Sarafino, 2002).
The research findings further indicated that whilst males reported better physical and psychological functioning than females, this did not translate to better academic performance. Female participants reported experiencing higher levels of stress in comparison with male participants. Further research will serve to further explore the mechanisms underlying the differences in male and female perceptions of stress and how these perceptions act to affect academic performance. Such psychological perspectives provide insights into understanding what factors affect student’s academic performance, they allow those concerned to understand why students do the things they do, what factors influence their decision making processes, how they cope differently with the gender, social, economic and other issues that affect academic achievement and how these factors affect the career choices that they make. As regards the Zambian situation more research is required in order to avail the necessary authorities with adequate, relevant and current information to begin to balance the apparent imbalances between male and female students in terms of academic performance. This will allow the nation to begin to be on par with the International World in beginning to address the academic performance differentials between male and female students.

A 2010 World Bank report on the literacy levels in Zambia revealed some notable variations in adult literacy rates between males and females. Adult literacy rate being the percentage of people aged 15 and above who can, with understanding, read and write a short, simple statement on their everyday life (World Bank Report; 2010). The report indicated the literacy rate for adult females at 61 percent, adult males at 80.6 percent and the total literacy rate of both adult males and females at 70.7 percent. Furthermore, the literacy rates for youths, (youths being defined as males and females aged between 15 and 24 years), was indicated as 67.5 percent for females and 82.1 percent for males with a total youth literacy rate of 74.8 percent.

Though these statistics indicate merely the literacy rates and not actual academic performance per se, it can be argued that literacy, which is the ability to read and write and adequately comprehend, go hand-in-hand with academic performance. It is our argued position that levels of literacy or the lack of it can be directly correlated to academic performance, in the sense that the extent to which students can read, write and understand has a direct bearing on their results obtained in examinations at all levels of education from primary, secondary and tertiary levels. These differences in literacy rates between males and females become crucial in analysing the underlying factors behind this literacy gap.

Indigenous research is required to bring to the fore the reasons behind this literacy gender gap and the best means to begin reverse it.

4. Discussion

Analyses of academic results of Psychology students at University of Zambia obtained from the computer center identifies another factor contributing to gender difference in academic performance, the course of study.

In spite of female pupils generally having lower entry result requirements, available data has revealed that in terms of actual academic performance there is actually very little disparity between the performances of the sexes. For example, departmental records of the performance of Psychology students at the University of Zambia over the period 2009-2010 in the course entitled ‘Cognitive Development and Culture’ offered at third year revealed no significant differences between Male and female students. Instead there appeared to be a larger gender bias of each sex to select certain courses of study, with female and male students showing a preference for what they or their society or even their culture consider gender – stereotypical courses.

Examination of the composition of students in the same referred to course above ‘Cognitive Development and Culture’ at the University of Zambia revealed that 58% of the students were female perhaps indicating that at the University of Zambia many.
The trend in Table 1a and Table 1b over a five year long period from 2009 to 2013 indicates that female psychology students generally performed better than their male counterparts.

In 2009, 20% of females obtained a merit degree classification whereas in the same year 10% of the males obtained a degree classification of a merit. In 2010, 9% of the psychology female students obtained a merit and 9% males obtained a merit degree classification. In 2011, 8% females obtained a distinction and 21% obtained a merit in the same year, 7% males obtained a distinction and 7% obtained a merit. In 2012, 12% females obtained a distinction whereas no males’ achieved a distinction that year. 18% females in the same year (2012) obtained a degree classification of a merit whereas 12% of the males obtained a degree
classification of a merit in the same year. In 2013, 21% females obtained a degree classification of a merit whereas 5% males obtained a degree classification of a merit.

As can be seen from the two tables females consistently obtained a better classification of degrees from 2009 to 2013 than the males in psychology. It can be speculated as to the reasons why the females outperformed the males in psychology over this five year period.

A cursory inspection of student numbers in each of the psychology courses shows that there were more females registered in the psychology courses than their male counterparts. It is possible to speculate that the female students gravitate towards registering for psychology because of their intrinsic liking for the course. It is therefore possible that the affinity of female students to like psychology courses would make them study more than the males and therefore perhaps achieve better results.

Today's gender gap in education often focuses on the advantage males have over females in science and math, but fails to recognize the falling behind of males to females in literacy. In fact, studies carried out in Europe and North America have revealed that girls have met or exceeded the reading performance of boys at all age levels. The literacy gap in fourth grade is equivalent to males being developmentally two years behind the average girl in reading and writing. At the middle school level, statistics from the Educational Testing Service show that the gap between eighth-grade males and females is more than six times greater than the differences in mathematical reasoning, mathematical reasoning favoring males. These findings have spanned across the globe as the International Association for Evaluation of Educational Achievement (IEA) found gender to be the most powerful predictor of performance in a study of 14 countries ‘Reconsidering the gender gap for boys’ (Taylor, 2004).

5. Conclusion

Analysis of a wide range of available international literature and research has revealed that there are actually little significant variations between male and female students in terms of academic performance. The literature has shown that, in terms of intellectual ability and prowess neither sex can be said to be superior or inferior, however, there are certain crucial underlying dynamics that may affect academic performance to varying degrees, these are, but are not limited to; gender perceptions and stereotypes, cultural orientations, social and economic variables and psychological aspects that influence the academic performance of male and female students.

In Zambia it can be argued that in general although the gender gap continues to reduce males tend to perform better than females especially at tertiary level and in traditionally masculine disciplines such as mathematics and science. Our considered position is that in order to increase the participation of women in more activities contributing to National Development as well as improving the all round wellbeing of women, researchers have to identify the underlying factors that tend to disadvantage women not only in academic performance but that also limit opportunities for female socio-economic participation and advancement.

From a scholarly point of view it would be interesting to research into factors that may draw female students to courses such as Psychology where enrolment at the University of Zambia tends to consistently be in favour of the female students. If such factors were identified then a conscious effort may be expended to target the factors that may lead to the enhancement of female academic performance in such identified courses.

References


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