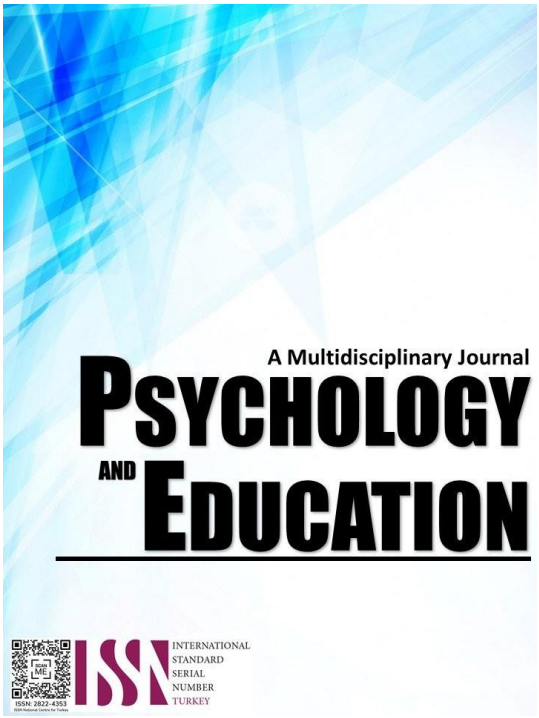
ACADEMIC SELF EFFICACY AND ONLINE LEARNING MODALITY AMONG GRADUATE PSYCHOLOGY STUDENTS DURING COVID-19 CRISIS



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Research Article

Academic Self Efficacy and Online Learning Modality Among Graduate Psychology Students During COVID-19 Crisis

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Abstract

This study investigates the relationship between Academic Self-Efficacy (ASE) and preferred online learning modalities among graduate psychology students, with a focus on gender disparities. Employing a correlational cross-sectional design, the research examines ASE in relation to gender and online learning preferences within a sample of 91 students. The study utilizes comparative measures to assess characteristics and differences. The main tool utilized in this study is the "Academic Self-Efficacy and Efficacy for Self-Regulated Learning" questionnaire, developed by Chemer, Hu, and Garcia (2001). This questionnaire consists of eight items, each weighted using a 7-point Likert scale, and is designed to gauge the respondents' current academic self-efficacy. Additionally, demographic information regarding gender and preferred online learning modalities was collected separately. To analyze the data obtained from the eight-item scale measuring academic self-efficacy, median scores were calculated for each respondent by arranging individual ratings from lowest to highest and averaging the two middle scores. Subsequently, these scores were encoded in SPSS for further analysis. The scale used in this study serves as a dependent measure or covariate, providing insights into the participants' self-efficacy levels and their relationship with other variables. The study reveals a notable gender disparity in ASE, with male students exhibiting higher self-efficacy levels compared to their female counterparts, consistent with previous research findings. Interestingly, despite the majority of students expressing a preference for mixed online learning modalities, no significant difference in ASE was observed between students in mixed online and asynchronous learning environments. This suggests that students' independent learning capabilities and adaptations to online learning modalities remain consistent regardless of the chosen mode. In conclusion, this study sheds light on gender-based differences in ASE among graduate psychology students and emphasizes the need to further explore such disparities within academic settings. Moreover, it underscores the importance of considering individual differences and preferences when designing online learning environments. These findings contribute to the broader understanding of ASE in online learning contexts and provide valuable insights for educators and policymakers aiming to enhance student engagement and success in online education.

Keywords: *self-efficacy, modality, psychology, COVID 19, pandemic*

Introduction

Online learning has been an integral part of teaching and learning strategy in the Far Eastern University (FEU). Since 2016-2017 academic year, the Canvas learning management system (LMS) has been used to ensure that the interaction between students and faculty is carried out. Academic staff used this mode of learning as an alternative learning method to maintain the objectives and target competencies of each course despite the changes in the mediums of communication. For the first semester of A.Y. 2020-2021, FEU offers flexible learning modalities that allow students to experience FEU education that is based on their learning capability and accessibility. The university acknowledges that all students, regardless of background, are capable of actively leading and contributing to relevant discussions. With this philosophy and careful consideration of the limitations brought about by the coronavirus pandemic, FEU developed three modes of learning: Mixed Online Learning (MOL), Asynchronous Online Learning (AOL), and Total Analogue Learning (TAL). However, the current study will just focus on two online modes of learning namely, MOL and AOL to ensure accessibility to respondents and feasibility to finish the study.

MOL is a valuable approach that combines the benefits of online and offline teaching methods, offering both teacher guidance and student-centered learning (Meng, 2020). It requires stable internet access for all the lectures, discussions, and interaction will be done online. To add, complete course modalities will be available online that can be downloaded any time. Highly independent and responsible learners can choose AOL. Students who are enrolled in this modality will mostly navigate the course by themselves and at their own pace, and a stable internet connection is also necessary. In line with the nature of these learning modalities that are to be implemented remotely, the researchers reached a consensus to refer MOL and AOL as “Online Learning Modalities”. Furthermore, given the impediment of online learning such as a new environment, a new strategy, and connectivity issues, academic self-efficacy is at stake.

Academic self-efficacy is a key factor in students' academic success. It reflects their personal beliefs in their ability to meet educational demands at expected levels, leading to increased mental effort in learning (Chemers et al., 2001). This calls for the need to increase the academic self-efficacy of students by teachers through the course tasks they provide (Choi, 2005), especially in online learning. According to Bandura (1977), “perceived self-efficacy has a direct influence on the choice of activities and settings through expectations of eventual success, it can affect coping efforts once they are initiated”. Students whose academic self-efficacy levels are

strong put persistent efforts to overcome the academic duties assigned to them and do not give up easily. Moreover, when students with higher academic self-efficacy are compared to the ones with low self-efficacy, it was found that those having higher academic self-efficacy study more and, by using efficient learning strategies, manage difficult academic duties effectively (Chemers et al., 2001). As stated by Zimmerman (2005), self-efficacy weighs more on the individual's perception and interpretation. People with a high sense of self-efficacy get a boost in their involvements on tasks and performance, more so compared to individuals who are plagued by self-doubt.

When the literature is examined, it could be seen that there is a strong, significant positive relationship between academic self-efficacy and academic success. However, there is a scarcity of literature that tackles the relationship of academic self-efficacy (Bandura) and preferred online learning modalities (MOL and AOL), particularly in this unprecedented time.

Research Questions

This study is designed to compare the academic self-efficacy of respondents based on the respondents' gender and online learning modalities at Far Eastern University, respectively. Specifically, it sought to answer the following questions:

1. What is the demographic profile of the respondents in terms of gender?
2. What are the preferred online learning modalities of the respondents?
3. Is there a significant difference between the Academic Self-Efficacy of respondents in terms of gender?
4. Is there a significant difference between the Academic Self-Efficacy of respondents in terms of Online Learning Modalities?

Literature Review

Overview of Self-Efficacy

Social Cognitive Theory by Bandura in 1997 is the most prominent theory that attempts to explain the process that drives and regulates an individual's behavior. According to Bandura (2012), Social Cognitive Theory suggests that external social systems and internal self-influence factors motivate and regulate behavior. Self-efficacy is one of the self-influence factors that refer to the judgments of one's capabilities to organize and accomplish the task required to achieve desired performances or outcomes (Bandura, 1997).

Cicognani (2011) cited that self-efficacy beliefs are associated with the level of accomplishment that an individual met. That is also relevant in enhancing internal, cognitive problem-solving strategies and reducing withdrawal strategies. Traditionally, the efficacy domains relate to the academic, social, and emotional areas (Bandura, 1999).

Self-efficacy is also defined by Pajares and Miller (1994) as the individual's perceived capacity to complete specific tasks, which is directly related to a task, context, or situation based on an internal reference (Marsh et al., 1991).

Academic Self-Efficacy

Elias and MacDonald (2007) defined Academic Self-efficacy as the judgment displayed by the learner's ability to attain successfully his/ her educational goals. Similarly, it is defined as the students' confidence to successfully perform academic activities at the desired level (Schunk, 1991). Bandura stated that an increase in academic self-efficacy might turn into a resilience factor that helps to lessen the symptoms of depression. Thus, it can be used as an intervention for the at-risk population, such as undergraduates (Bandura, 1999; Amitay & Gumpel, 2015).

Academic Self-efficacy on Academic Performance

Many kinds of research have shown that there is a strong association between academic self-efficacy and academic performance or achievement. Fenollar, Roman, and Cuestas (2007) mentioned that a student who displays a strong belief in academic self-efficacy creates a great interest in the given academic activities by establishing goals and actions to successfully achieve this task.

Students with high self-efficacy experience less stress, resulting in fewer problems in terms of personal health and a better adjustment to the educational environment (Chemers et al., 2001). Factors such as effort regulation, in-depth processing strategies, and goal orientation moderate the relationship between academic self-efficacy and academic performance (Honicke & Broadbent, 2016). Literature regarding academic self-efficacy assumed that it is one of the factors that helps learners achieve academic success and would mean that if every university or school enhances this, they may achieve a high academic result.

Online Learning Self-efficacy

Online Learning Self-efficacy is defined as the perception of an individual about his/her abilities to complete tasks required for online learners. Moore and Kearsley (2005, p.169) noted that online educators claimed that students who do not believe that they possessed the skills needed to successfully complete an online course may choose not to enroll. And if they subject themselves, they might not finish the online course for the semester. The study conducted DeTure (2004), examined the effect of self-efficacy and cognitive style to predict success in an online course. The research result showed that neither self-efficacy nor cognitive style is a substantial predictor of the students' online course grades in the study.

The emphasis on technology is an essential feature in online learning. Online learners must possess skills other than computer literacy, such as self-directedness, communication, and time-management skills (Ko & Rossen, 2010; Roper, 2007). The study conducted by Artino in 2010 about online learning self-efficacy revealed that students who rated with high online learning self-efficacy prefer online instruction over face-to-face instructions. On the other hand, students who may not have any experience before online learning may encounter difficulties regarding their self-efficacy in understanding the necessary skills required to complete a course.

Academic Self-Efficacy and Gender Differences

The difference between gender in terms of academic self-efficacy has been the research subject for the past years. The study led by Pajares (2005) about gender differences in a specific subject such as mathematics self-efficacy showed that male students display higher mathematics self-efficacy than females. Moreover, gender differences in mathematics self-efficacy develop during their middle school and continuously increase as the student's age increases. In a different study focusing on the students' writing self-efficacy, Pajares (2003) concluded that generally, female students have higher writing self-efficacy compared to males in middle school, and the gap in the gender disappears reverses at some point as the student ages. With these studies, it was hypothesized that gender differences exist in academic self-efficacy, and the consistency depends on the variables being studied.

In the meta-analysis study of Huang (2013), the study showed that gender differences are statistically significant with academic self-efficacy but have a small effect. Furthermore, these small effects have practical importance to the learners. Academic self-efficacy is believed as the variable in the academic or career choice for male and female students. The gender gaps in academic self-efficacy increase as age increases (Lent et al.,1986 and Lent et al.,2005).

Academic Self-Efficacy and Graduate Students

In the meta-analyses conducted by Richardson et al. (2012) and Robbins et al. (2004) they suggested that one strong predictor of grades is the students' academic self-efficacy. Gore, Leuwerke, and Turley (2005) emphasize the importance of self-efficacy as it increases the academic engagement, interactions, and goals of every student to continue enrolling for the next semester. It is also worth noting self-efficacy is highly correlated with the learning outcomes, learning strategies, self-regulation and metacognition (Bartimote-Aufflick et al., 2016). And with the previous research conducted by Bandura, 1997 and Pajares, 2003, they indicated that students who possess high self-efficacy tend to work harder, pursue more challenging goals and become more persistent when they are subjected to difficulties.

In the study conducted by Cheng, Ying-Hsueh & Tsai, Chin-Chung and Liang, Jyh-Chong (2019) they found out that doctoral students outperformed the master's students on the five scales they created to measure the graduate students' academic hardiness (GSAH) and academic self-efficacy (GSASE). Doctoral students seem more determined to succeed; they are focused on their set priorities as they take difficult courses, and they choose a variety of topics to accomplish their academic goals. For master's students, it is suggested that scaffolding and study support can be provided to them to help them adjust to the academic demands and to increase their confidence in the graduate school. The present study suggests that if a graduate student wants to develop self-efficacy, they must learn to adjust and cope up to the pace of the graduate school and maintain a good balance between study habits and their social network. Moreover, graduate school students should look for ways to meet and overcome all kinds of challenges related to their research to develop self-efficacy for research.

Local Literature

In the local literature, it is evident that some local researchers have already explored academic self-efficacy. Although there is still a scarcity of research focusing on graduate students' ASE, Dullas (2018) has developed an academic self-efficacy scale for Filipino Junior High school students anchored on classical test theory. The findings revealed that female students have slightly higher scores of ASE than males, however, this difference was found to be not significant ($t = -1.021$; $p > 0.01$). Meanwhile, one subdomain of the scale, "Perceived Control" reported a significant difference between the female and male junior high school students. But overall, the results of the test difference showed that there is no significant difference between the ASE of male and female students. This is consistent with the findings of Torres and Alieto (2019) where no significant difference was found between male and female academic self-efficacy in English. The results imply that male and female students have relatively similar ways of perceiving their abilities to perform different tasks ranging from listening, reading, and writing, as well as communicative tasks. In addition, one of the findings from the study of Flavier (2018) about the challenges and self-efficacy of senior high school students is that gender cannot be attributed to the level of self-efficacy among their respondents. Furthermore, a longitudinal study by Datu and Mateo (2020) showed the linkage of character strengths such as hope, fairness, and gratitude positively predicted the ASE of Filipino high school students. ASE was also measured by using the ASE scale of Chemers et al. (2001). Using hierarchical regression, demographics such as age and gender were controlled. The results showed that fairness, hope, and gratitude are the character strengths that significantly increase the ASE of Filipino high school students. In addition to the results of the previous local research, a study by Villas (2019) recommended that by exposing students to more activities were they would tend to master and succeed, increasing the verbal encouragement towards schooling, providing means to assist students in managing their stress and improve their study habits; and by keeping a healthy environment both in school and home should help students boost their self-efficacy.

Methodology

Research Design

A correlational cross-sectional study design has been implemented to determine the differences between ASE and its relationship in terms of the respondents' gender and preferred online learning modalities respectively. The study design enabled the researchers to observe and examine factors that are associated with the variable of interest using correlational outcome measure at one point in time. Comparative measures were also used for testing differences and determining the characteristics of the participants. The study design is relatively quick to conduct and best to determine prevalence in a given population of interest, (Mann, 2003; Portney, 2015).

Participants

Data were collected from the graduate psychology students of Far Eastern University. The particular program was chosen to be the topic of interest because the researchers intended to contribute a beneficial study to the FEU community and the current modality of learning. The program has a growing community with 91 local and foreign students enrolled in different learning modalities, such as mixed-online learning and asynchronous learning.

Data were collected through purposive sampling from the graduate students enrolled in psychology courses for the first semester of the 2020-2021 academic year. Forty-six students, or almost 50% of the students enrolled for this semester, participated in the study. The gender and their online learning modality were obtained as well.

Instruments

The main tool that was used in the research study is entitled Academic Self-Efficacy and Efficacy for Self-Regulated Learning which is composed of eight-item questionnaire weighted using a 7-point Likert scale constructed by Chemer, Hu & Garcia (2001). The eight-item questionnaire inquired about the current academic self-efficacy of the respondents. In a separate form, the demographic profile in terms of their gender were asked as well as their preferred online learning modality.

Procedure

In acquiring this data needed in the study, the researchers obtained a survey of graduate psychology students of Far Eastern University. The data that gathered was computed and tabulated and interpreted.

The student only addresses his/ her gender, online learning method and email address with the consent form in google mail for the purpose of data privacy act.

The researchers requested approval from the Dean of Graduate School in conducting this survey study. The researchers asked for assistance from board members of psychology graduate school. After completing the survey, the researchers uses the Microsoft Excel and Statistical Product and Services Solution (SPSS) to tally and compute all the data acquired from the respondents.

Results and Discussion

Research Question 1: What is the demographic profile of the respondents in terms of gender?

In a separate form, each respondent were asked about their gender before proceeding to the Academic Self-Efficacy questionnaire. Out of the 46 respondents, 28 or 60.9% are females and 18 or 39.1% are males.

Table 1. *Demographics profile of the respondents in terms of gender*

Gender	*Frequency*	*Percentage*
Male	18	39.1%
Female	28	60.9%
Total	46	100%

Research Question 2: What are the preferred online learning modalities of the respondents?

About 20 or 43.5% respondents were enrolled under asynchronous online learning and 26 or 56.5% respondents were currently enrolled in mixed online learning this first semester of school year 2020-2021.

Table 2. *Online Learning Modality of the respondents*

Online Learning Modality	*Frequency*	*Percentage*
Mixed Online Learning	26	56.5%
Asynchronous Online Learning	20	43.5%
Total	46	100%

Research Questions 3: Is there a significant difference between Academic Self-efficacy of respondents in terms of gender?

To test the differences between Academic Self-Efficacy of the respondents based on their gender, Mann-Whitney U Test was used to

measure the difference between the two variables. Table 3 shows a significant difference on the respondents' Academic Self-Efficacy based on their gender (U= 160.00, p= 0.003) in which female respondents obtained a Mean rank of 20.21 and male respondents obtained a Mean rank of 28.61. Higher mean rank indicates that male respondents have higher Academic Self-Efficacy than the female respondents. In support to this, Huang (2013) stated that men exhibited an overall higher self-efficacy than females. More so, Fallan and Opstad (2016) stated that female students have significantly lower self-efficacy level and self-efficacy strength than their male peers.

Table 3. *Significant Difference on the Respondents Academic Self-Efficacy Based on Their Gender*

Variables	*Factor*	*N*	*Mean Rank*	*U*	*p*	*Remarks*
Gender	Female	28	20.21	160.000	.033	Reject H_o
	Male	18	28.61			
	Total	46				

Research Question 4: Is there a significant difference between the Academic Self-efficacy of respondents in terms of Online Learning Modalities?

Much like the previous SOP, Mann-Whitney U Test was used to test if there is a significant difference between Academic Self-Efficacy based on both the Online Learning Modalities (see Table 3). Based on initial findings using the Mann-Whitney U Test, Mixed Online Learning resulted to a Mean Rank of 20.50 which is lower compared to Asynchronous which resulted to 26.77. However, there is no significant difference between both of the Online Learning Modalities (p = 0.103).

Table 4. *No Significant Difference on the Respondents' Academic Self-Efficacy Based On Their chosen Online Learning Modalities*

Variables	*Factor*	*N*	*Mean Rank*	*U*	*P*	*Remarks*
Online Learning Modalities	Mixed Online Learning	24	20.50	192.000	.103	Accept H_o
	Asynchronous Online Learning	22	26.77			
	Total	46				

Conclusion

Based on the results of the study, the following conclusions were made: (1) Majority of the respondents are female than male and most of the graduate school students are enrolled in Mixed Online Learning than Asynchronous Online Learning. (2) Males have higher Academic Self-Efficacy than females in relation to online learning. (3) Respondents under Mixed Online Learning and Asynchronous Online Learning do not differ with their perceived Academic Self-Efficacy.

The researchers made recommendations for further study. The recommendations served as a basis for more improvement of the study. (1) It is advised by the researchers to consider a larger sample size for future studies so as to explore and discover other possibilities in the research findings. (2) Future researchers can develop and construct their own academic self-efficacy scale that has continuous data to be able to explore the correlation of Academic Self-Efficacy of students with other variables. (3) Should this study be replicated, it is suggested that the future researchers should consider having participants from the other programs to compare the findings with similar studies. (4) Future researchers can replicate this study in the setting of a different college or university, opening an opportunity to compare how online learning modalities in different universities are tackled and may help in the improvement of the online learning system for both campuses. (5) Other factors such as internet speed connection, physical environment, communication process of students and teachers are highly recommended to be included for future studies in comparing and correlating the Academic Self-Efficacy of students learning online.

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