

**Is there a significant association
between gender and university course
choice?**

Abstract

Many studies have been done to find out whether gender has any association with the choice of course studied at universities. Computing (computer studies) and Psychology are particularly interesting as the subjects are a mirror image of each other (Durndell, 1991). This study was carried out to explore whether there was a significant association between gender and university course choice. A questionnaire was used to identify the gender and course choice of 32 undergraduate students, 15 male and 17 female, and the results were analysed using a chi-squared calculation. The finding of this study indicated that there was no significant association between gender and the choice of course at university; $\chi^2(1, N = 32) = 3.14, p > .05$.

Introduction

The gender segregation in academic fields is highly researched with a special interest in male dominated computing (computer studies) and female dominated psychology fields (Radford & Holdstock, 1995). The author noted that by 1992 the number of female graduates in psychology was up 75% in comparison to the equal number of male and female students in 1965-66. Much research has been carried out to understand why females are not attracted to computing courses. Studies have indicated that gender and courses play an important part in knowledge and experience of computers. (Durndell et al., 1987). The National Centre for Women and Information Technology (NWCIT) found that around 2018 the number of female students decreased to 18% compared to the 37% in 1984 (Hayes, 2010). This study aims to further explore the relationship between gender and choice of university course in a sample of undergraduate students. The hypothesis assuming that there is a significant association between gender and choice of university course is investigated based on the literature presented throughout.

The role of gender has been researched in different ways to study the increase in the importance of computer use in our lives. Much research, although not all, has indicated that males are likely to be more interested and experienced and have a positive attitude towards computing than females (Durndell and Thomson, 1997).

Method

Participants

Thirty-two undergraduate students (15 male, 17 female) were recruited via opportunity sampling. The participants took part in the study during a module workshop of a computing class and a psychology class. The age range of the participants was between 18 and 43 ($M = 25.91$, $SD = 6.12$)

Design

There were two variable included in the study, the first variable was the gender (Male or Female) and the second was the university course (Psychology or Counselling). As the variables in this study were categorical a chi-squared test was used to explore the association between these variables.

Materials

Participants were asked to record their gender, age and indicate on Qualtrics whether they had chosen to study on the Psychology or the Computing course.

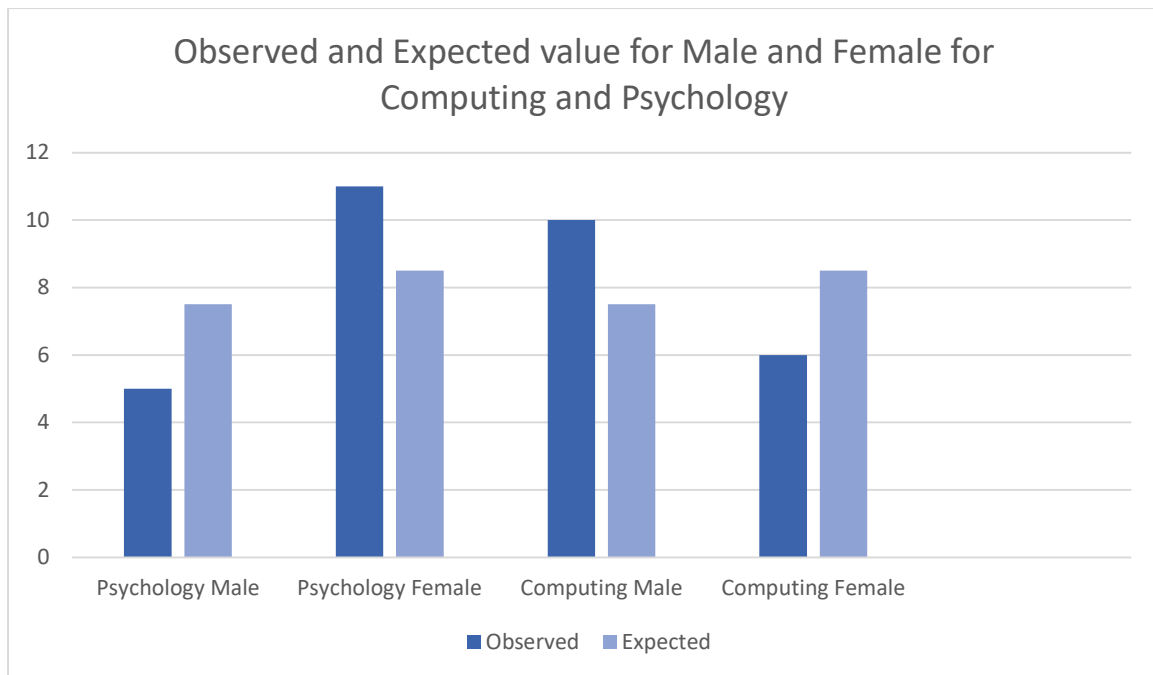
Procedure

The data was collected during a module workshop. The module leads for each of the courses, Psychology and Computing, introduced the study during a scheduled class. The participants were provided with a brief oral description of what the study would entail; completing a questionnaire about their gender, age and choice of course on Qualtrics. Participants were informed that they would be required to consent and chose whether they would like to take part in the study. After the study the participants will be given a debrief and were told that once the study has taken place it will not be possible to withdraw the data as the responses are anonymised. After the data had been collected from both classes the researcher summarised the data in an excel document to distribute it for analysis

Results

A chi-square for independence was calculated to show the association between gender and university course choice. The formula used for the calculation was $X^2(1, N = 32) = 3.14$, $p > .05$. This shows no significant association between gender and university course choice, therefore the hypothesis that females would prefer studying on psychology courses and males would prefer computing courses must be rejected.

Table 1.



Discussion

As shown above, the hypothesis that there is a significant association between gender and choice of university course has to be rejected. The result shows that the course choice is not determined by gender. The chi square results indicate that the significance of

According to Kolb (1976), an individual's learning style and the fit of the courses in their lifestyle is the deciding factor for a university course. The study could have been performed by using a larger sample of students. Further questions on age, lifestyles, career goals etc. could have been included in the study to better understand what influenced the choice of course.

Modern theories of gender roles (Wood & Eagly, 2002) and self-efficacy (Bandura, 1994), the belief of an individual to achieve their goals, suggest that technology self-efficacy is less reliant on gender and based more on what the society deems the gender norms to be. This could be explored a little more using questions based on personality traits.

Halpern (2000) meta-analyses, examination of findings from several independent studies of the same topic, show little differences between the cognitive abilities of male and females

showing that given proper training and selection university courses are suitable for males or females equally.

In conclusion the study indicated that the gender has little significance to influence the choice of course. Further studies can be done to better understand the choice a student makes when taking up a course by exploring what other deciding factors played a role when making the decision whether to study computing or psychology. A questionnaire that includes personality traits could be used and perhaps a larger group of students from different educational backgrounds could also give more information.

References

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Appendices

Appendix 1

	Male	Female	Total
Psychology	5	11	16
Computing	10	6	16
	15	17	N = 32

Appendix 2

Expected Frequency (F_e)

$$(F_e) = \frac{(\text{row total})(\text{column total})}{N}$$

1. $\frac{16 \times 15}{32} = 7.5$
2. $\frac{16 \times 17}{32} = 8.5$
3. $\frac{16 \times 15}{32} = 7.5$
4. $\frac{17 \times 16}{32} = 8.5$

Observed (o)	Expected (F_e)
5	7.5
11	8.5
10	7.5
6	8.5

Appendix 3

Chi-square calculation

$$\chi^2 = \sum \frac{(o-e)^2}{e}$$

1. $\frac{(5-7.5)^2}{7.5} = 0.834$
2. $\frac{(11-8.5)^2}{8.5} = 0.735$
3. $\frac{(10-7.5)^2}{7.5} = 0.834$
4. $\frac{(6-8.5)^2}{8.5} = 0.735$

$$\chi^2 = 0.834 + 0.735 + 0.834 + 0.735$$

$$\chi^2 = 3.183$$

$$DF = (R-1)(C-1)$$

$$= (2-1)(2-1)$$

$$= 1 \times 1$$

$$= 1$$

Data Collection Questions for Report 1 – Chi Square

Please state your gender:

- ☐ Male
- ☐ Female
- ☐ Non-binary / third gender
- ☐ Prefer not to say

Please indicate your age:

Please indicate the course you are currently studying on:

- ☐ Psychology
- ☐ Computing



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Study Consent Form

I understand that this research study is being carried out by the module leader of the Research Methods I module for the purpose of a module assessment and that taking part in this study will involve answering a questionnaire on my age, gender, and stating the degree programme I am currently enrolled on.

This study will take approximately 5 minutes to complete.

I understand that participation in this study is voluntary, and I am free to withdraw participation at any time during or before the end of the study without giving a reason by closing the computer browser.

I understand that once I complete the study, I will not be able to withdraw my data, as it will be anonymised, and the researcher will be unable to trace my data back to me.

I am aware that if I have any questions or concerns about the study, I can contact the researcher supervisor, Stacey Coleman at any time before, during, or after the study on stacey.coleman@uwtsd.ac.uk.

I understand that the information provided by me will be held confidentially, with a code assigned in place of my name. These data will be stored indefinitely in accordance with the Data Protection Act.

I also understand that at the end of the study I will be provided with a debrief form.

Please select to agree with the statements below to give your consent to take part in this study.

You can download a copy of this consent form by clicking here: [Consent Form](#)

Please tick all the boxes below to confirm your consent into participating in this study:

☐ **I am 18 years of age or over**

☐ **I understand I can withdraw at any time without penalty by closing the browser**

☐ **I understand my data will be held confidentially and my identity will remain anonymous**

☐ **I understand all the above information on this consent form**

☐ **I consent to take part in this study**



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Study Debrief Sheet

An exploration into the association between gender and university course choice

Thank you for taking part in this study.

The aim of this study is to explore whether there is a significant association between gender and the course chosen to study at university. We specifically want to find out whether females were more likely to study on psychology courses and males on computing courses.

If you wish to withdraw your data from the study, you must close your computer browser now. After this point, your data will become anonymous, and it will not be possible to trace it back to you. The data you submit will remain confidential.

If taking part in this study has raised any concerns or if you have any questions about the study, please contact the academic supervisor Stacey Coleman:
stacey.coleman@uwtsd.ac.uk

You can download a copy of this debrief sheet for your records by clicking here:
Debrief

If you are happy for your data to be included in this study, please click the arrow below to confirm.

Thank you once again for taking time to participate in this study.

BSc Psychology

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