Educational Psychology Department

The Relative Contribution of Statistical Self−efficacy and Perceived Task Value in Predicting the Attitude towards the Statistics among PostGraduate Student in Faculty of EducationFayoumUniversity

A Thesis Submitted for
M.A Degree in Education
(Educational psychology Department)
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2021 AD / 1442 A.H

Research Summary

First: Research Title

"The Relative Contribution of Statistical Self-efficacy and Perceived Task Value in Predicting the Attitude towards the Statistics among Post-Graduate Student at the Faculty of Education"

Second: Aims of the Research:

The Research aimed toinvestigate the relative contribution of statistical self-efficacy and perceived task value in predicting the attitude towards statistics among post-graduate Students at the Faculty of Education.

Third: Research Hypotheses:

In light of the research objectives and the results of previous studies, the researcher assumed four hypotheses:

1- There is no statistically significant difference according to gender of the study sample;

2- There is no statistically significant difference according to specialization of the study sample;

3- The statistical self-efficacy, perceived task value, and some demographic variables significantly contribute in predicting the attitude towards statistics for the study sample;

4- There was no statistically significant contribution to the interaction of each of perceived task value and statistical self-efficacy and some demographic variables in the attitude towards statistics of the study sample.

Fourth: Research Methodology

A-Participants

The study population consisted of all male and female students in postgraduate studies at the Faculty of Education, Fayoum University for the academic year 2019-2020, whose number is (N=321) male and female students, with an average age (30,60) and standard deviation (6.310). The researcher also used an exploratory sample included (N=200) male and female students with an average age (30,1) and standard deviation (6.9) to check the psychometric properties of the search tools.

B-Research Tools

The following three measures were used:

1- Statistical self-efficacy (Prepared by: the researcher);

2- Perceived task value (Prepared by: the researcher;

3- Attitude towards statistics (Prepared by: the researcher).

C- **The statistical methods**:
1- Descriptive statistics (mean and standard deviation) ;moreover (EFA),Alpha, Getman, MacDonald and Spearman correlation coefficients, Standard multiple regression.
Fifth: Search Results

The search reached the following results:

1- The probability value (P-value = .919) associated with the value of (F = .010) is greater than the level of alpha indication; Therefore, it can be concluded that there is homogeneity of the equivalence between the two groups of male and female students in the total research sample.

2- There are no statistically significant differences in the attitude towards statistics between the two groups of male and female students of the total research sample; Where t (136) = 1.374, P-Value = .172 and since the probability value is greater than the alpha significance level; Therefore, it can be concluded that there are no statistically significant differences in the attitude towards statistics due to gender.

3- The probability value (P-value = .004) associated with the value of (F = 8.672) is less than the level of alpha significance; Therefore, it can be concluded that there is homogeneity of the equivalence between the two groups of literary and scientific specialization in the total research sample.

4- There are statistically significant differences in the attitude towards statistics between the two groups of scientific and literary specialties of the total research sample; Where t (221) = 2.624, P-Value = .009 and since the probability value is less than the alpha significance level; Therefore, it can be concluded that there are statistically significant differences in the attitude towards statistics due to specialization.

5- The probability value of (p = 0.000) associated with the value of (F = 38.813), and since the probability value is less than the level of significance, thus the assumed model variables statistically predict the measured variable in the research.

6- The value of coefficient of determination equals (R^2 =. 269) , which means that the variables of the model explain (26.9%) of the variance of the measured variable.

7- The specialization variable is not statistically significant in predicting the level of attitude towards statistics, as (105. = B = .543-, (SE) = .333, Beta = .079 -, T = 1.628 P-Value) where the probability value is greater than the level of acceptable

significance; thus, specialization is not statistically significant in predicting f the level of attitude towards a statistic.

8- The statistical self-efficacy variable is statistically significant in predicting the level of attitude towards the statistic; where (000. = B = .145, (SE) = .023, Beta = .320, T = 6.148, P-Value) and as the probability value is less than the level of acceptable significance, thus the statistical self-efficacy variable statistically predicts the level of the attitude towards Statistics.

9- The task value variable is statistically significant in predicting the level of attitude towards the statistic; Where (.000, = B = .290, (SE) = .053, Beta = .286, T = 5.519, P-Value), and since the probability value is less than the level of acceptable significance, the task value variable statistically predicts the level of the attitude towards statistics.

Based on the previous results, the prediction equation can be formulated as:

Attitude toward statistics = 10.208 + .145 * (statistical self-efficacy) +. 290 * (task value).

The results of the regression-based interaction also yielded:

1-The value of the coefficient of determination equals (R^2 =. 259), which means that the model variables explain (25.9%) of the total variance of the dependent variable;

2-The probability value equals (p-value = 0.000) associated with the value of (F = 21.992. Since the probability value is less than thesignificance level; the assumed model variables significantly predict the dependent variable in the study;

3- The interaction of statistical self-efficacy and perceived value of the task is statistically significant in predicting the level of attitude towards statistics; where (0.000 = B = .007, (S.E) = .001, Beta = .563, T = 8.843, P-Value) in which the probability value is less than the level of acceptable significance. Thus, there is a statistically significant effect of the interaction between statistical self-efficacy and the perceived value of the task in the level of attitude towards statistics;

4-The interaction of perceived task value and gender is not statistically significant in predicting the level of attitude towards statistics; where (.176 = B = .064, (S.E) = .047, Beta = .255, T = 1.357, P-Value) in which the probability value is greater than the level of acceptable significance. Thus, there is no statistically significant effect of the interaction between perceived value of task and gender in the level of attitudes towards statistics;

5- The interaction of statistical self-efficacy and gender is not statistically significant in predicting the level of attitude towards statistics, where (.200 = B = .046-, (SE) = .036, Beta = .255-, T = 1.285-, P-Value. Since the probability value is greater than the level of acceptable significance, there is no statistically significant effect of the interaction between Statistical self-efficacy and gender in the level of attitude towards statistics;

6- The interaction of perceived value of task and specialization is not statistically significant in predicting the level of attitude towards statistics; where (.420 = B = .040-, (SE) = .049, Beta = .181-, T = .807-, P-Value). Since the probability value is greater than the level of acceptable significance, there is no statistically significant effect of the reaction between the perceived value of the task and the specialization in the level of attitude towards statistics;

7- The interaction of statistical self-efficacy and specialization is not statistically significant in predicting the level of attitude towards statistics; where (.591 = B = .021, (SE) = .040, Beta = .134, T = .538, P-Value). Since the probability value is greater than the level of acceptable significance, there is no statistically significant effect of the interaction between self-efficacy, specialization in the level of attitude towards statistics.

Based on the previous results, the prediction equation can be formulated as:

Attitude towards statistics = 16.099 +. 145 (statistical self-efficacy) +. 290 (perceived task value) +. 007 (statistical self-efficacy * task perceived value).