Chapter 71
The Role of Gender on Student Success

Tuncay Bayrak
Western New England University, USA

Anil Gulati
Western New England University, USA

ABSTRACT

Numerous studies have investigated why computers are perceived as being a male domain. In this study, the authors examine intra-gender differences among undergraduate and graduate students who enrolled in Management Information Systems (MIS) courses and attempt to answer such questions as do males achieve significantly higher scores in MIS courses? Does instructor gender affect female students' academic achievement? Do females underperform males in achievement at either or both undergraduate and graduate levels? This paper provides findings which demonstrate that female students performed significantly better than their male counterparts in the two introductory undergraduate MIS courses and performed equally well in an upper lever MIS course and an introductory course in the graduate program. Male students were impacted by the gender of the teacher. Even though it was not a main focus of the present study, the authors cannot resist making a casual observation that female teachers were more effective in the classroom.

INTRODUCTION

Management Information Systems (MIS) courses are vital components of the curriculum in business schools. MIS program directors are cognizant of the fact that the success of other business functions depends on Information Technology (IT). Thus, a capable and balanced workforce is needed more than ever. However, females are not equally represented in many careers in IT which exacerbates the problem under study (Cohoon and Aspray, 2006).

Numerous studies done in the past have investigated as to why, proportionally, females may be more likely not to pursue a degree in MIS. The perception that males might, on average, score higher than females in some MIS subjects might cause one to conclude that maybe males have a more natural ability

towards computers and science than females. Therefore, as discussed in the following section, computers are perceived as being a male domain.

One would agree that gender might not be a good predictor of academic skills, and yet perceptions based on gender persist in certain fields of science. Further, several studies have linked gender to success in math, and computer science (Hyde, 2006). Similarly, data published by the College Board, the company that administers the SAT, suggests females have been underperforming males on the quantitative math test (College Board, 2012).

This study explores whether or not there is a significant difference between male and female students in terms of their grades in MIS courses at both undergraduate and graduate levels. In this study, we examine intra-gender differences among undergraduate and graduate students who enrolled in MIS courses and aim to answer the following research questions: do males achieve significantly higher score in MIS courses? Does instructor gender play a role in female students' academic achievement? Do females underperform males in achievement at both undergraduate and graduate levels? Hence, this study investigates if there is a significant performance difference between male and female students enrolled in MIS courses.

BACKGROUND

Over the past several decades, a fewer number of females have been graduating with a degree in MIS. In 2012 Lucio noted that "in 1985, about 37 percent of those earning computer science degrees in the U.S. were women. In 2010, that number fell to 18 percent." This might be because, as suggested by Crombie (1999), computers are still perceived as being a male domain by both girls and boys. Byrne and Lyons (2001) make the same observation and conclude that a number of factors which deter females from studying computer science include the image of Computer Science (CS) as a male domain. Carter (2006) agrees and claims the top reason for not choosing a CS major for both male and female is the lack of desire to sit in front of a computer all day. Further, Mykytyn et al., (2008) study why students might not want to take an MIS course. They conclude that students do not want to take an MIS/CS class because they do not see any worth to it.

In addition, some studies such as Clarke and Teague (1996) point out that females are under-represented in computing courses. And, as investigated by Yasuhara (2005), the gender gap in undergraduate CS has widened since the 1980s. This is perhaps, as suggested by Katz et al. (2006), because women might be more cautious than men about pursuing a major that they might not be well-suited for. A study done by Frenkel (1990) conforms to the fact that females choosing careers in computing drop out of academia or elect not to get advanced degrees and enter industry instead. In addition, there are disproportionately small numbers of women in the computer industry and in academic computer science, as females are uncomfortable with the computer culture.

Beyer (2008) examines the reasons for women's underrepresentation in MIS education. The author mentions several variables that come into observation when identifying the cause of a gender divide in higher-education MIS programs. These variables include instructor experiences, values and stereotypes, technology self-efficacy and experience, and role models and encouragement. The author relates the gender discrepancy in the workforce directly to a very small representation of women in MIS higher education programs.

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