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MATHS SKILLS CENTRE

Supporting the statistical needs of graduate social science students

Ant Edwards & Chris Mellor

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Outline

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- Evidence of need for (additional) stats support
- Types of support offered
  - Drop-in
  - Appointments
  - Workshops
- Usage and feedback data
- Conclusions

Evidence of need

- In the sector
  - Pearson Committee (1947). Report on the Teaching of Statistics in Universities and University Colleges. J R Stat Soc. 110(1):51-7.
  - Irvine J. & Miles I., (1979). Statistics teaching in social science: A problem with a history. In: Irvine J, Miles I, Evans J, editors. Demystifying social statistics. London: Pluto Press.
  - MacGillivray H., (2008). Learning Support in Mathematics and Statistics in Australian Universities: Guide for the University Sector: Australian Learning and Teaching Council.
  - Patel C., De Jager B.G., Zou L., (2010). Approaches to extra-curricular statistics support for non-statistics UG and PG: facilitating the transition to higher education. ICOTS 8. pp.4:93

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"most university courses [in the social sciences] include a few lectures in statistics, but they do not all deal with the subject in a way we regard as adequate."

Pearson Committee (1947, p.52)

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"while most sociology undergraduates are still offered introductory statistics, increasingly it is optional."

Irvine J. and Miles I. (1979, p.15)

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"[Postgraduate support in statistics] emerged as one of the most needed across disciplines and across universities."

MacGillivray H. (2008, p.43)

"What is essential is that it is recognised and provided in a way that distinguishes it from statistical consulting and collaboration for research"

Ibid., p.44

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Evidence of need

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"there is still concern that using the same methods as used for maths support is not ideal"

"statistics help is generally required by the students working on projects or assignments requiring analysis and the help required differs every time; different projects require different analysis methods; sometimes, even though the methods may be the same, the applications vary"

Evidence of need

At York

- Anecdotal evidence
- GSA staff - survey
  - Consistent across departments:
  - A perceived gap between the incoming level of students and the level of statistical maturity expected at the end of courses

Types of support offered

- Recruitment of a statistics tutor
- Additional statistics support in the following areas
  - Drop-in support
  - 1-1 appointments
  - Refresher workshops

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Drop-in support

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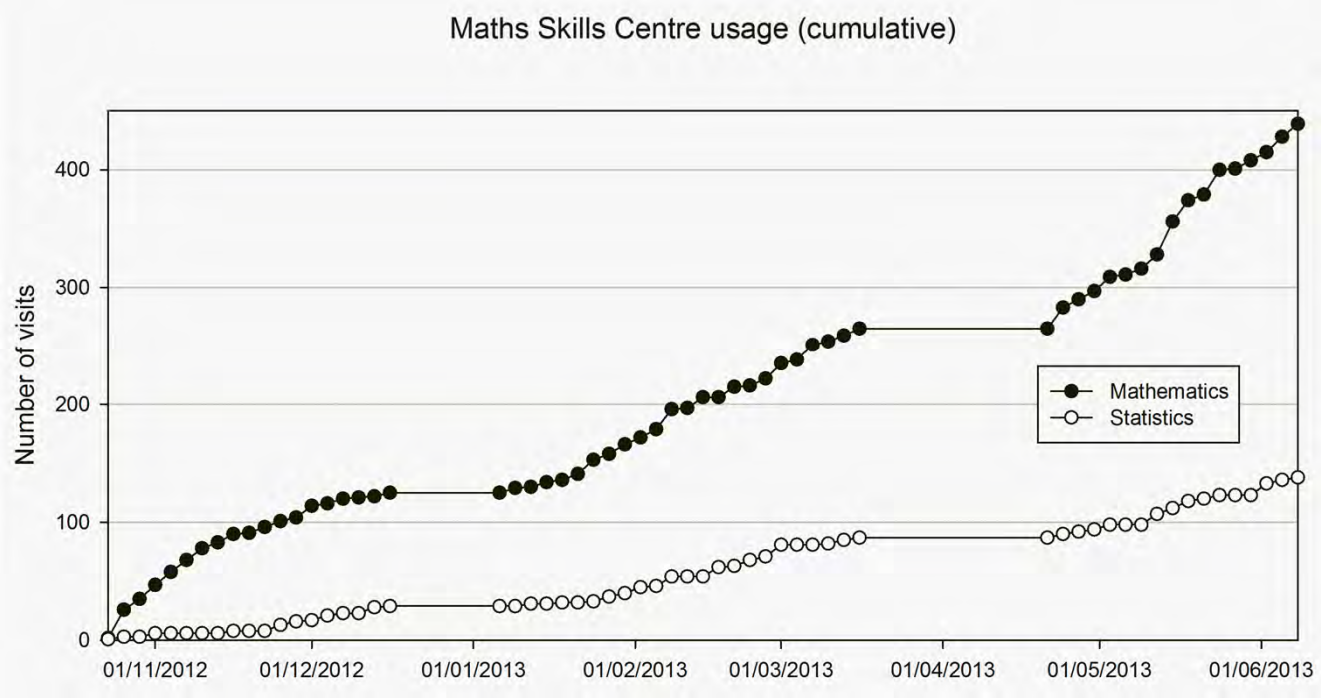

- Year totals: 439 mathematics, 138 statistics
- More mathematics sessions than statistics sessions (7:3)
- On a per-session basis: mathematics 2.95 students per session, statistics 1.57 students per session.

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Appointment support

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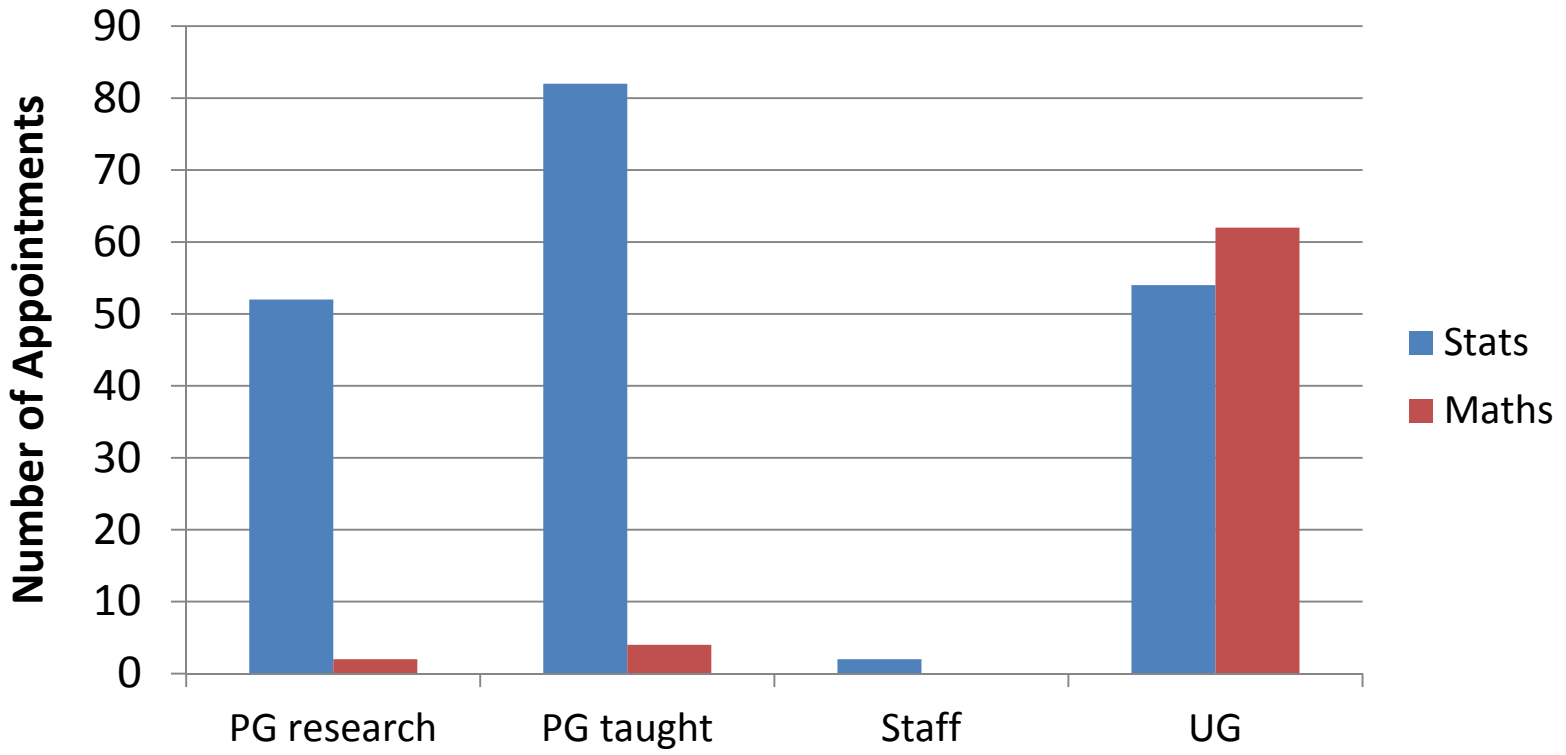

- Not just term-time – includes data to 17th Nov 12 to 5th Sep 13
- More statistics appointments (190 vs. 68)
- Mathematics more UG (64 vs. 6) , Statistics more PG (134 vs. 54)
- Feedback?

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Drop-in & App' feedback

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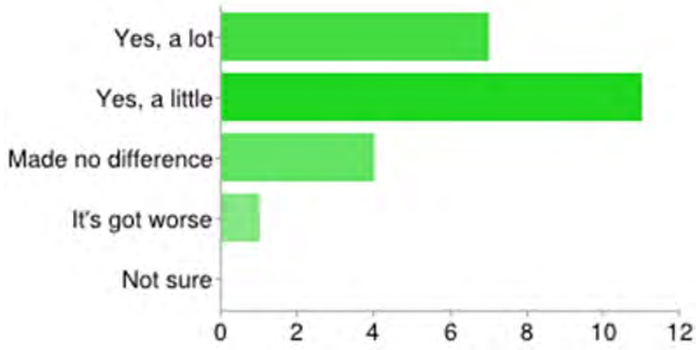
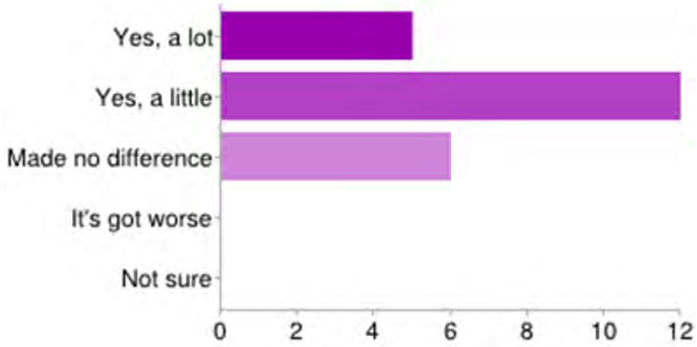
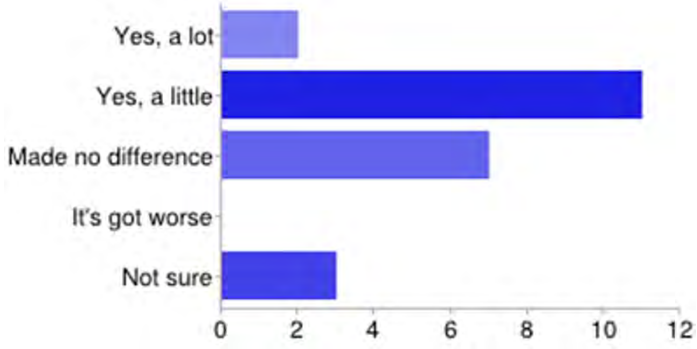
My confidence with Stats has improved



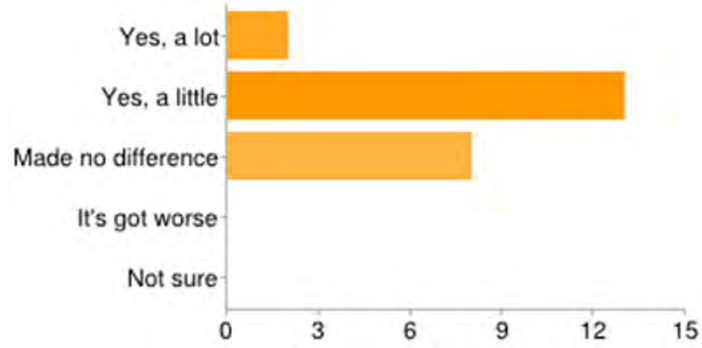
My understand of the underlying principles has improved



My attainment/grades have improved



My ability to approach new areas of Stats by myself has improved



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Workshop support

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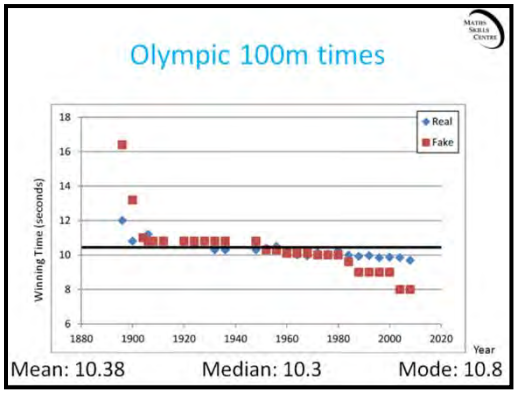
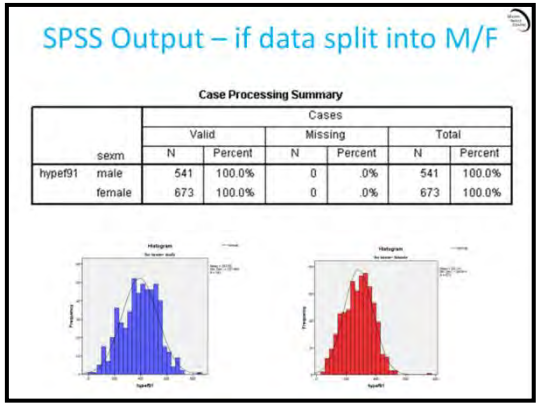
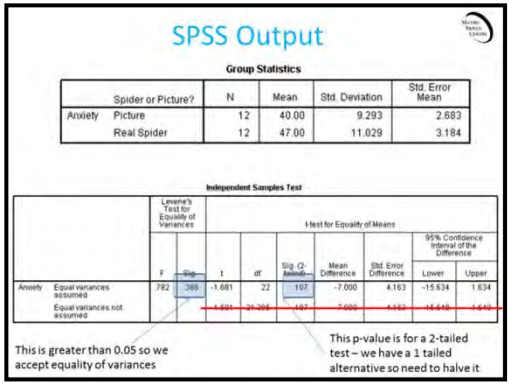


➢ 1. Descriptive Statistics

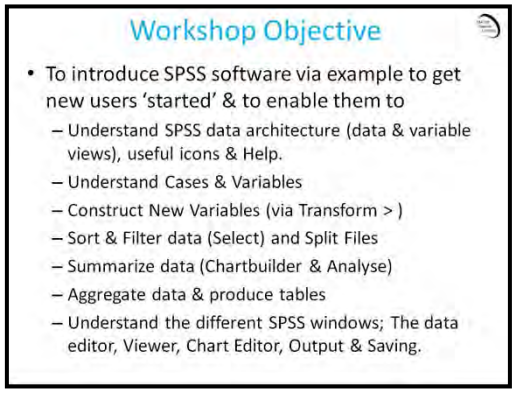
2. Using Graphs ➢





➢ 3. Hypothesis Testing

4. Introduction ➢ to SPSS



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Workshop usage

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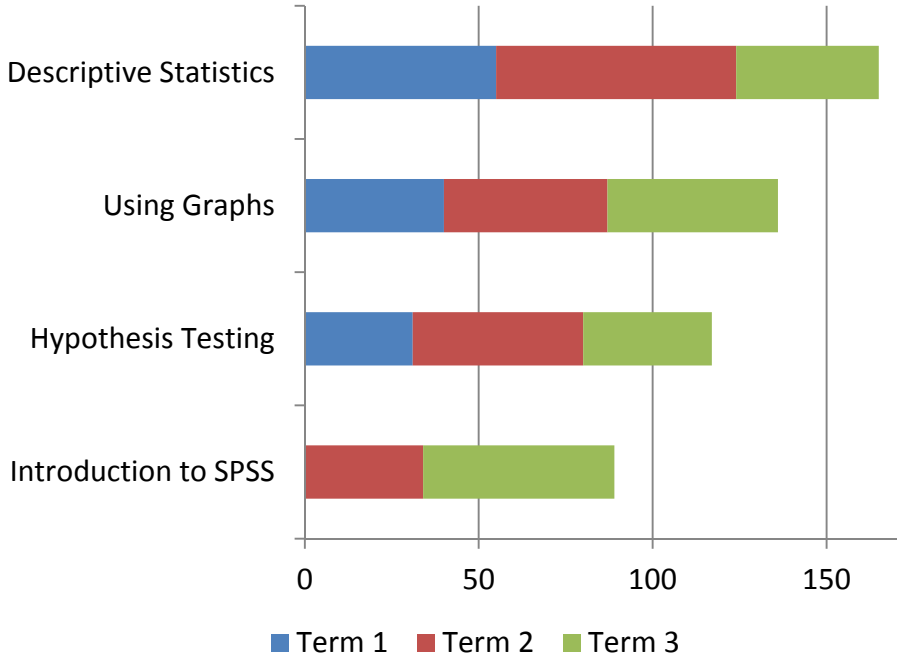
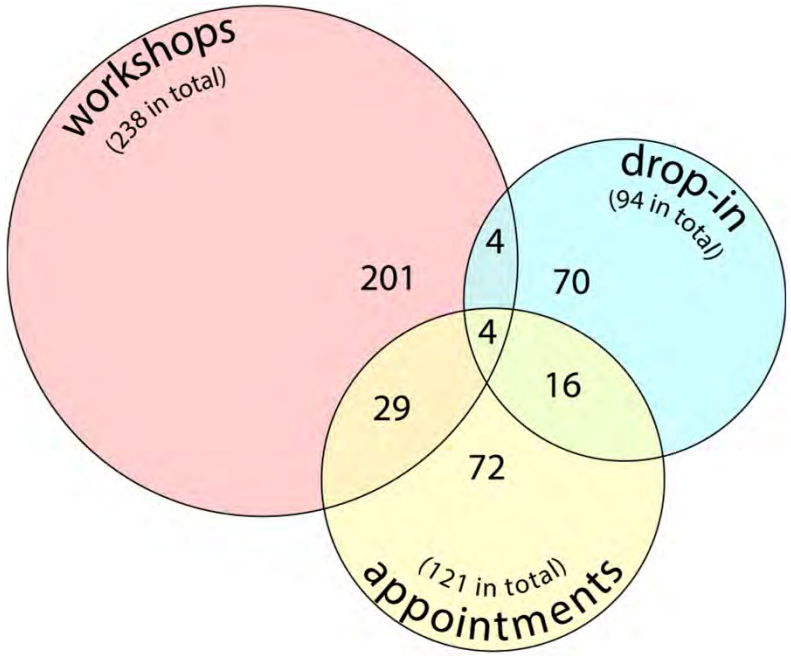
Workshop visits 2012-13



Forms of support used by students (unique)



93% spaces booked, 44% attendance

55% taught masters, 44% research

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Workshop usage by dep't

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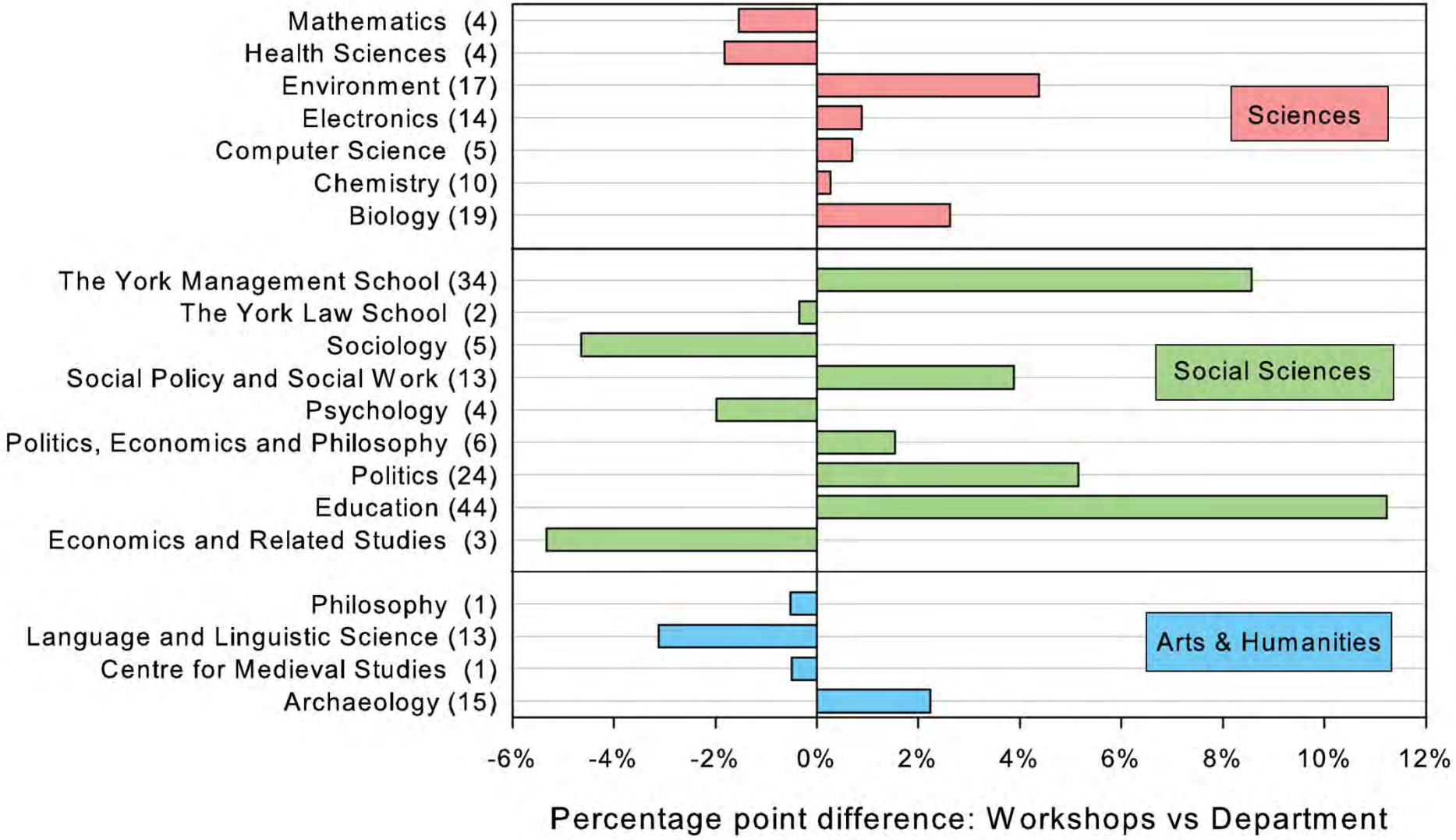

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Workshop feedback

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- Immediate feedback after classes
- 6-month delayed feedback

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Workshop feedback (immediate)

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	Descriptive Statistics	Using Graphs	Hypothesis Testing	Introduction to SPSS
The workshop met its stated aims and objectives.	95%	99%	90%	87%
The workshop was scheduled at a suitable time.	95%	93%	93%	98%
The workshop location was appropriate and satisfactory.	90%	91%	87%	97%
The workshop facilities were appropriate and satisfactory.	96%	96%	95%	99%
The workshop material was presented in a clear and organized manner.	98%	94%	92%	80%
The workshop was paced appropriately.	82%	90%	83%	84%
The presenter was well prepared.	99%	100%	98%	98%
The presenter responded to questions in an informative, appropriate and satisfactory manner.	98%	97%	96%	99%
The time allocated to practical work was appropriate and satisfactory.	69%	83%	78%	84%
Overall, the workshop was informative and valuable.	93%	99%	91%	88%
The pre-workshop administration was efficient and informative.	89%	91%	94%	89%
I would recommend this workshop to a friend?	93%	96%	88%	88%

Workshop feedback (6 month)

61/238 responded (26%)

Why:

- To build confidence in using statistics (67%)
- To refresh existing knowledge (43%)
- Never studied it before (41%)
- Department didn't offer suitable teaching (25%)
- Felt OK; wanted a different perspective (20%)

Would you recommend the workshop to other students?

	Descriptive Statistics (n=47)	Using Graphs (n=46)	Hypothesis Testing (n=42)	Introduction to SPSS (n=33)
Scared of statistics	83%	78%	62%	70%
Never studied statistics before	83%	65%	52%	64%
Wanted to refresh their statistical knowledge	77%	72%	79%	76%

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Workshop feedback (6 month)

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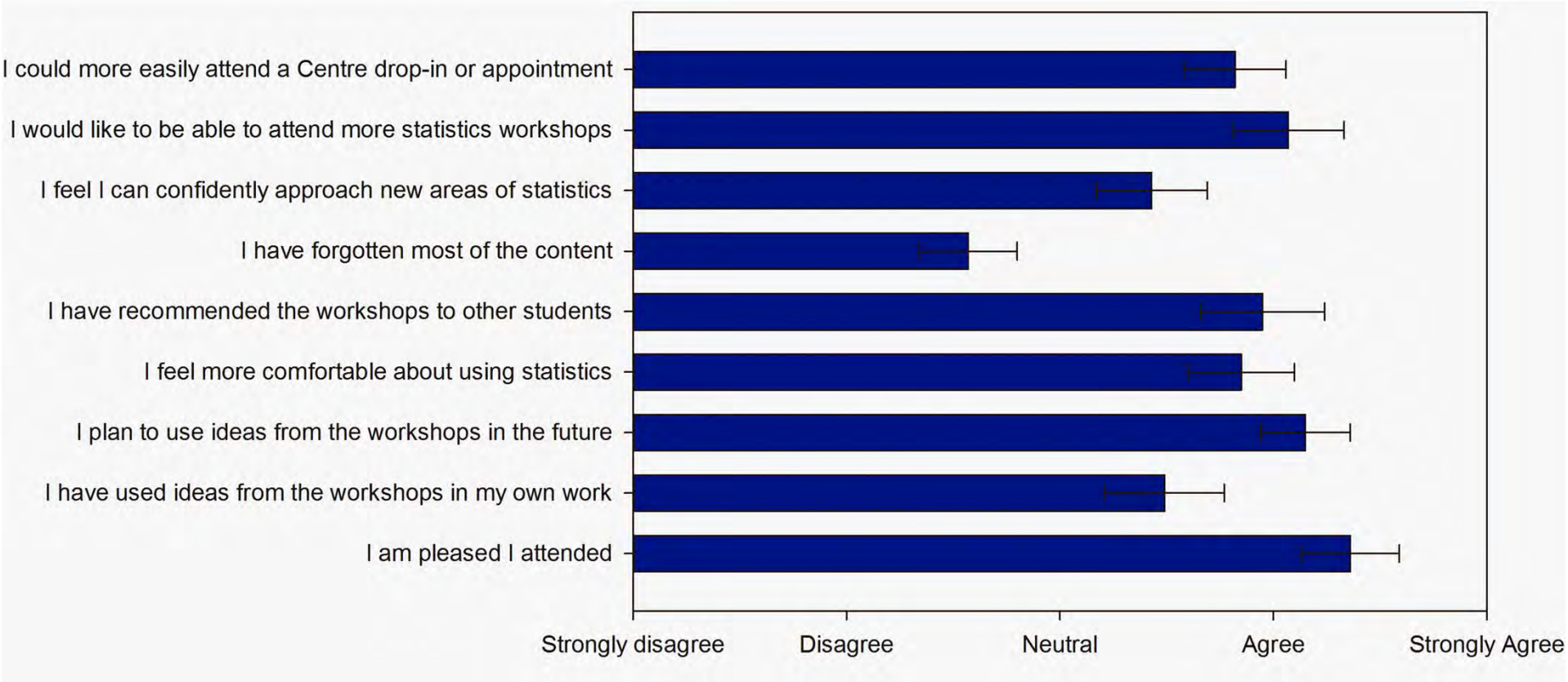

Mean responses of the Likert-style delayed feedback questions. Error bars indicate the 95% confidence interval of each mean (1.96*SE).

Conclusion

- Statistics support was easy to slot into existing provision
- The workshop series had the greatest "impact"
  - More students
  - Wider variety of departments
  - High proportion of PGR (44%)
  - Knock-on effect for other types of support