**Gender Effect on Performance in Management Accounting Courses**

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**ABSTRACT**

Significant research has been done on the differences between male and female academic performance. This study looks at the gender effect in management accounting courses. The was a five year study involving 531 students. Of these 531 students, 210 were female and 321 were male. The GPA for each student was calculated and the population divided into two groups; male and female. The average GPA for females was 3.11 and for males was 2.83. Utilizing an independent t-test, there was a statistically significant difference between males and females indicating that a gender effect does exist in management accounting courses.

**Introduction**

Significant research has been done on the differences between male and female academic performance. Commonly referred to as the Gender Gap in academics; the findings of this research are mixed. No dominant situation exists where one gender excels academically over another. “The average performance difference across all subjects is essentially zero.” (Cole, 1997, p. 1). Prior studies of gender and performance resulted in contradictory results. (Fallan & Opstad, 2014). However, several studies have found sharp differences in academic performance favoring girls over boys. (Cole, 1997; Duckworth & Seligman, 2006). Boys and girls do differ in academic performance in ways that are like conventional gender stereotypes. The differences primarily relate to physical behaviors, styles of social interaction, academic motivations, behaviors and choices (Educational Psychology, n.d). Girls are more motivated than boys to do well in school, at least in elementary grades (Educational Psychology, n.d). Once girl’s reach high school they tend to downplay their scholastic ability to be more likeable (Davies, 2005). However, this does not affect their grades; from kindergarten through 12th grade girls receive higher average grades than boys. (Freeman, 2004). These inconsistent results support a need to study the gender effect on academic performance further. In addition, the specific gender impact in management accounting classes will be researched.

**Purpose of Study**

The purpose of this study is to examine the effect of gender on the performance of students in management accounting courses.

**Literature Review**

Prior research dealing with the gender effect in accounting classes indicates that female undergraduate accounting majors earn higher grade point averages than men (Pillsbury, Capozzoli, & Ciampa, 1989). Yet, other research indicates that gender is not an important factor in predicting academic success (Seow, Pan, & Tay, 2014). Female students in introductory accounting and auditing classes outperformed their male counterparts, but no other gender differences were identified. (Gammie, Paver, Gammie, & Duncan, 2003). Men outperformed women when given a mathematical problem in management accounting. Presentation of the information in tabular verses graphical format was also a factor in this study (Togo & Hood, 1992). In another study, no evidence was found for gender or racial differences in student performance (Keef & Roush, 1997). However, the gender effect was significant before accounting for scholastic aptitude. After adjusting for scholastic aptitude using SAT or ACT scores, the gender effect was statistically insignificant (Buckless, Lipe, & Ravenscroft, 1991) This study also surveyed the accounting professors who indicated that they perceived female students to be better students than male accounting students (Buckless, Lipe, & Ravenscroft 1991). An additional study found that female accounting students outperformed male accounting students on both multiple choice examinations and constructed response questions. However, this difference was diminished in the use of multiple choice questions as opposed to constructed response questions (Everaert, P. 2012).

**Data Collection**

The study was conducted over a five-year period beginning with the fall semester of 2013 and ending with the fall semester of 2018. This covered ten semesters with two sections each semester. The total enrollement in the management accounting courses was 531 students. Of the population, 210 were female and 321 were male. The composition of the classes was primarily sophomore business administration and accounting students. However, small numbers of students from other majors and students who were juniors or seniors were enrolled. The individual final grades were downloaded from the learning management software D2L. They were imported into Excel and each student was identified as (1) – male or (2) - female. The final letter grades were converted to a grade-point-average (GPA) using the following scale: A = 4.0. A- = 3.7, B+ = 3.3, B = 3.0, B- = 2.7, C+ = 2.3, C = 2.0, C- = 1.7, D+ = 1.3, D = 1.0, D- = .7, E = 0. The final grade was stated in percentage terms. The following scale was used: 93-100 = A, 90-92 = A-, 87-89 = B+, 83-86 = B, 80-82 = B-, 77-79 = C+, 73-76 = C, 70-72 = C-, 67-69 = D+, 63-66 = D, 60-62 = D -, 59 and below = E. The GPA average for men was 2.83 and for women it was 3.11.

**Analyses Method**

Running a t-test on the data produced the following results:

|  |  |  |
| --- | --- | --- |
|  | 3.3 | 4 |
| Mean | 2.792339 | 3.109091 |
| Variance | 1.239415 | 1.000927 |
| Observations | 321 | 209 |
| Pooled Variance | 1.130392 |  |
| Hypothesized Mean Difference | .07 |  |
| df | 455 |  |
| T stat | -3.874 |  |
| P(T<=t) one tail | 6.14E-05 |  |
| T critical one-tail | 1.648209 |  |
| P(T<=t) two tail | 0.000123 |  |
| T Critical two-tail | 1.965191 |  |

The independent t-test or the two sample t-test is the appropriate analyses method in this situation. This is an inferential statistical test that determines whether there is a statically significant difference between the means of two populations. The null hypothesis in this case is Ho: u1 = u2. In other words, no difference between the population means for men and women exists. The alternative hypothesis is HA: u1 ≠ u2. This means that a statistically significant differences exists in the population mean for men and that for women. The t-statistic was found to be -3.6 indicating that there was a statistically significant difference between the GPAs of male and female students. The null hypothesis is rejected, and the alternative hypothesis is accepted.

**Contribution to the Literature**

 This study adds to the body of literature indicating that there is a gender effect in accounting courses. Specifically, in management accounting courses. The additional question that must be asked is why there is a gender effect. The literature suggests that these variables include student maturity, student motivation, and student effort. Future research should look at these variables and their impact on the gender effect. This is important in establishing the methods that can be used to decrease or eliminate the gender effect. This could include choosing instructional methods and motivating students.

References

Buckless, F, Lipe, M., Ravenscroft, S. (1991). *Do gender effects on accounting course performance persist after controlling for general academic aptitude. Issues in Accounting Education,* 6(2), 248-261.

Cole, N. S., (1997). *The ETS gender study: How females and males perform in educational settings.* Educational Testing Service, Princeton, NJ.

Davies, J. (2005). *Expressions of gender: An analysis of pupils’ gendered discourse styles in small group classroom discussions*. *Discourse and Society*, 142(2), 115-132.

Duckworth, A., & Seligman, M. (2006). *Self-discipline gives girls the edge: Gender in self-discipline, grades, and achievement test scores*. *Journal of Educational Psychology*, 98, 198-308.

Educational Psychology (n.d.) Module 4: *Student diversity: Gender differences in the classroom.* Retrieved on March 1, 2018, from https;//courses.lumenlearning.com/educationalpsychology/chapter/gender-differences-in-the-classroom.

Everaert, P. (2012). *Gender and performance in accounting examinations: Exploring the impact of examination format.* *Accounting Education,* 21(5), 471-487.

Fallan, L., & Opstad, L. (2014). *Beyond gender performance in accounting: Does personality distinction matter.* *Accounting Education: an international Journal*, 23(4), 343-361.

Freeman, D. (2004). *Trends in educational equity of girls and women.* Washington, D.C.: United States Department of Education, National Center for Educational Statistics.

Gammie, E., Paver, B., Gammie, B., & Duncan, F. (2003). *Gender differences in accounting education: An undergraduate exploration. Journal of Accounting Educatiob 1*2(2), 177-196.

Keef, S., & Roush, M. (1997). *New Zealand evidence on the performance of accounting students: Race, gender, and self-concept. Issues in Accounting Education,* 12(2) 315-331.

Odom, A.M. (2016). *An analysis of gender effects and career choices in public accounting.* Honors Theses. Paper 383.

Pillsbury, C., Capozzoli, L., & Ciampa, A. (1989). *A synthesis of research studies regarding the upward mobility of women in public accounting.* *Accounting Horizons,* 3(1), 63-70

Seow, P., Pan., G., & Tay, J. (2014). *Revising the determinants of student performance in an undergraduate accountancy degree programme in Singapore.* *Global Perspectives on Accounting Education,* 11; 1-27.

Togo, D.F., & Hood, J.N. (1992). *Quantitative information presentation and gender: An interaction effect. The Journal of General Psychology,* 119, 161-167.