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Exploring Vietnamese Psychology Undergraduates' Attitudes towards Research

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ABSTRACT The findings of this study, a cross-sectional exploratory survey, which was conducted in Ho Chi Minh City's universities, explore the Vietnamese psychology undergraduates' attitude towards research. It was hypothesized that students hold positive attitude towards different aspects of research. 261 students, including 68 males and 193 females, participated and used Attitudes towards Research Scale. Data were then gathered by the Vietnamese psychology undergraduates during their school-time. Descriptive and inferential statistics were used to analyze the data. Cochrane methodology was applied to determine the sample size and the MANOVA test was used to assess differences between each groups. The results found that in regard to the Attitudes towards Research scores, males were found to have higher scores than females. Similarly, males held higher scores than females when considering Positive Attitudes towards Research and Relevance to life. Moreover, the scores of freshmen were found to be higher than those of the sophomores, juniors, and seniors on the Positive Attitudes towards Research scores. The students who had gone under the study showed a positive attitude to research and they would be interested in performing a research.

INTRODUCTION

In the past several decades, science research has played a critical role in the learning process of students no matter how far they are in their educational path. Literally, undergraduate research is defined as an activity using inquiry or investigation to devote new original knowledge or creative contribution that is discovered by students to some current fields (Zimbardi and Myatt 2014). Science research offers advantages to the students in many directions which can be respectively listed: (1) standing a chance to approach research process, (2) gaining more disciplinary knowledge and understanding on how to apply that knowledge, (3) foreseeing the academic and graduate life (Russell et al. 2007). However, according to the research conducted by Osborn and Karukstis (2009), which then raised some barriers that students may have when doing research, including (1) the interaction between students and their professor, (2) the "novel" originality, (3) the methodologies to use, and (4) a lot of standard while the work is peer-reviewed (Osborn and Karukstis 2009). Principally, from those benefits, students all around the world research a wide range of discipline and so do psychology students.

Several theories have been proposed to students' Attitudes towards Research, some of which focused on gender differences and others focus on differences in school year. Results from several studies suggest gender differences in Attitudes towards Research in chiropractic students (Newell and Cunliffe 2003), in multiple majors students (Shirbagi 2011), teacher education students (Shaukat et al. 2014), technology education students (Oguan et al. 2014). Nevertheless, other previous studies had emphasized there were not significant differences between male and female attitudes towards research in social work students (Wainstock 1994), medical students (Siamian et al. 2016) educational technology students (Hussain et al. 2016), or sociology students (Wisecup 2017).

Other studies researched whether school years were effective on the attitude toward research. Some of the studies found that there were no significant differences in Attitudes towards Research based on academic or school year in computer sciences students (Habineza 2018). However other studies have contradictory results showing students' significant differences in attitudes towards research based on academic or school year in chiropractic students

(Newell and Cunliffe 2003), medical students (Khan et al. 2006; Soe et al. 2018).

However, the application of such scale in measuring Attitudes towards Research in Vietnamese student is still limited. In order to fill this gap, this research is conducted to explore students' Attitudes towards Research in Vietnam. The aim of this research is to investigate whether students' Attitudes towards Research varies when it comes to gender and school year in the Attitudes towards Research Scale (Papanastasiou 2014) and also provide an overview of the major trends in studying, solving and evaluating this problem.

Hypotheses

A 6×2 factorial design was used. The independent variables were two students' characteristics: school years (freshman, sophomore, junior, senior), and gender (male and female). Three dependent variables were measured: Research Usefulness (RU), Research Anxiety (RA), Positive Attitudes towards Research (PR), Research Difficulty (RD), Relevance to life (RL), and Attitudes towards Research (ATR). The following null hypotheses were tested:

H_{o1} (main effect): There are no significant differences between male and female groups of students when they are compared simultaneously on the Research Usefulness (RU), Research Anxiety (RA), Positive Attitudes towards Research (PR), Research Difficulty (RD), Relevance to life (RL), and Attitudes towards Research (ATR).

H_{o2} (main effect): There are no significant differences between freshman, sophomore, junior, and senior groups of students when they are compared simultaneously on the Research Usefulness (RU), Research Anxiety (RA), Positive Attitudes towards Research (PR), Research Difficulty (RD), and Relevance to life (RL), and Attitudes towards Research (ATR).

H_{o3} (interaction effect): There are no significant interactions between school year and gender groups of students when they are compared simultaneously on the Research Usefulness (RU), Research Anxiety (RA), Positive Attitudes towards Research (PR), Research Difficulty (RD), Relevance to life (RL), Attitudes towards Research (ATR).

METHODOLOGY

Data Collection

The convenience sampling method was used to recruit psychology students who volunteered to participate in the study and to administer the survey. The survey instrument was distributed to 350 Vietnamese psychology students of four Universities located in Ho Chi Minh city, Vietnam, of which 283 questionnaires were returned, with a return rate of 80 percent, which had exceeded the 30 percent response rate most researchers require for analysis (Dillman 2000). The sample of this study was drawn from 261 respondents who completed the survey instrument, including 68 males (15 freshmen, 23 sophomores, 21 juniors, 9 seniors) and 193 females (45 freshmen, 72 sophomores, 61 juniors, 15 seniors). The researchers had contacted individual faculty of each university prior to questionnaire distribution. The researchers contacted the representatives of each university' psychology faculty and, with their consent, explained the purpose of the study before delivering questionnaires. Only if all participants were voluntarily willing to complete the questionnaires, the research was conducted. There were more females (73.6%) than males (26.4%) among the 261 students who were surveyed, including 60 freshmen, 95 sophomores, 82 juniors, and 24 seniors. Table 1 shows the distribution of participants in the school year by gender groups.

Table 1: Number of participants in the school year by gender groups

School year	*Gender group*		
	Male	*Female*	*Total*
Freshman	15	45	60
Sophomore	23	72	95
Junior	21	61	82
Senior	9	15	24

Measurement

Participants were asked to complete the following questionnaire: the Vietnamese versions of the Attitudes towards Research (ATR) scale for students based on the original Papanastasiou (2014). The ATR consists of five subscales: Research Usefulness (RU), Research Anxiety (RA), Positive Attitudes towards Research (PR),

Research Difficulty (RD), and Relevance to life (RL). The 30 items of ATR were translated into Vietnamese by two bilingual researchers who were both familiar with the construct being assessed. For one of them, the first language was Vietnamese, and the other the first language was English. Forward and backward translation procedures were used. The same sequence of items was maintained in the Vietnamese translation of the index. All participants were instructed to read the questionnaire questions carefully and choose the responses that best described themselves. The ATR consists of 30 items measured on a 7-point Likert scale in which the 1 indicates a response of 'strongly disagree', while the value of 7 corresponds to 'strongly agree'. The internal consistency reliability (Cronbach's alpha) estimate for this sample was fairly high at .60 (Bowling 2014). Alpha coefficients for each subscale were as follows: Research Usefulness: .47, Research Anxiety: .63, Positive Attitudes towards Research: .53, Research Difficulty: .54, and Relevance to life: .54. One possible reason for low reliability of subscale (Research Usefulness) of ATR scale could be the contextual differences; students responded scale items according to their own understanding level.

Data Analysis

Descriptive and inferential statistics (Cohen 1988) were performed using the Statistical Package for the Social Sciences (SPSS) version 16.0. Descriptive statistics were used to analyze the data collected. A two-way MANOVA was performed with two independent variables (school year and gender) and subscales of the ATR as dependent variables. The average item mean, average standard deviation, F values and effect sizes from MANOVA were calculated for each of the scales of the ATR. These analyses were used to investigate differences in Research Usefulness, Research Anxiety, and Positive Attitudes towards Research, Research Difficulty, and Relevance to life of Vietnamese psychology students' base on school year and gender.

RESULTS

Descriptive Analysis

According to the norms from the ATR, the participants scored in the average range on the Attitudes towards Research scale. The mean score for the sample on the ATR (total score) was .48 (SD = .13). The mean score for the RU subscale was .40 (SD = .19). The mean score on the RA subscale was .65 (SD = .25). The mean score on the PR subscale was .45 (SD = .21). The mean score on the RD subscale was .45 (SD = .21). The mean score on the RL subscale was .45 (SD = .21). Table 2 presents descriptive statistics of dependent variables including ATR, RU, RA, PR, RD and RL results by school year and gender groups.

Table 2: Summary of Mean (M) and Standard Deviation (SD) of ATR Questionnaire

Gender	*School year group*				
	Freshman	*Sophomore*	*Junior*	*Senior*	*Combined*
Male(n)	15	23	21	9	68
ATR					
M	4.81	4.86	4.45	4.84	4.72
SD	.68	.63	.68	.28	.64
RU					
M	5.76	5.72	5.10	5.41	5.50
SD	.90	.88	1.35	.65	1.05
RA					
M	4.24	4.81	4.60	5.10	4.66
SD	1.22	1.33	1.24	1.13	1.25
PR					
M	5.17	4.83	4.14	4.89	4.70
SD	1.01	1.00	1.29	.86	1.13
RD					
M	4.11	4.09	4.02	3.67	4.01
SD	1.09	.99	.76	1.24	.97
RL					
M	3.57	3.61	3.62	3.92	3.64
SD	.90	.75	.91	.56	.81
Female(n)	45	72	61	15	193
ATR					
M	4.63	4.46	4.57	4.36	4.53
SD	.83	.82	.66	.74	.77
RU					
M	5.52	5.28	5.38	5.06	5.35
SD	1.27	1.19	1.03	.90	1.14
RA					
M	4.42	4.68	5.13	4.58	4.75
SD	1.24	1.33	1.09	1.31	1.25
PR					
M	4.72	4.19	3.86	4.11	4.21
SD	1.23	1.23	1.21	1.33	1.26
RD					
M	3.87	3.94	4.02	3.69	3.93
SD	.93	1.09	1.04	.94	1.03
RL					
M	3.44	3.08	3.39	3.37	3.28
SD	1.04	.75	.89	.75	.88

Inferential Analysis

The null hypotheses were tested using a two-way multivariate analysis of variance (MANOVA). To use MANOVA, the multiple dependent variables should be related to each other at a low to moderate level (Pallant 2016). More specifically, high correlation (.50 to 1) among dependent variables shows multicollinearity and small to medium correlation (±.10 to ±.49) among dependent variables show singularity. Table 3 revealed that all values were more than -.11 which provides controlling singularity assumption. Besides, Pallant (2016) stated that correlations around .80 or .90 cause violation of multicollinearity assumption. Since all values were under .90, multicollinearity the assumption was also checked.

Table 3: Correlation matrix

	ATR	*RU*	*RA*	*PR*	*RD*	*RL*
ATR	1	.83**	.50**	.74**	.47**	.47**
RU	-	1	.12*	.72**	.17**	.11
RA	-	-	1	-.11	.37**	.27**
PR	-	-	-	1	.14*	.29*
RD	-		-	-	1	.31**
RL	-	-	-	-	-	1

**. Correlation is significant at the .01 level (2-tailed).*. Correlation is significant at the .05 level (2-tailed).

The researchers tested all the assumptions, and the results were positive except the Box's test of equality of variance. MANOVA is robust to violations of homogeneity of variance/covariance matrices if the sizes of groups are nearly equal or if the size of the largest group is less than about 1.5 times the size of the smallest group (Leech et al. 2005). In this sample, the largest group in this research (n = 72) was about 8 times larger than the smallest group (n = 9), the multivariate homogeneity of covariance matrices tested with Box's M test revealed that this test was not computed because there are fewer than two nonsingular cell covariance matrices. Since the ATR scale is an already established scale and it has been tested and verified in many studies, the researchers decided to proceed with the analysis without any results from the Box's test of equality of covariance.

The MANOVA revealed a significant multivariate effect for school year group, Wilks' lambda = .88, $F_{(15, 687.781)} = 2.21$, $p < .01$, partial $\eta^2 = .04$, and a significant multivariate effect for gender, Wilks' lambda = .95, $F_{(5, 249)} = 2.68$, $p < .05$, partial $\eta^2 = .05$. A non-significant multivariate effect for interaction was also found, Wilks' lambda = .96, $F_{(15, 687.781)} = .72$, $p > .05$, partial $\eta^2 = .01$. Therefore, results suggested that the third hypothesis (H_{o3}) was not rejected, but the first hypothesis (H_{o1}) and second hypothesis (H_{o2}) were rejected.

Based on the significant effects found from the MANOVA, a separate two-way univariate analysis of variance (ANOVA) for each of the dependent variables was conducted without undue inflation of the experiment wise Type I error (Grimm and Yarnold 1995). The Levene's test revealed that the assumption of homogeneity of variances were met for ATR [$F_{7, 253)} = 1.06$, $p > .05$], RU [$F_{7, 253)} = 1.53$, $p > .05$], RA [$F_{7, 253)} = .80$, $p > .05$], PR [$F_{7, 253)} = .82$, $p > .05$], RD [$F_{7, 253)} = .72$, $p > .05$], and RL [$F_{7, 253)} = 1.39$, $p > .05$].

The ANOVA results as shown in Table 4 revealed the interaction effect was non-significant ($p > .05$). A significant school year effects on PR [$F_{(3, 253)} = 5.61$, $MSE = 1.43$, $p < .01$, Partial $\eta^2 = .06$] among the freshman, sophomore, junior, senior (Freshman: $M_{PR} = 4.83$; Sophomore: $M_{PR} = 4.35$; Junior: $M_{PR} = 3.93$; Senior: $M_{PR} = 4.40$). Significant gender effects on ATR [$F_{(1, 253)} = 4.11$, $MSE = .54$, $p < .05$, Partial $\eta^2 = .02$], PR [$F_{(1, 253)} = 8.18$, $MSE = 1.43$, $p < .01$, Partial $\eta^2 = .03$] and RL [$F_{(1, 253)} = 7.21$, $MSE = .73$, $p < .01$, Partial $\eta^2 = .03$] among males and females (Male: $M_{ATR} = 4.72$, $M_{PR} = 4.70$, $M_{RL} = 3.64$; Female: $M_{ATR} = 4.53$, $M_{PR} = 4.21$, $M_{RL} = 3.28$).

DISCUSSION

From the records of this study, it could be observed that males were found to have a higher population than females on the Attitudes towards Research scores. Similarly, the number of males on the scores of Positive Attitudes towards Research and Relevance to life were higher than that of females. This study's findings are comparable to these previous studies. Shirbagi (2011) in his research concluded that female students are less concerned about the difficulties which could occur during the research than their male counterparts. Shaukat et al. (2014) indicated that males had significantly positive attitudes towards research than females. Oguan et al.

Table 4: Combined univariate ANOVA table

Source		*Type III sum of squares*	*df*	*Mean square*	*F*	*p*	*Partial* η^2
Corrected Model	RU	9.611[a]	7	1.373	1.103	.362	.030
	RA	20.044[b]	7	2.863	1.869	.075	.049
	PR	42.001[c]	7	6.000	4.200	.001	.104
	RD	3.285[d]	7	.469	.453	.868	.012
	RL	12.355[e]	7	1.765	2.416	.021	.063
	ATR	5.372[f]	7	.767	1.416	.199	.038
	RU	4816.334	1	4816.334	3868.706	.001	.939
	RA	3634.630	1	3634.630	2372.591	.001	.904
	PR	3324.239	1	3324.239	2326.889	.001	.902
	RD	2541.230	1	2541.230	2451.657	.001	.906
	RL	2019.226	1	2019.226	2763.734	.001	.916
	ATR	3525.122	1	3525.122	6503.553	.001	.963
Gender	RU	1.409	1	1.409	1.132	.288	.004
	RA	.011	1	.011	.007	.934	.001
	PR	11.680	1	11.680	8.176	.005	.031
	RD	.332	1	.332	.320	.572	.001
	RL	5.271	1	5.271	7.214	.008	.028
	ATR	2.230	1	2.230	4.113	.044	.016
School Year	RU	5.473	3	1.824	1.465	.224	.017
	RA	8.485	3	2.828	1.846	.139	.021
	PR	24.032	3	8.011	5.607	.001	.062
	RD	2.231	3	.744	.717	.542	.008
	RL	1.928	3	.643	.880	.452	.010
	ATR	1.338	3	.446	.823	.482	.010
*Gender * Year*	RU	4.756	3	1.585	1.273	.284	.015
	RA	6.082	3	2.027	1.323	.267	.015
	PR	1.565	3	.522	.365	.778	.004
	RD	.526	3	.175	.169	.917	.002
	RL	1.629	3	.543	.743	.527	.009
	ATR	2.676	3	.892	1.646	.179	.019
Error	RU	314.972	253	1.245			
	RA	387.577	253	1.532			
	PR	361.441	253	1.429			
	RD	262.244	253	1.037			
	RL	184.846	253	.731			
	ATR	137.134	253	.542			
Total	RU	7907.049	261				
	RA	6243.286	261				
	PR	5306.918	261				
	RD	4343.444	261				
	RL	3176.063	261				
	ATR	5611.119	261				
Corrected Total	RU	324.583	260				
	RA	407.621	260				
	PR	403.442	260				
	RD	265.528	260				
	RL	197.200	260				
	ATR	142.506	260				

a. R Squared = .030 (Adjusted R Squared = .003)
b. R Squared = .049 (Adjusted R Squared = .023)
c. R Squared = .104 (Adjusted R Squared = .079)
d. R Squared = .012 (Adjusted R Squared =-.015)
e. R Squared = .063 (Adjusted R Squared = .037)
f. R Squared = .038 (Adjusted R Squared = .011)

(2014) found that male students are more positive attitudes compared to their female counterparts. Moreover, freshmen were found higher than those of the sophomores, juniors, and se-

niors on the Positive Attitudes towards Research scores. This study's results are not similar to the earlier studies which reported that attitudes had been improving significantly with increasing years of study in University (Khan et al. 2006; Newell and Cunliffe 2003). The results of this research also proved that there was no relationship between the school year and gender on students' attitudes towards research in universities.

The importance of measuring students' Attitudes towards Research is indispensable as it could have an influence on the teaching quality and process of the lecturers in research methodology courses as well as the supervision on undergraduate or graduate theses which their modus operandi could be adjusted to boost their research productivity (Walker 2010). This study took place with an aim to come to a conclusion of the stated discussion that university lectures should continuously support their students on increasing positive Attitudes towards Research. There are certain conditions needed to make this happen, in which strategies should be carefully considered and given in order to lessen students' anxiety level toward research or avoid those researches that make them feel nervous, bored, scared and regret so much that they would leave the course if there were any chances (Bandele and Adebule 2013).

However, there are several limitations to this research. From the record of the study, the seniors tended to have the lowest response rate (9.2%) as they were having a study break at the time of data collection. Since the data collection was only conducted once, it has also contributed to the existing limitations. A longitudinal study would be more worthwhile to observe the process of attitude change of students over time. Moreover, a qualitative approach would also provide a better notion on the possible obstacles that undergraduate students may face toward research participation. As the role of faculty members are the most significant resources, there should be a study of their perceptions toward research and student's research.

CONCLUSION

Vietnamese psychology students' Attitudes towards Research are at an average level. According to the authors' most far-reaching knowledge, this is the initial research to describe the attitude differences of Vietnamese students of psychology department toward research. All results obtained after this research are necessary for the improvement in Vietnamese psychology students' understanding of Attitudes towards Research. The research is done with an expectation of acting as stimulation in extending similar investigations on bridging the gap between research and its needed practices in psychology department in universities in Vietnam.

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