The effect of erroneous R code on student performance

James Bartlett[1]

[1] University of Glasgow, United Kingdom

Author Note

Enter author note here.

The authors made the following contributions. James Bartlett: Conceptualization, Writing - Original Draft Preparation, Writing - Review & Editing.

Correspondence concerning this article should be addressed to James Bartlett, 62 Hillhead Street, Glasgow. E-mail: james.bartlett@glasgow.ac.uk

Abstract

Blah blah blah.

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Data skills are increasingly recognised as a key component of psychological literacy. To promote reproducible data preparation and analysis workflows, educators have highlighted the role of teaching students how to use statistical programming languages instead of point-and-click software (1). However, programming is rare in UK psychology curricula (2) and offers unique challenges such as how to prepare students to debug their code. Debugging code is a separate problem solving skill to learn alongside statistics, so it is important to understand how best to teach students debugging skills.

(3) reported a small pilot study using SAS where they compared a traditional error-free course structure to an error-full course focusing on debugging errors alongside key concepts. 80% of students preferred the error-full course but the study only included 18 participants and just 4 students completed assignments following each course, meaning they could not compare performance. Therefore, in our study, we want to apply these methods to the programming language R and recruit a larger sample.

We hypothesise that students who complete the error-full lecture will score higher on a data skills assignment than students who complete the error-free lecture.

Methods

Participants

Material

Procedure

Data analysis

We used R (Version 4.1.3; 4) and the R-packages *papaja* (Version 0.1.1; 5), and *tinylabels* (Version 0.2.3; 6) for all our analyses.

Results

Discussion

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