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Multiverse as an Undergraduate Dissertation Project

Purpose: Describe the implementation and evaluation of student-led multiverse dissertation projects. Provide evidence-based suggestions on combining open science with secondary data and student autonomy in dissertation projects.

Background: In traditional research projects one set of analytic choices is made, leading to one set of conclusions. However, a range of alternative choices can usually be made and justified. In multiverse analyses, all combinations of all reasonable choices are made. When the results are combined and synthesised, the robustness of a finding to analytic variability can be assessed. Heyman and Vanpaemel recently proposed ‘many-multiverses-one-dataset’ as a pedagogically sound alternative to traditional undergraduate dissertation projects. However, they did not evaluate their model. Dissertation projects in BPS accredited programmes typically require a higher level of individualisation. Furthermore, dissertation students value choice, autonomy, and ownership. Consequently, we have iteratively developed a variation of Heyman and Vanpaemel’s model in which students choose their own dataset for an individual multiverse dissertation project.

Methods: Over several years we have developed a ‘recipe’ for successful individual multiverse projects. We recently qualitatively evaluated this approach with five dissertation students who were asked to reflect on designing, running, and reporting individual multiverse projects. We thematically analysed their reflections.

Findings: Two themes captured (a) the factors promoting project success and (b) the outcomes of a multiverse dissertation project.

Conclusions: Individual multiverse projects are a meaningful secondary data alternative to traditional dissertation projects. In a post-COVID world, all project supervisors should have possibilities like this ‘up their sleeves’.