



**Durham**  
University

Department of Psychology

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## Statistics Education in Higher Education

### Background

Statistics is a key skill in psychological research, yet many students experience statistics anxiety, which can hinder engagement in statistics classes and with statistics materials and, in turn, lead to poor attainment in research methods assessments and dissertations. It is, therefore, vital to examine ways to effectively engage students and support them in developing statistical literacy, as well as to develop appropriate pedagogical strategies. It is also important to understand how such pedagogical strategies may impact the learning of a diverse student population, as students' experiences of statistics can vary by prior background and access.

### Aims and Methods

The suggested project will examine how statistics anxiety affects student engagement in statistics classes and performance on assessments and develop pedagogical strategies to engage and support students. There will be scope to explore the influence of different delivery methods (e.g., in-person vs. online teaching), the use of playful learning, and the role of general and subject-specific curiosity. The suggested project will also take an equity, diversity, and inclusion (EDI) approach to investigate ways to support students from diverse backgrounds in learning statistics. A range of research methods may be used, including (quasi-)experiments, surveys, qualitative interviews, and focus groups.

### Relevance

The project will inform more effective, engaging, and inclusive approaches to teaching statistics to undergraduate students studying Psychology, with implications for student wellbeing, attainment, and progression.

### Training

The candidate's research activity will be based in Durham, Psychology. Besides training in general research skills, the candidate will receive training in quantitative and qualitative methods and advanced data analysis, psychometrics and survey design, and EDI-informed research practices.

### Suitable for

PhD and MSc by Research students.

### References and Further Reading

Mendes, R. A., Loxton, N. J., Stuart, J., O'Donnell, A. W., & Stainer, M. J. (2024). Statistics anxiety or statistics fear? A reinforcement sensitivity theory perspective on psychology students' statistics anxiety, attitudes, and self-efficacy. *European Journal of Psychology of Education, 39*(3), 2461-2480.

Jack, E., Alexander, C., & Jones, E. M. (2025). Exploring the impact of gamification on engagement in a statistics classroom. *Teaching Mathematics and Its Applications, 44*(1), 93-106.