Statistical Data Analysis of Student Goals

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1 Abstract

This should be a very brief explanation of your research paper (around 150 words). It normally includes information about the issue, why you are interested in that issue, your method/model, analysis results, discussions and conclusions.

This paper analyses the data gathered from surveying 625 undergraduate students. The authors of the survey tried to prove two hypothesis: 1) During students' junior years, they tend to primarily focus on getting good grades while during their senior years, the focus shifts towards a deep-understanding of the subject and 2) students' enjoyment and interest tends to deteriorate as they progress through their studies. It is not obvious why this might be the case and if the student's age, sex or studied subject has any bearing. This is why the survey has 15 questions and probes 7 different categories. Each category consists of 3 to 1 questions and because the order of the questions is randomised, the student should not know the categories nor notice any patterns.

In this paper a full analysis of the gathered data will be presented, including data: preparation, analysis, exploration and interpretation; calculation of confidence intervals, interpretation of the results with diagrams and an explanation of the methods used.

2 Introduction

This section should explain the topic, why it is important, and how you approach the issue

It is interesting how undergraduate students' goals change through-out their studies. A formal analysis started with an interpretion of the 7 categories based on the questions they consisted of. The results are presented in the table below:

Category	Interpretation	Questions
Performance approach	How important it is to students to do better than others?	1, 2, 3
Performance avoidance	How motivated are students by fear of performing poorly?	4, 5, 6
Mastery approach	Prevalence of mastery approach	7, 8, 9
Mastery avoidance	Student's fear of not mastering the course	10, 11, 12

Category	Interpretation	Questions
Interest	Student's expectations whether the course will be interesting	13
Enjoyment	Student's expectations whether the course will be enjoyable	14
Importance focus	Student's importance focus on understanding and grades	15

The students answered on a 7-level scale; 1 meaning the student feels the statement asked in the quesion is 'Not true of him/her' and 7 meaning the student feels it is 'Very true of him/her'. See the table below for a graphical explanation:

Not true of me	1	2	3	4	5	6	7	Very true of me

3 Data

Explain your dataset and how the was data is collected – e.g. your sampling strategy or information given by the project information.

Around 625 students were surveyed. To conceal the existence of the 7 categories from students, they were presented with the questions in random order.

4 Methodology

This section explains the statistical methods and/or your model. It is also a common practice to present the statistical model structure (i.e. equation) here as well.

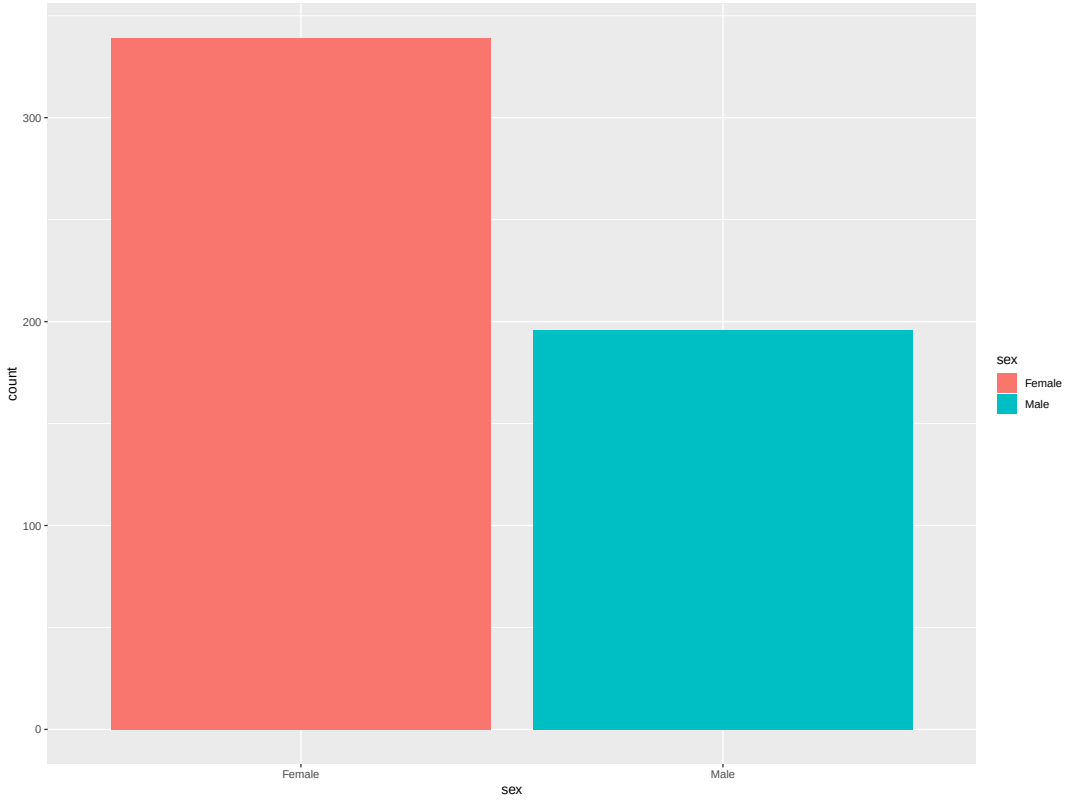
https://ggplot2.tidyverse.org

5 Results

Present both your informal and formal analyses.

6 Conclusion / Discussion

You need to conclude your project, discuss the results, discuss any reservations that you have about the study and list any future work.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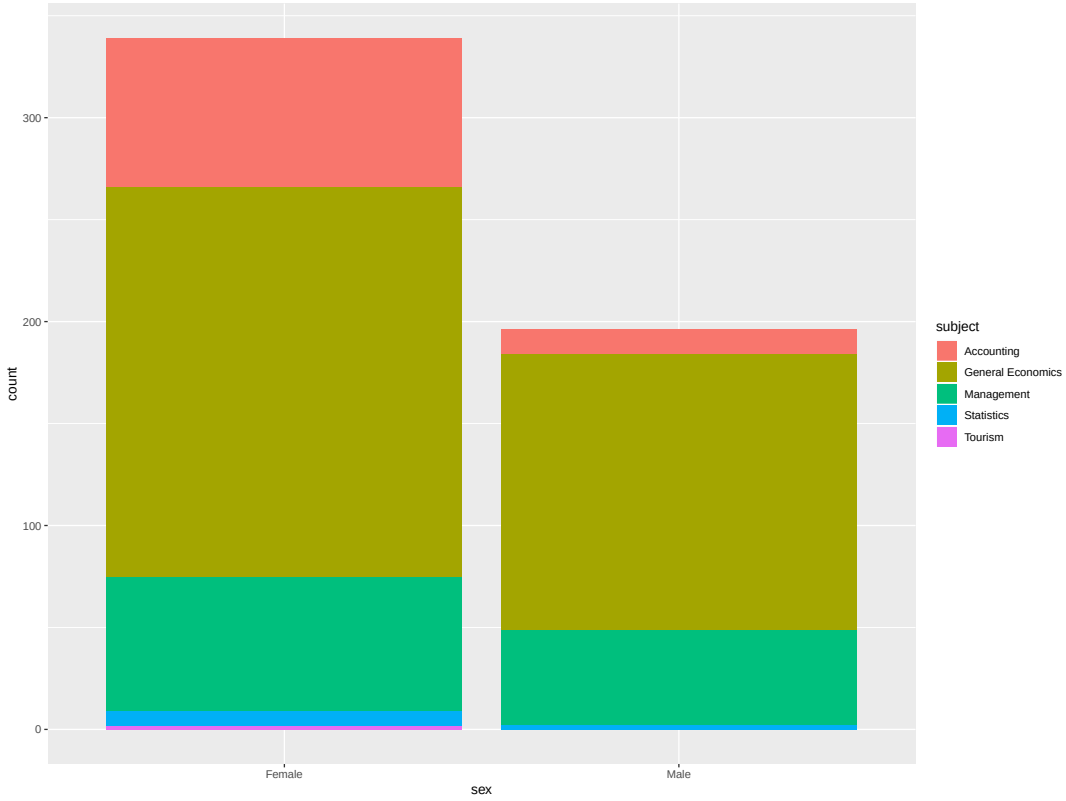
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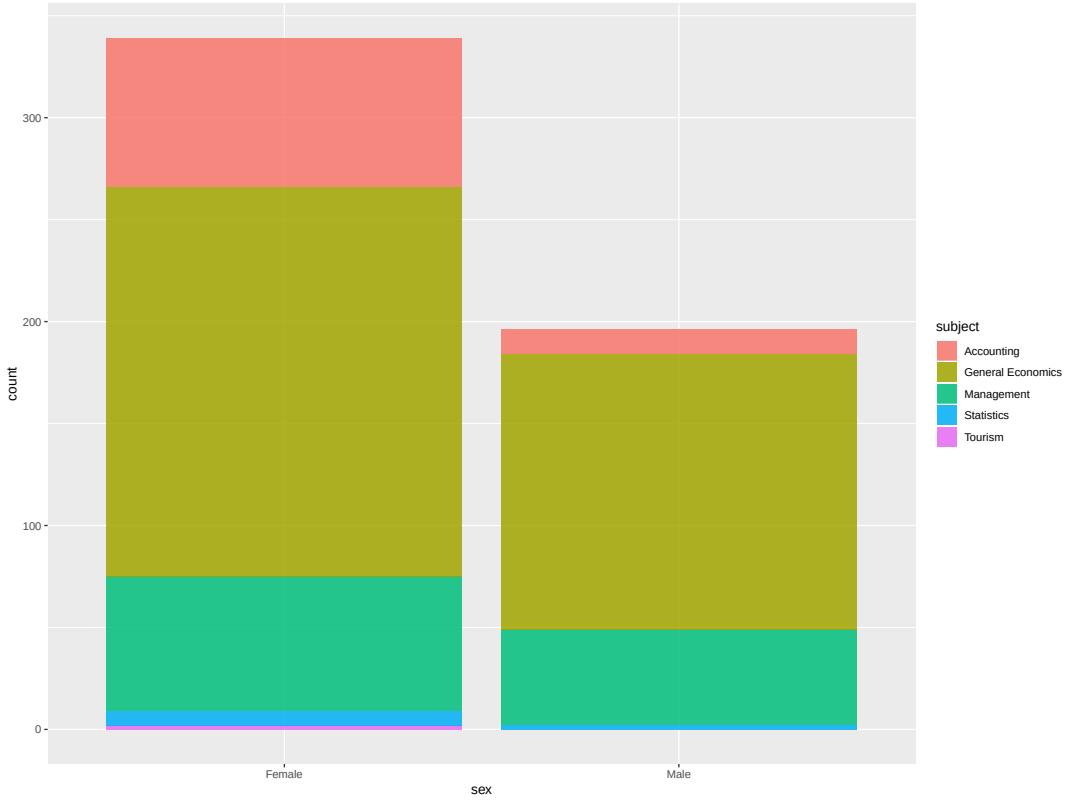
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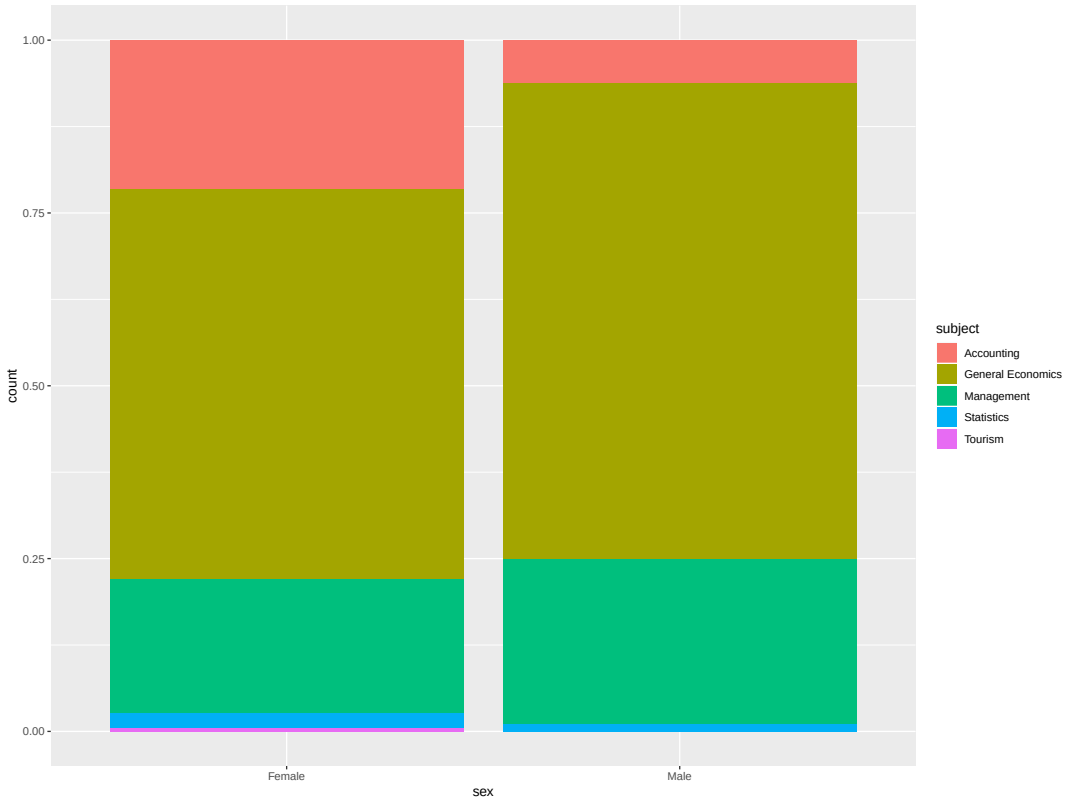
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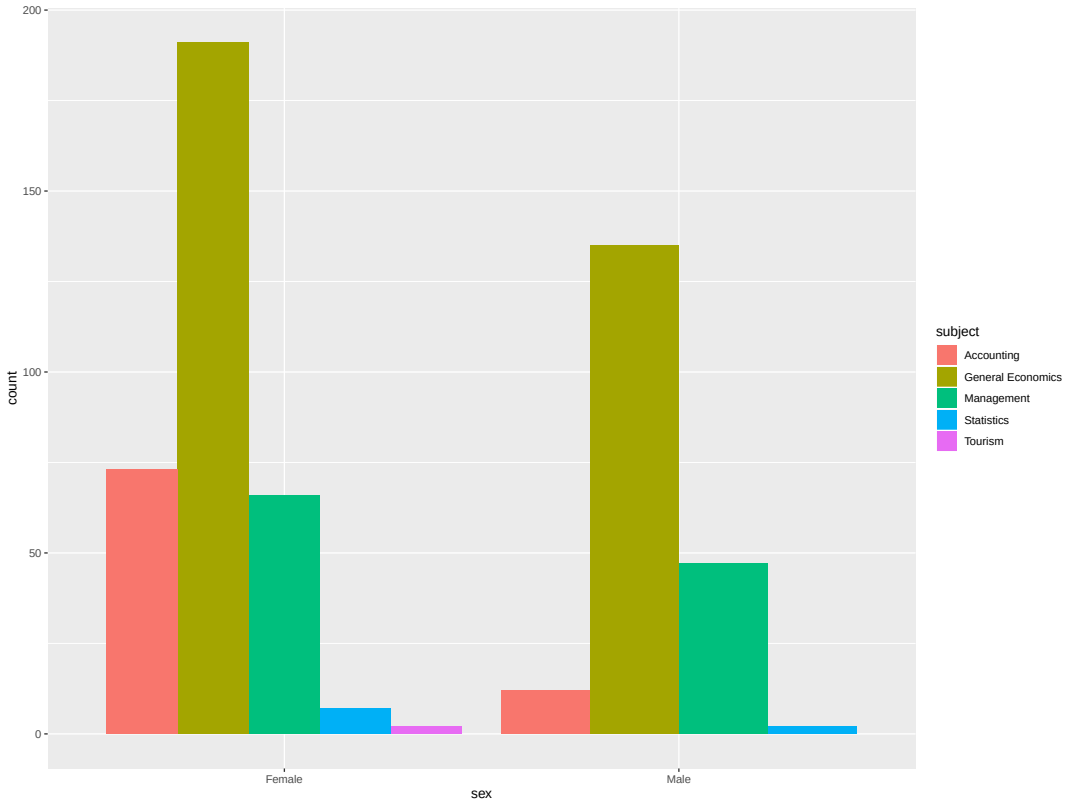
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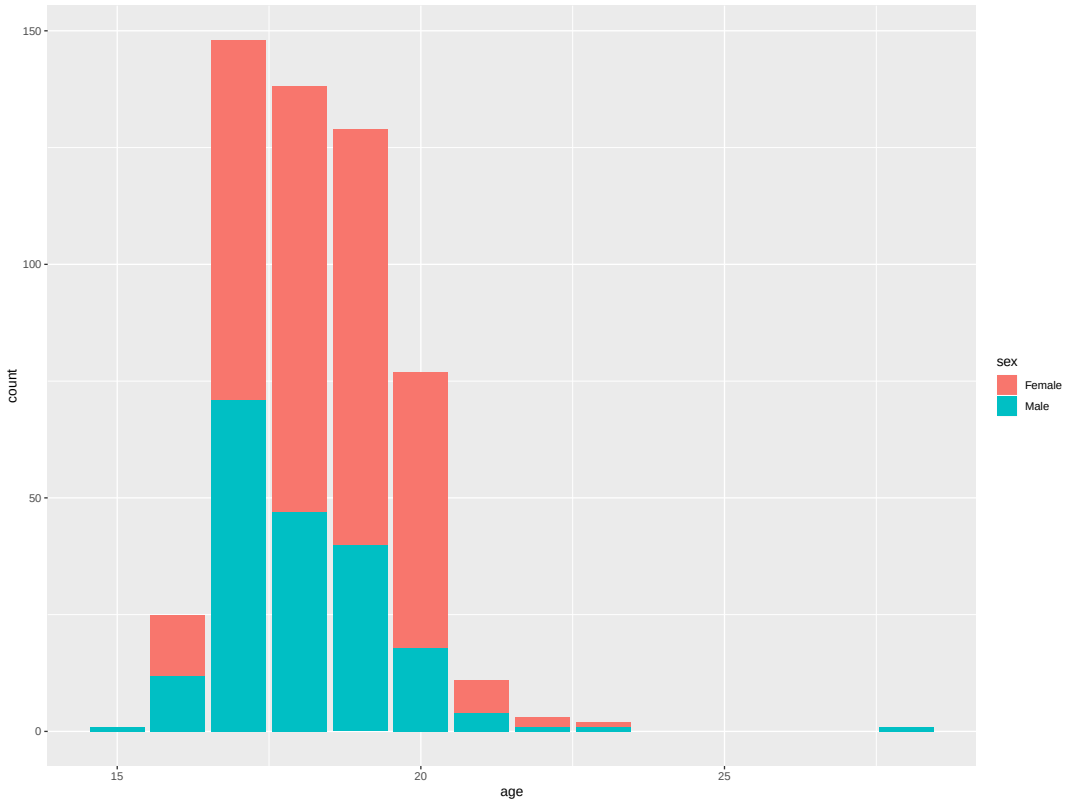
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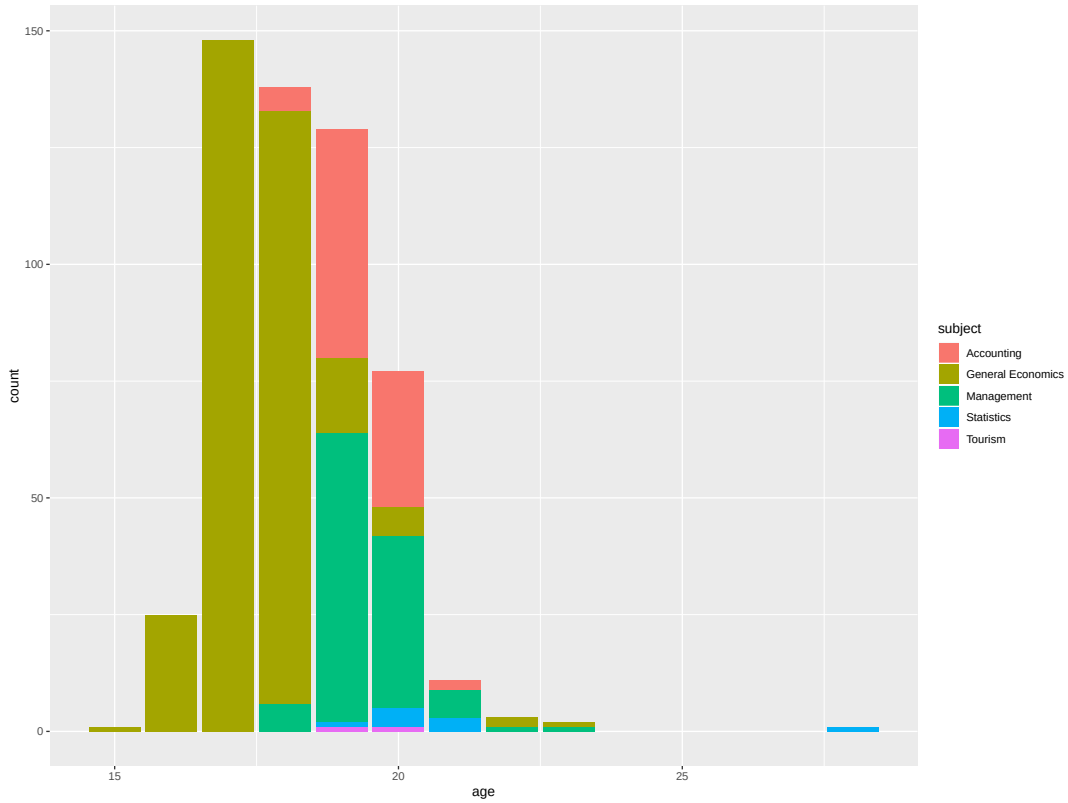
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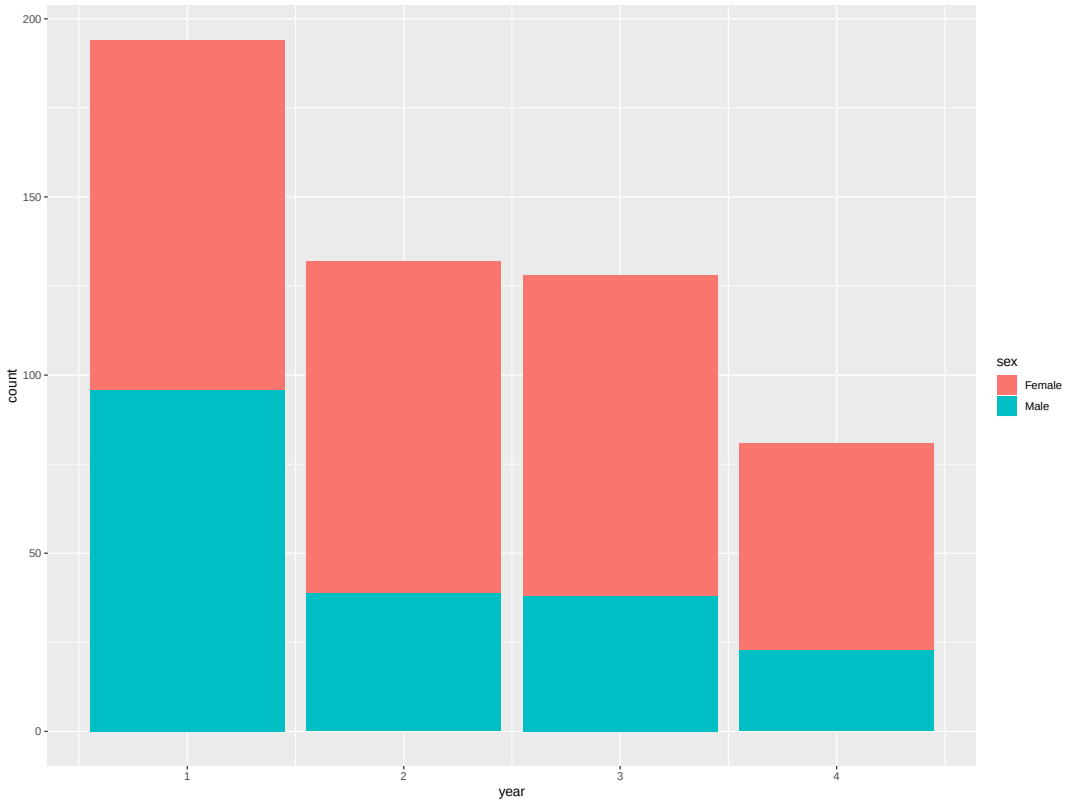
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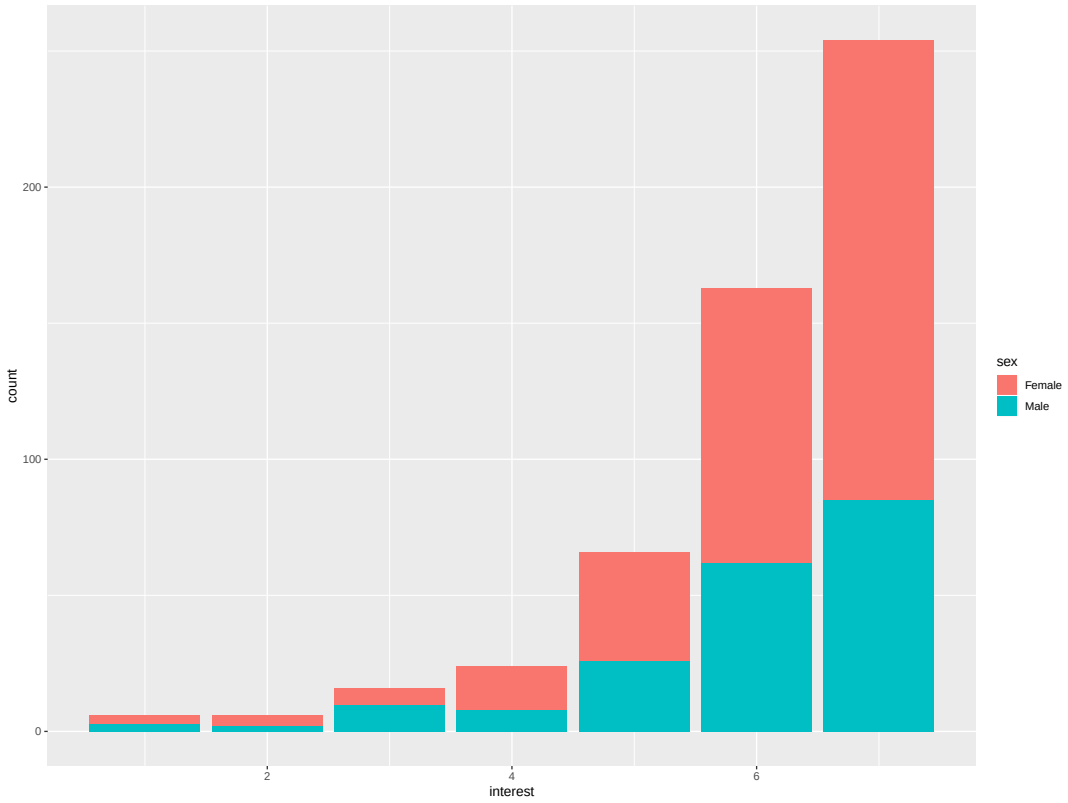
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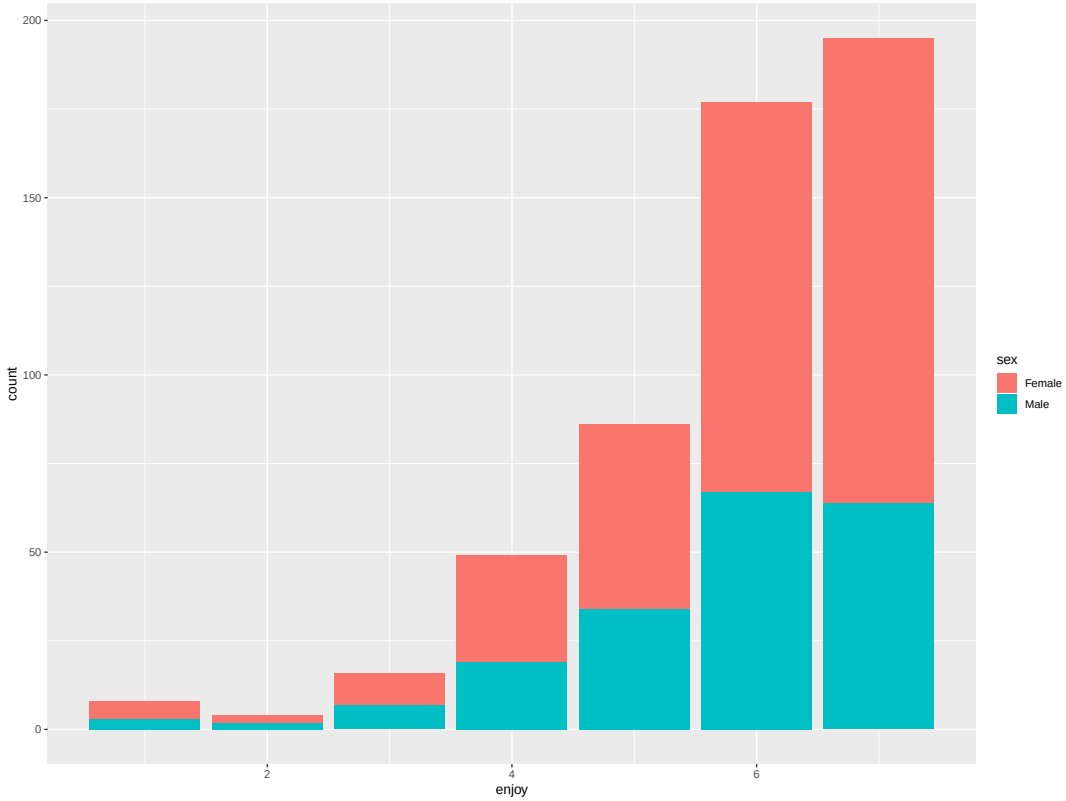
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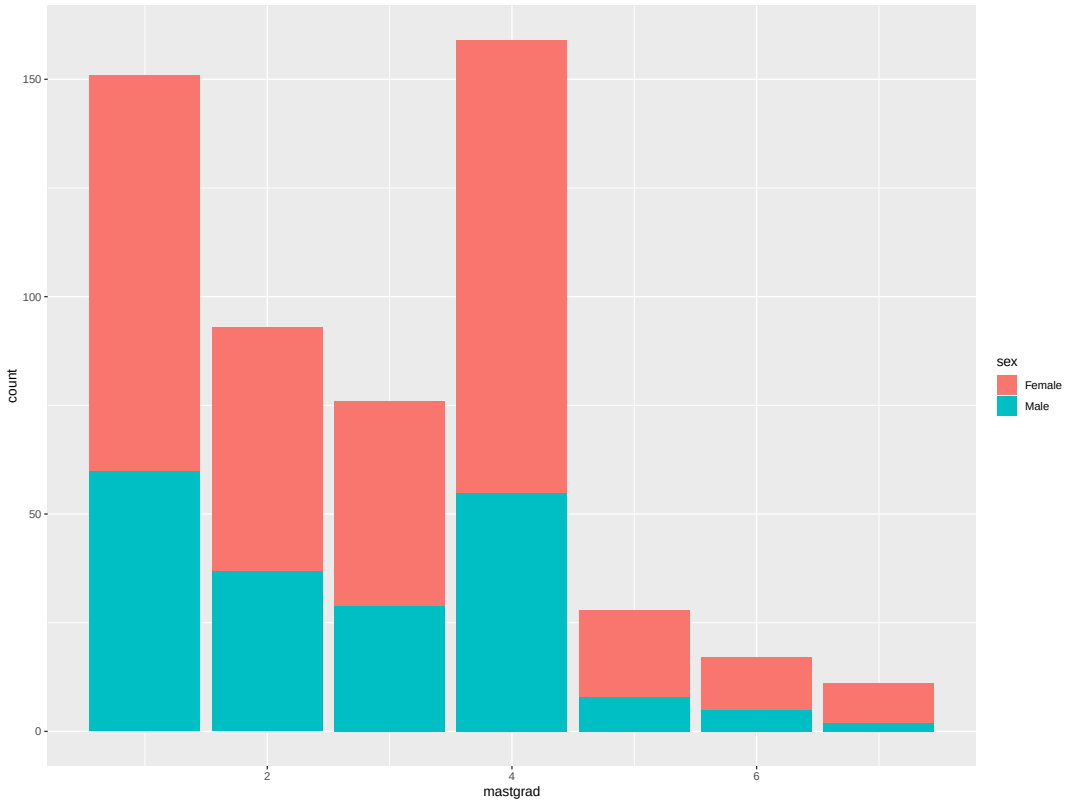
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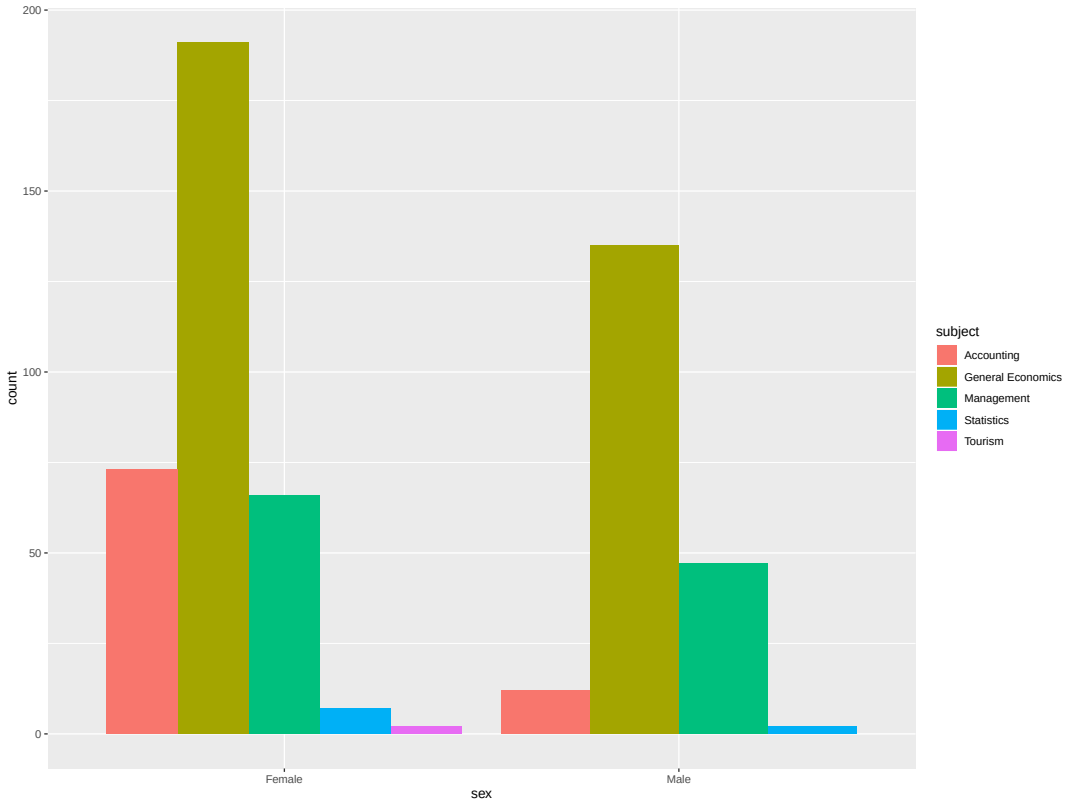
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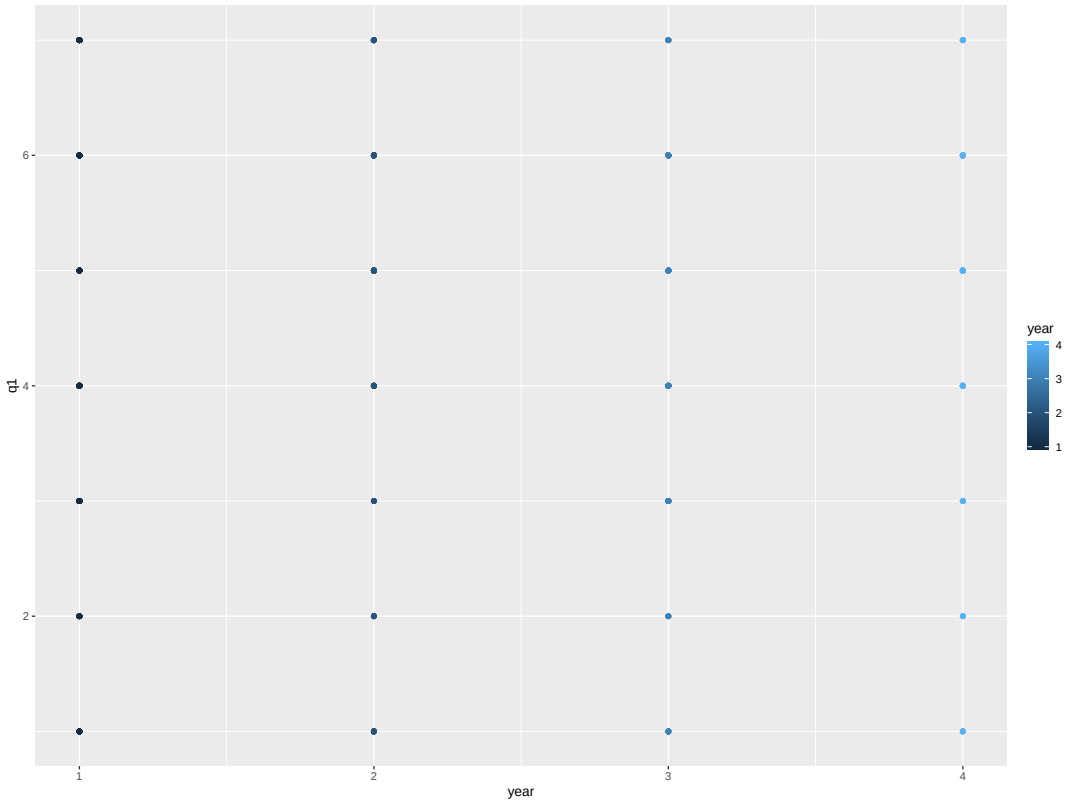
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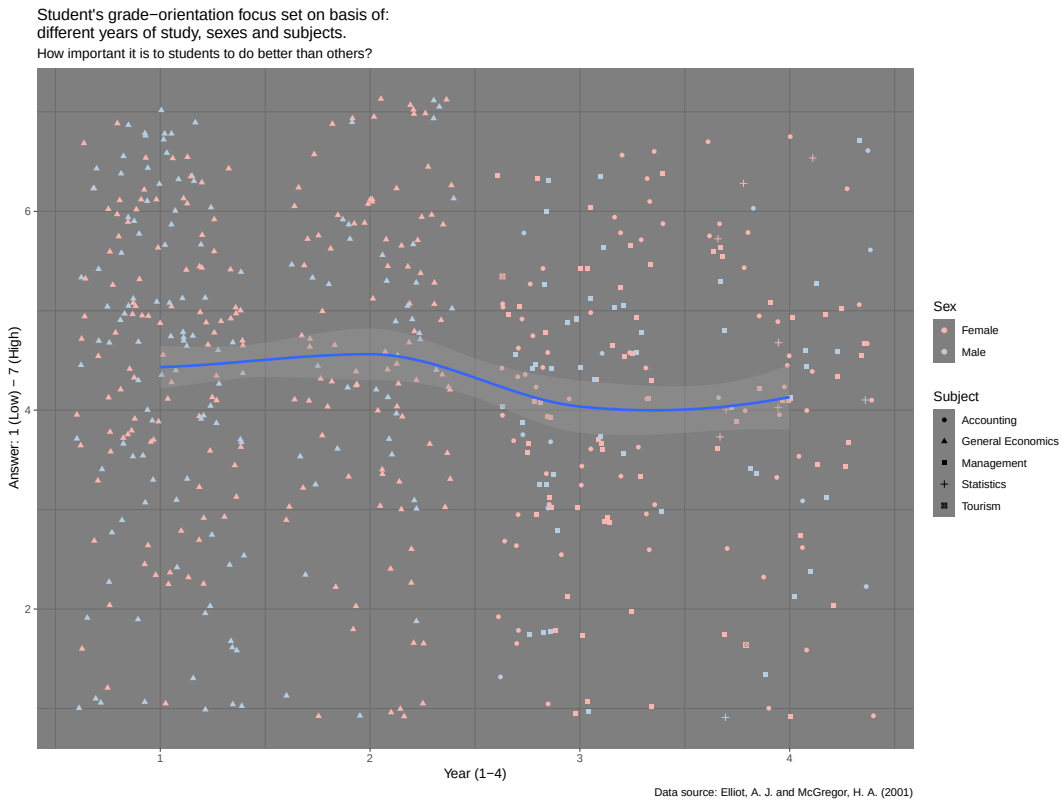
Student's grade−orientation focus set on basis of:
different years of study, sexes and subjects.
How important it is to students to do better than others?
Answer: 1 (Low) − 7 (High)
6
4
2
1
2
3
4
Year (1−4)
Data source: Elliot, A. J. and McGregor, H. A. (2001)
Sex
Female
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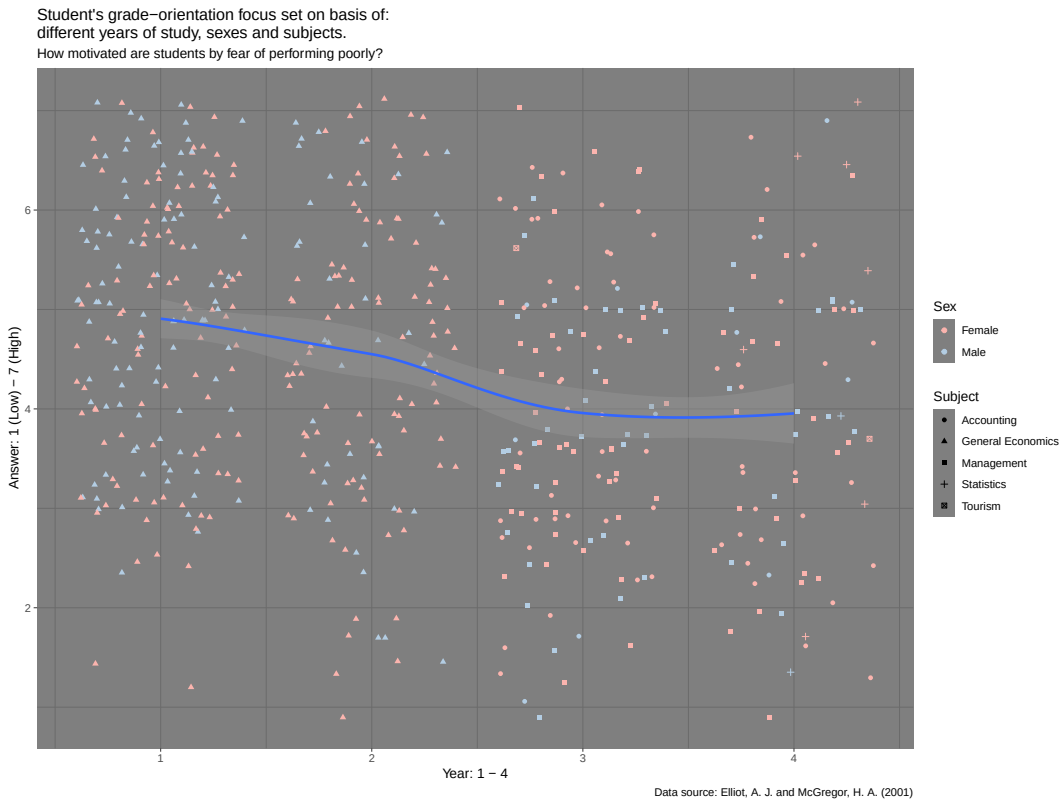
Subject
Accounting
General Economics
Management
Statistics
Tourism

Figure 1: ...


Student's grade−orientation focus set on basis of:
different years of study, sexes and subjects.
How motivated are students by fear of performing poorly?
Answer: 1 (Low) − 7 (High)
6
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2
1
2
3
4
Year: 1 − 4
Data source: Elliot, A. J. and McGregor, H. A. (2001)
Sex
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Subject
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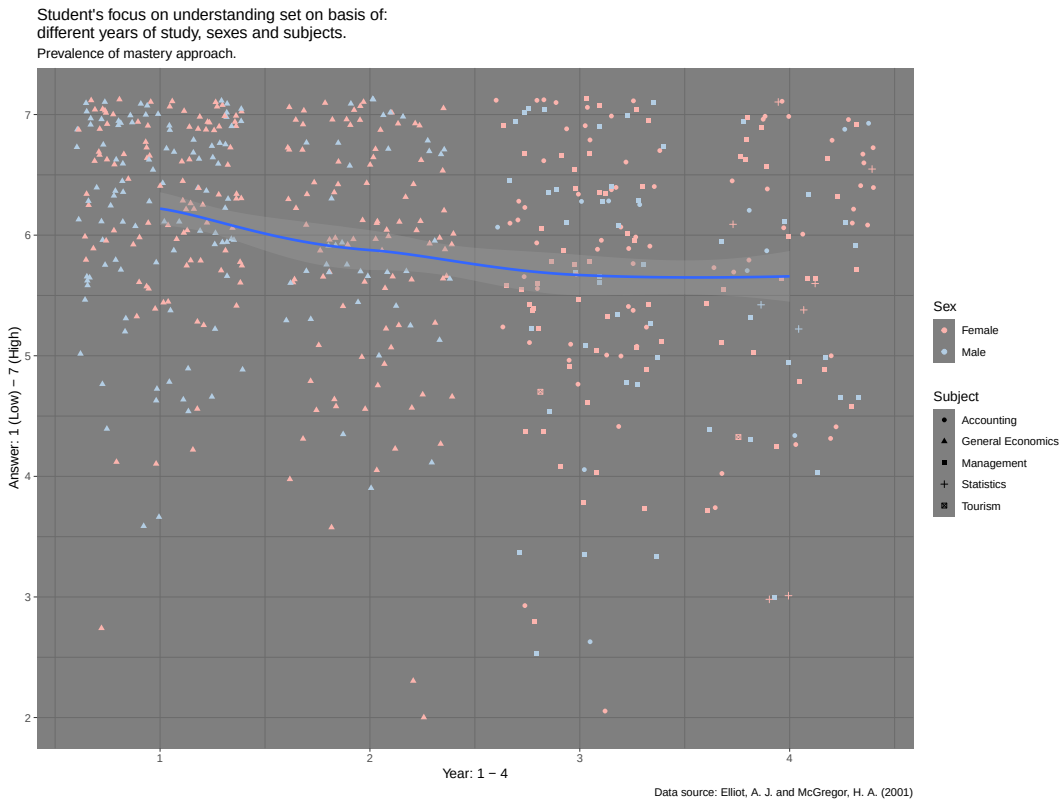
Statistics
Tourism

Figure 2: ...


Student's focus on understanding set on basis of:
different years of study, sexes and subjects.
Prevalence of mastery approach.
Answer: 1 (Low) – 7 (High)
Year: 1 – 4
Data source: Elliot, A. J. and McGregor, H. A. (2001)
Sex
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Subject
Accounting
General Economics
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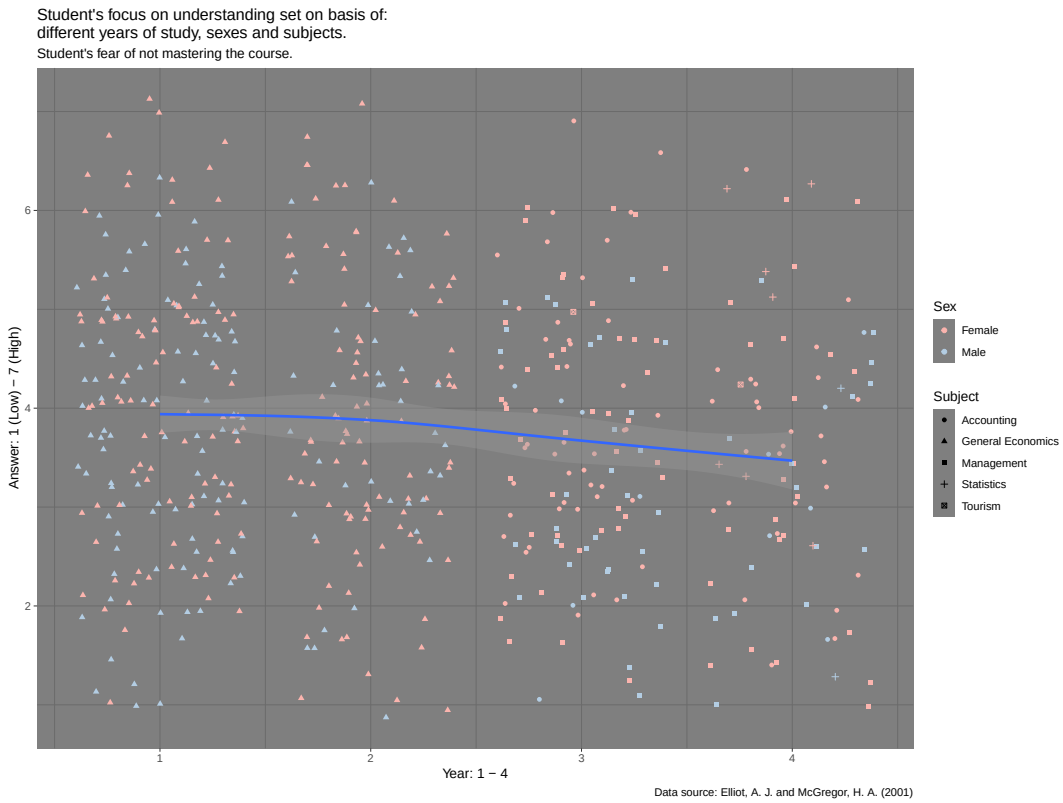
Statistics
Tourism

Figure 3: ...


Student's focus on understanding set on basis of:
different years of study, sexes and subjects.
Student's fear of not mastering the course.
Answer: 1 (Low) – 7 (High)
6
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4
Year: 1 – 4
Sex
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Subject
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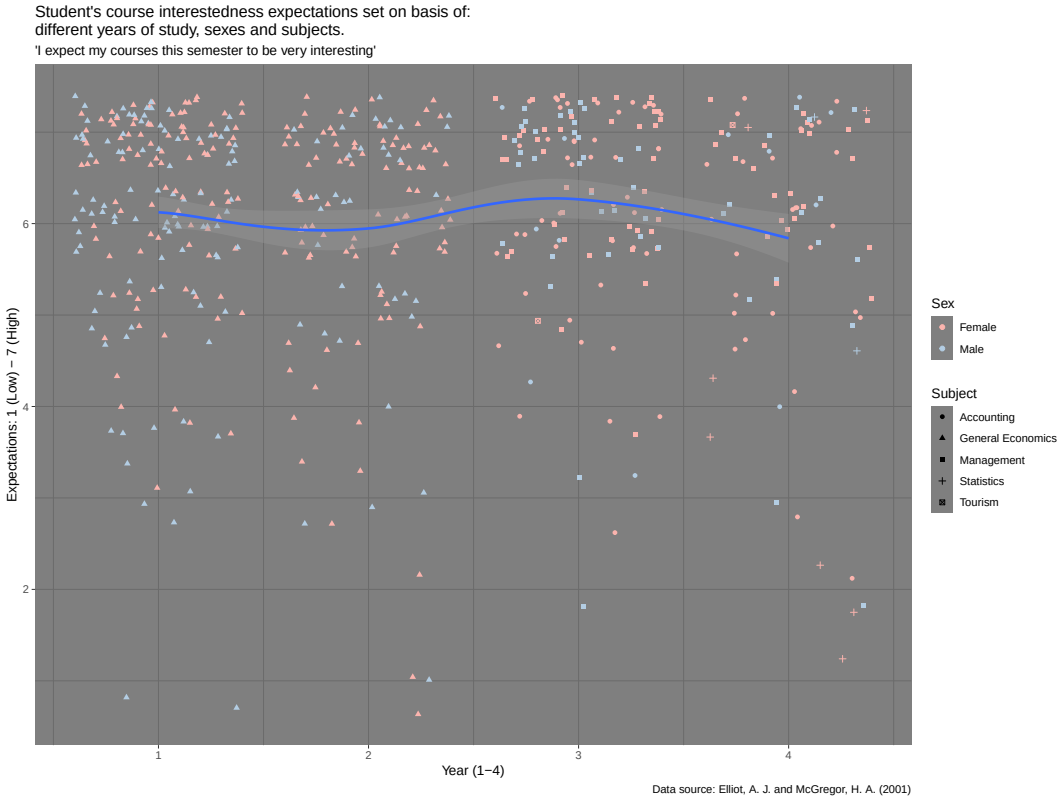
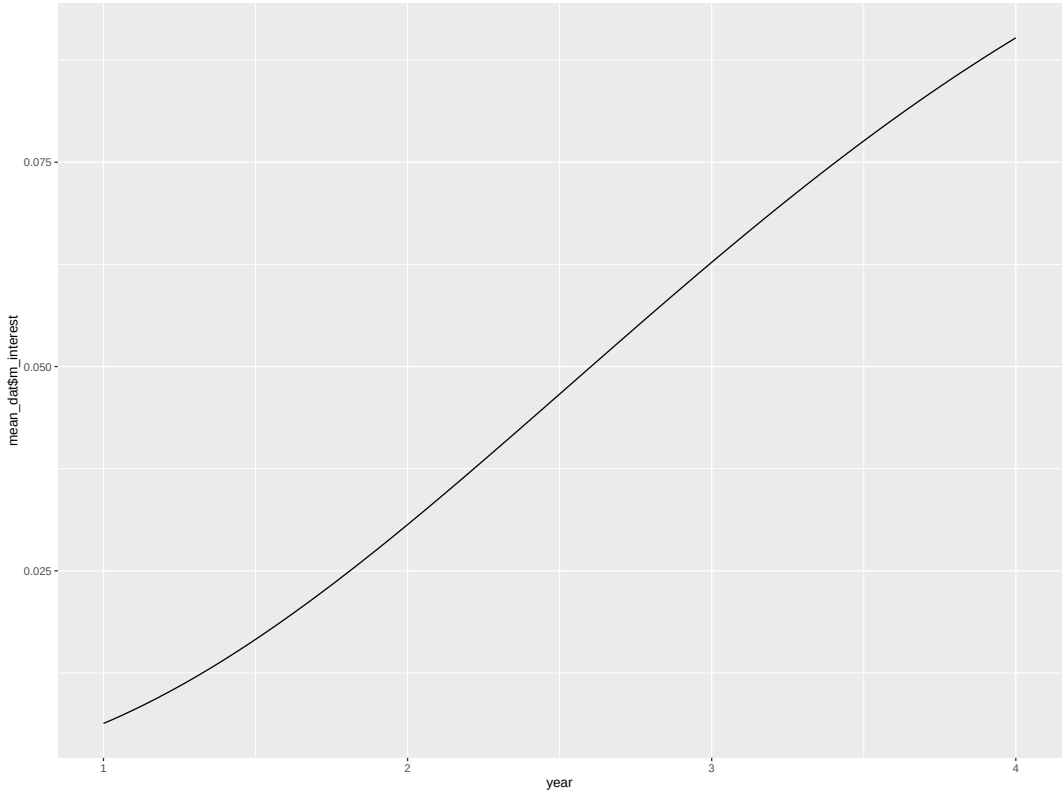
Tourism
Data source: Elliot, A. J. and McGregor, H. A. (2001)

Figure 4: ...


Student's course interestedness expectations set on basis of:
different years of study, sexes and subjects.
'I expect my courses this semester to be very interesting'
Expectations: 1 (Low) – 7 (High)
6
4
2
1
2
3
4
Year (1–4)
Data source: Elliot, A. J. and McGregor, H. A. (2001)
Sex
Female
Male
Subject
Accounting
General Economics
Management
Statistics
Tourism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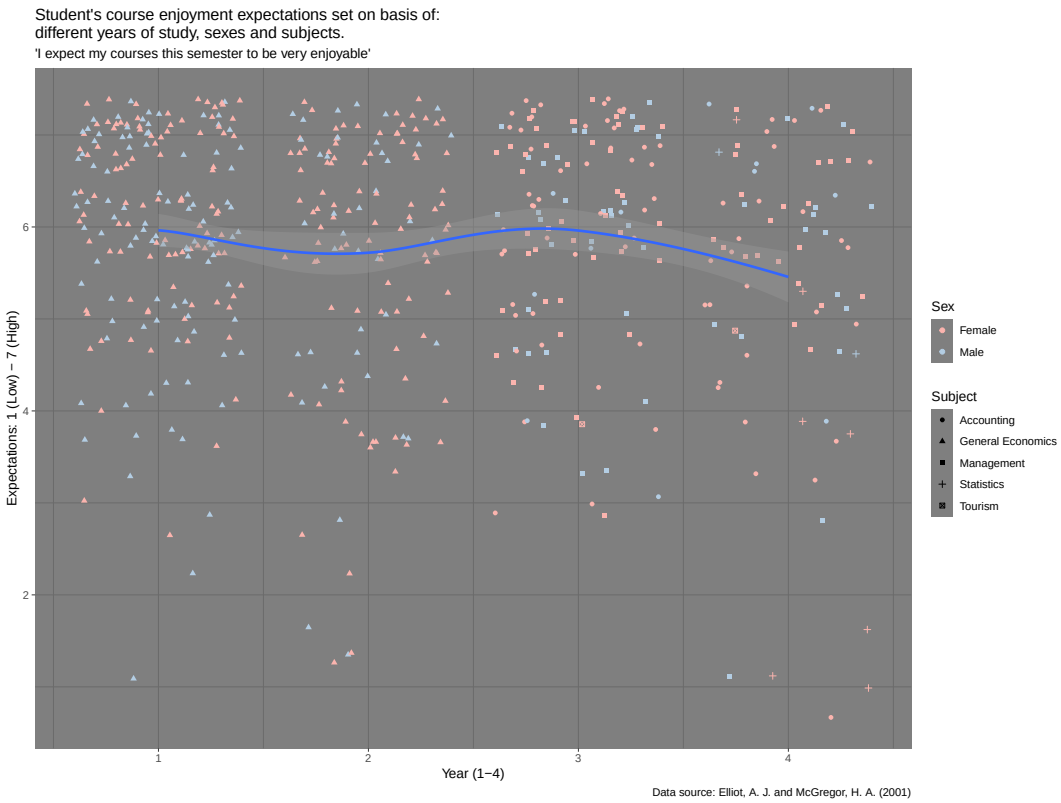
Student's course enjoyment expectations set on basis of:
different years of study, sexes and subjects.
'I expect my courses this semester to be very enjoyable'
Expectations: 1 (Low) – 7 (High)
6
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2
1
2
3
4
Year (1–4)
Data source: Elliot, A. J. and McGregor, H. A. (2001)
Sex
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Figure 5: ...

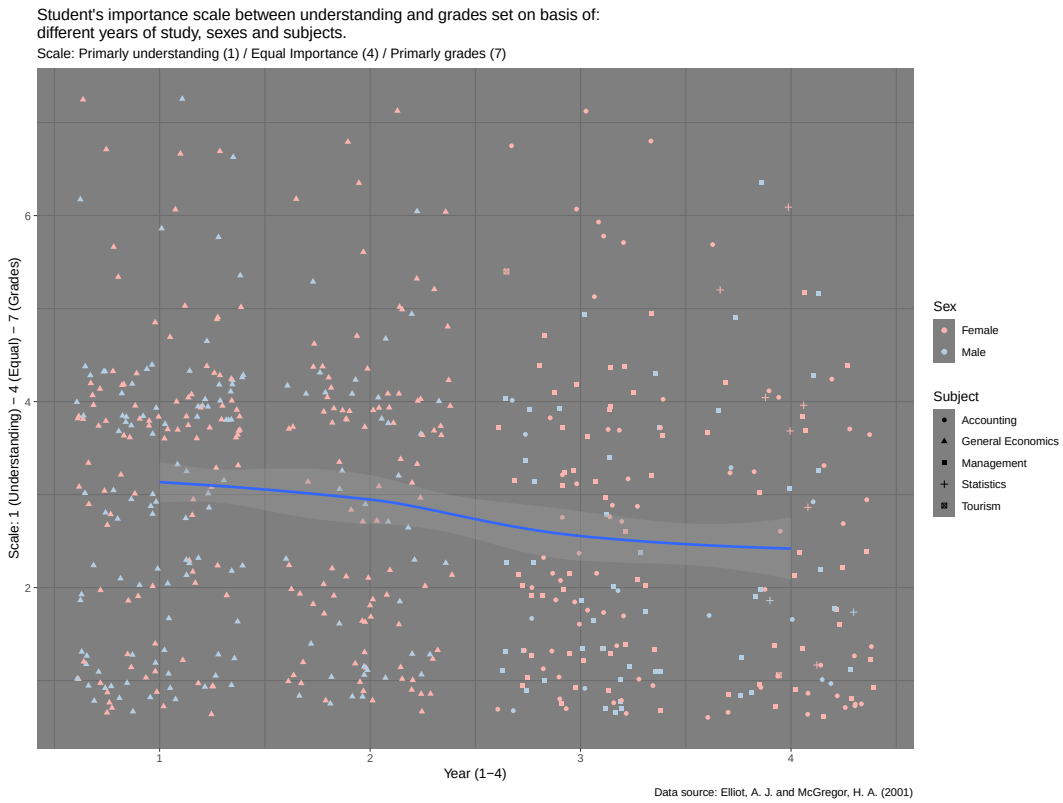
Student's importance scale between understanding and grades set on basis of:
different years of study, sexes and subjects.
Scale: Primarly understanding (1) / Equal Importance (4) / Primarly grades (7)
Scale: 1 (Understanding) – 4 (Equal) – 7 (Grades)
6
4
2
1
2
3
4
Year (1–4)
Sex
Female
Male
Subject
Accounting
General Economics
Management
Statistics
Tourism
Data source: Elliot, A. J. and McGregor, H. A. (2001)

Figure 6: ...