The Grass is Always Greener on My Side of the Fence? Students' Preferences for Taking Statistics and Research Methods Concurrently or Separately

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Introduction

Researchers have long recognized the influence of students' conceptions of their own abilities on:

- **Choices of and persistence in courses**
  - **e.g., Lent et al., 2013**
- **Perseverance in response to challenges**
  - **e.g., Martin, 2011**
- **Metacognitive assessment of their performance**
  - **e.g., Miller & Geraci, 2011**
- **Overall academic success**
  - **e.g., Richardson, Abraham, & Bond, 2012**

Numerous studies in this area have focused on math ability (e.g., Bandalos, Yates, & Thorndike-Christ, 1995; Pajares & Miller, 1995), suggesting that psychology students may be particularly susceptible to these effects in statistics and research methods courses.

These concerns became particularly salient for our department when we switched to a model in which statistics and the first (of two) research methods courses are taken concurrently rather than sequentially. The current study was conducted in the Fall of 2012, when the curricular change was made, giving us a sample of students enrolled in both the "old" and "new" course models.

Research Questions

(1) Would students report significantly different levels of *confidence* depending on the way they took the courses?

(2) Would students report a significant *preference* for the concurrent or sequential model?

(3) Would there be significant differences in student *performance* between the two models?

Method

Participants

- **Seventy-one Research Methods students completed the course and received final grades**
- **Thirty-seven students completed a survey during the final week of classes in Fall of 2012**
  - **Taking the courses separately (*n* = 21)**
  - **Taking the courses concurrently (*n* = 16)**

Survey Questions

- **Four items using 7-point Likert scales**
  - **"How much did you *like* taking these classes the way you did (i.e., together or separate)?"**
  - **"How much do you think you would have liked taking the classes the other way (i.e., together or separate)?"**
  - **"Please indicate how *confident* you felt while taking PS 206 (Statistics)."**
  - **"Please indicate how *confident* you felt while taking PS 307 (Research Methods)."**
- **Four open-ended items, which asked the students to point out positive and negative aspects of the courses, indicate whether or not they felt the benefits outweighed the drawbacks, and provide suggestions for how the courses could "work together" more efficiently.**

Results

- **Results of a between-subjects MANOVA (controlling for course instructor) revealed no significant differences between groups on any of the four items assessing *confidence* and *preference*.**
  - ***Wilks' λ* = .995, *F*(4,31) = .04, *p* = .99, *partial* η^2 = .005**
- **Instead, students showed a preference for the way they took the courses (*M* = 4.86, *SD* = 1.60) to the alternative (*M* = 3.41, *SD* = 1.55)**
- **This preference was significantly stronger among students with higher levels of confidence while taking statistics**
  - ***r*(35) = .51, *p* = .001, r^2 = .26**
- **Results of a between subjects ANOVA (controlling for course instructor) revealed no significant differences between groups on *performance* in the course**
  - ***F*(1,68) = .13, *p* = .72, *partial* η^2 = .002**

Discussion

- **Despite our initial concerns about the possible negative effects of a sudden change to the core curriculum, our results indicate that there was no significant impact on our students, either in terms of subjective (i.e., confidence, preference) or objective outcomes (i.e., grades).**

- **Instead, students' clear preference for the way they took the courses (and their ability to perform just as well) indicates that our students may be more flexible and adaptable to such changes than we had first assumed.**

- **Open-ended responses helped clarify the reasons for students' preferences**
  - **Those who took the courses *concurrently* emphasized the clarity of connections between the courses, a decreased chance of forgetting previously-learned material, and "getting the courses out of the way."**
  - **Those who took the courses *separately* emphasized the benefits of having "learned statistics already," being able to more effectively manage the workload of two rigorous courses, and avoiding "burnout"**

- **Future Directions**
  - **How will these students perform in subsequent core courses, such as Advanced Research Methods and Senior Thesis?**
  - **How can we use student feedback to further improve synergy between these two courses?**

References

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