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Research Self-Efficacy among Business Education Students of a Higher Education Institutional in Northern Philippines

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ABSTRACT

Research is essential to the improved practice of a profession and is indispensable in completing a program of study. However, the difficulty and challenges in conducting research are remarkable among business education students. The study examines the research self-efficacy among business education students employing a cross-sectional survey design. Further, the study looks into the difference in the research self-efficacy of business education regarding gender and program of study. In addition, the relationship between research self-efficacy among business education students and their gender and program of study is also evaluated. A structured questionnaire was administered to 149 business education students, and it was revealed that the research self-efficacy of business education students is somewhat confident; however, there is no significant difference in the research self-efficacy in terms of gender and program of study and no significant relationship between gender and program of study and their research self-efficacy. The study suggests integrating research into coursework to promote their confidence to conduct research. Moreover, a recommendation is to conduct a follow-up study employing a longitudinal research design per program and to consider other variables that would strengthen a positive research experience among the student. This study will be a basis for disseminating information that promotes confidence among students to enhance their research productivity.

INTRODUCTION

Producing original research is essential to earn a baccalaureate degree. This entails completing scholarly written research noteworthy for dissemination in presentation or publication. Amid the Fourth Industrial Revolution, Gray (2016) emphasized that the needed skills of today's workforce are changing, placing complex problem-solving, critical thinking, and creativity. Students and their research will help society better comprehend the human and natural world we live in as they pursue new knowledge that provides the community with different ways of examining humanity's complexity, problems, and beauty. Recognizing research as the heart of every higher educational institution, universities employ massive efforts to strengthen the research productivity of both faculty and students.

Given that completion of research is an essential requirement to complete a program of study, a substantial percentage of business students fail to complete research during the term the course is enrolled. Wolf (2014) implies that attitude significantly encourages students to engage in research activities. Brewer *et al.* (1999) empirically proved that engaging students in structured research experiences, financial support, and productive faculty members train productive scholars. Similarly, Ayala and Garcia (2013) implied that institutional support such as rewards, incentives, and recognition given to those who engage in research coupled with research capability building, efficient and updated information computer technology (ICT) support, and upgraded library resources enhance research productivity.

Scholars have noted the relevance of understanding

students' research self-efficacy in developing research competence. Lambie and Vaccaro (2010) investigated this research construct among doctoral counselor education students. They recommended replication of the study as a basis for designing an intervention that promotes and develop research competencies. Taking into consideration the importance of completing research to earn a baccalaureate degree, the present study investigated the research self-efficacy based on the students' year, gender, and program of study to identify potential implications on the research productivity of business education students. Hence, this study was undertaken to investigate further the research self-efficacy research among business education students, which shall assist the university in developing policies and interventions that support them to promptly complete their research as a requirement for the completion of a program of study.

The research questions investigated were the following

1. What is the research self-efficacy of the participants?
2. What is the difference in the research self-efficacy of the participants when grouped according to gender and program of study?
3. What is the relationship between the participants' research self-efficacy and their gender and program of study?

LITERATURE REVIEW

Research has been conducted on the relevance of research self-efficacy in developing the research competence of students at the undergraduate level, including faculty.

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Perceived self-efficacy is defined by Bandura (1994) as an individual's strong confidence in one's competence to accomplish an assigned task producing a favorable influence on their well-being in various ways. Self-efficacy is acquired from sources of self-belief, namely mastery experiences, vicarious experiences, and verbal persuasion (Bandura, 1994; Akhtar, 2018). Researchers have investigated research self-efficacy at the undergraduate level in psychology, education, counseling, and medicine; hence studies in these fields were considered in the review. McBrayer *et al.* (2018) led to a logic model denoting that a program of study focused on scholarly practitioner research and academic writing increased students' self-efficacy, impacting degree completion. Research implied that students with high research self-efficacy scores reveal to become scholarly productive, have more research publications, are more comfortable with the research process, and rely less on their advisers (Lambie & Vaccaro, 2011; Kuo *et al.*, 2017; Lambie *et al.*, 2014). Researchers identified research skills among master students (Alfakih, 2017; Woolf, 2017). Dela Cruz (2016) found that researchers continue strengthening their research competence and technical, computational, and conceptual skills through sustained collaboration with researchers and non-researchers. Thunder and Bahadir (2018) attested that metacognitive thinking skills positively affect scientific research self-efficacy. Furthermore, students' research self-efficacy is enhanced when completing an independent research project like a dissertation, positive demeanor of the instructor, and a supportive and cooperative learning environment (Nichaus *et al.*, 2018; Maschi *et al.*, 2013). Eventually, student learning styles are significantly associated with their research self-efficacy (Dumbauld *et al.*, 2014). Investigations were conducted on the relationship of research self-efficacy and demographic information such as education level, gender, age, ethnicity, prior degree specialty, the program of study, career aspirations, type of college attended, and types of research. Petko (2012) noted that age is not statistically significant with research self-efficacy, which is different from the findings of Rezael and Zamani-Miandashti (2013), age is positively correlated with research self-efficacy. It was found that gender and research self-efficacy scores are not statistically significant (Lambie & Vaccaro, 2011; Lambie *et al.*, 2014; Black *et al.*, 2013; Petko, 2012). Lambie and Vaccaro (2011) found that educational level and research self-efficacy are not statistically significant; however, Quimbo and Sulabo (2014) imply that higher educational attainment has greater confidence in performing research tasks. Other researchers also found that the program of study does not have a statistically significant relationship to research self-efficacy (Lambie *et al.*, 2014; Black *et al.*, 2013). Other factors such as ethnicity, prior degree specialty, career aspirations, type of college attended, and types of research are not significantly associated with the improvement of research self-efficacy (Lambie *et al.*, 2014; Black *et al.*, 2013). Chesnut *et al.* (2015) suggested students

need to be exposed to research experiences supported by a training environment that promotes research to develop their research self-efficacy. Recent findings indicate that training environment quality, willingness to use research in future work, positive emotions during coursework, and perceived utility of research skills in prospective work environment influence students' confidence to perform research tasks during their thesis and dissertation experience (Burke, 2018; Nichaus *et al.*, 2018). The research construct on research self-efficacy is based on social cognitive theory. Bandura (1989) explains that the social cognitive theory states that learning occurs within a dynamic and reciprocal interaction of intrapersonal influences, the behavior individual engages in, and environmental forces. Lies at the center of social cognitive theory is self-efficacy, in which Bandura (1994) explains the four sources of information affecting the perception of self-efficacy, while Williams (1995) describes the four sources and adds two more sources in which he explains that self-efficacy is influenced by experiences of success and failures, observing others, imagined success experiences, persuasory dialogue, physiological responses, and subjective states of feeling and mood. The findings in the study of Jiang and Zhang (2012) are consistent with a social cognitive theory where major goals are directly linked to interest and social support.

METHODS

This study utilized a cross-sectional correlational design. The correlational design aims to determine whether two or more variables are related; however, it is important to point out that a correlation or relationship between two things does not necessarily mean that one thing causes the other (Marczyk *et al.*, 2005). In this study, the researcher used the design to examine the relationship among variables as they occur in their natural situation but not infer a causal relationship. A correlational research design was chosen for this study since the purpose was to determine if there is a relationship between research self-efficacy and the participants' gender and program of study. This type was an appropriate research design because the variables of interest were operationalized as continuous variables, which made it possible to measure the degree and magnitude of the relationship between them. For this study, research self-efficacy is the dependent variable, whereas gender and the program of study were treated as independent variables.

At the University of La Salette, Inc, particularly at the College of Business Education, the research courses for business education students are offered at the third-year level of their curriculum. Two courses are designed for the students to work on their research projects. These courses are Methods of Research and research courses specifically for their specialization, such as marketing, finance, human resource management, hospitality management, tourism management, and office administration. Approval of the administration was sought before the conduct of the study.

There were 167 potential participants in the study; however, from the distributed questionnaire through Google Form, eighty-nine percent (89%) were retrieved; hence, the final sample consisted of 149 business students.

The demographic information of the participants is shown in the table below.

Regarding gender, 109 participants (73%) were female, and 40 (27%) were male. As regards their program

Table 1: Frequency and percentage distribution of the participants' demographic profile

Characteristics	Category	F	%
Gender	Male	40	27
	Female	109	73
Program of Study	BSBA	94	63
	BSHM	24	16
	BSTM	28	19
	BSOA	3	2
Total		149	100

of study, 94 participants (63%) were in the business administration program, 28 participants (19%) were in the tourism management, 24 participants (16%) were in the hospitality management program, and three or two (2%) were in the office administration program.

The study utilized the Research Self-Efficacy Scale (RSES). The instrument was developed by Greely *et al.* (1989) is a 38-item scale designed to measure an individual's perceived ability to perform various research tasks in which the participants were asked to rate the degree to which they feel confident in their ability to accomplish each task ranging from 0 (no confidence) to 100 (complete confidence). As a basis for the interpretation, the mean is interpreted with a Likert's scale of 1(0) as No Confidence; 2(10-29) as Slightly Confident; 3 (30-69) as Somewhat Confident; 4(70-99) as Fairly Confident, and 5(100) as Complete Confidence. Bieschke *et al.* (1993) conducted a factor analysis of the research self-efficacy scale, confirming that the results of the RSES entail a coherent factor structure, hence have potential usefulness for understanding beliefs regarding their ability to complete various research tasks. Forester *et al.* (2004) support the psychometric soundness of the RSES in exploratory factor analysis. Vaccaro (2009) recounted a high internal consistency and reliability of the items in the questionnaire with a Cronbach Alpha of .958. Büyüköztürk *et al.* (2011) performed exploratory factor analysis for the structural validity of the scale and generated an alpha coefficient of .87.

For the data collection process of this study, a letter of informed consent was attached to the survey questionnaire distributed by the business education faculty to business education students during their classes. The researcher collected the accomplished survey

questionnaire from the faculty and evaluated each set to check that the participants responded to all the items. The instrument with incomplete responses was discarded and is not included in the analysis. After collecting all the survey questionnaires, the information was scored using Microsoft Excel. The completed instruments were then securely kept by the researcher.

After all the information collected has been scored and entered into Microsoft Excel. The research self-efficacy scale (RSES-R) responses were computed using an average. The data were analyzed using an Independent Sample t-test, Chi-square test, and Pearson product-moment correlations (two-tailed). Beforehand, the data set was tested using normality, homogeneity of variance, linearity, and multicollinearity, and no assumption violations were identified.

The researcher protected the participant's right to self-determination, anonymity, and confidentiality. For this reason, the participants were given full information on the nature of the study through written informed consent and distributed the questionnaire. All of the data was anonymous during this study. Responses to the survey questionnaires were anonymous, and identifying information was kept anonymous.

RESULTS AND DISCUSSION

This section presents the findings and results of the statistical analyses applied to data to determine the business education students' research self-efficacy, significant differences and relationships in the research self-efficacy, and the participants' gender and program of study.

Research Questions 1: What is the research self-efficacy of the participants?

Descriptive statistics on the research self-efficacy are

Table 2: Mean and standard deviation of the participants' research self-efficacy

RSES Factor	Mean	Standard deviation
Conceptualization	66.259	18.268
Implementation	67.471	17.928
Early Tasks	67.013	18.186
Over-all	66.89	14.99

shown in Table 1. Results indicated that the research self-efficacy of business education students as to conceptualization is 66.259 (SD=18.268), implementation at 67.471 (SD=17.928), and the early task at 67.013

(SD=18.186). Overall the business education students' research self-efficacy was 66.89 (SD=14.99).

Research Questions 2: What is the difference in the research self-efficacy of the participants when grouped

according to gender and program of study? In order to determine if gender significantly differentiates the research self-efficacy of the business education student, the Independents Sample T-test was conducted

Table 3: Independent Sample t-Test on Research Self-efficacy based on Gender

	Group	N	M	SD	t	df	p-value
Research Self-Efficacy	Female	109	67.74	14.71	1.14	147	0.255
	Male	40	64.57	15.69			

difference between the male and female responses. Thus, both groups have the same level of research self-efficacy ($t(147)=1.14, p=0.255$); hence, the null hypothesis must

on their scores with gender as the independent variable. An Independent Sample T-test was conducted to compare the male and female responses/assessment on research self-efficacy. The test result revealed no significant

not be rejected at a 0.05 level of significance. The one-way analysis of variance (ANOVA) was used to determine whether there are any statistically significant differences in

Table 4: One-way ANOVA on Research Self-Efficacy based on Program of Study

	Program	N	M	SD	df	F	p-value
Research Self-Efficacy	BSBA	94	65.70	16.18	3	1.523	0.211
	BSHM	24	67.41	13.04			
	BSTM	28	71.48	11.45			
	BSOA	3	57.11	14.92			

research self-efficacy in terms of the program. The test result revealed that the respondents have the same level of research self-efficacy ($F(3)=1.52, p=0.211$). Thus, the null hypothesis must not be rejected at a 0.05 level of significance. Research Question 3: What is the relationship between the participants' research self-efficacy and their gender

and program of study? This study investigated the influence of the students' information on gender and program study on their research self-efficacy. The test of relationship using Chi-square at a .05 level of significance was conducted.

A Chi-square test for independence was conducted to

Table 5: Relationship (Chi-Square Test) research self-efficacy and gender

	X ²	df	p-value
Research Self-Efficacy	2.69	2	0.260

know whether gender is associated with the research self-efficacy. The test result showed that gender is not associated with ($X^2(2)=2.69, p=0.260$). Thus, the null hypothesis must not be rejected at a 0.05 level of significance. A Chi-square test for independence was

conducted to know whether the program is associated with research self-efficacy. The test result showed that the program is not associated with research self-efficacy ($X^2(6)=6.19, p=0.403$). Thus, the null hypothesis must not be rejected at a 0.05 level of significance.

Table 6: Relationship (Chi-Square Test) research self-efficacy and program of study

	X ²	df	p-value
Research Self-Efficacy	6.19	6	0.403

This study was conducted to investigate the relationship between research self-efficacy among business education students, which may provide beneficial information to assist the university in developing policies and programs that encourage and foster research among them. The findings revealed that there is no significant difference with regard to research self-efficacy. The correlation of a program of study with research self-efficacy shows no significant relationship.

Looking further at the relationship between gender on research self-efficacy, the findings imply that age and gender do not influence the students' self-belief of their competence to accomplish research which is paralleled to the studies (Petko, 2012; Lambie & Vaccaro, 2011; Lambie *et al.*, 2012; Black *et al.*, 2013). It also denotes no significant difference as to the program of study. The findings imply that research experiences that allow students to enhance their research self-efficacy are not evident; hence providing a supportive research training environment will enable students to complete their research project. Similarly to other studies (Baltes *et*

al., 2010; Burk, 2018; Chesnut *et al.*, 2015; Chumwihan & Siriparp, 2016; Lambie & Vaccaro, 2011; Kerrigan & Hayes, 2016, Sawitri, 2017) and the current findings of the study suggest that as the student progresses in their coursework with the integration of research in their coursework is desired to provide the students with engaging research experiences which eventually promotes research interest among them.

Since this is the first study to investigate the f research self-efficacy among business education students, a follow-up on this study is desired. A longitudinal study per program is recommended to measure other variables that may influence the research self-efficacy, such as research training environment and interest in research of business students throughout their program of study.

CONCLUSION

In summary, this study investigated the relationship of research self-efficacy among business education students looking into the difference of this research constructs to students' gender and program of study. Statistical analyses

revealed no significant difference in research self-efficacy regarding gender and program of study. Moreover, there is no significant relationship between gender, the program of study, and research self-efficacy. Therefore, the university may think through the integration of research in coursework and provide a supportive research training environment that will contribute to a positive research experience among them, thereby enhancing the research self-efficacy among the business education students

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