

Exploring the Mediation Effect of Academic Self-Efficacy on Academic Procrastination, Performance, and Satisfaction [Response to Letter]

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Dear editor

We thank Bayu Prasetyo et al for their interest in our study and their comments. Overall, we fully agree with their consideration of our study, which will allow our study to be the beginning of a series of studies on academic satisfaction that will benefit policymakers, universities, educators, and students. Likewise, we have certain considerations in this study that we now share in response to the comments.

Firstly, the technology universities in this study referred to full-time higher education institutions, including comprehensive polytechnics and specialty polytechnics, according to the catalogue of disciplines and specialties of higher education in China, which are graded according to the disciplines and have distinctive strengths in engineering or technology disciplines.¹ It does not need to address the role of technology since these universities are just common universities just features in engineering or technology disciplines. The use of technology, which may affect self-efficacy, performance, and satisfaction is not the main purpose of the recent study, but it makes good suggestions for our next, more in-depth research.

Second, as we all know, the Grade Point Average (GPA) is a widely used metric in educational settings to quantify a student's academic performance² which has many advantages, especially when compared to other dimensions such as practical skills, class participation, or collaborative projects. The reasons are as follows, first, GPA provides a consistent standardized measure that is consistently understood and computed across multiple academic organizations.³ As a result, academic performance can be scored in equivalent or uniform terms, notwithstanding differences in teaching methods, course content, or institutional grading policies.^{4,5} Since the 22 technology universities in our research have been divided into three tiers according to their admission batch, GPA could offer a standard metric for measuring students from different universities. Second, GPA is primarily based on objective assessments like exams, and standardized assignments, which can minimize the subjectivity from other measurements, such as class participation or collaborative projects, which may be influenced by subjective judgments and varying evaluation criteria.^{6,7} The focus on objective assessments like standardized tests ensures that the academic performance measured through GPA is consistent and reduces variability caused by less objective measures such as peer evaluations or collaborative project assessments.^{8,9} Third, GPA is an aggregation of multiple academic components, which provides a holistic view of a student's academic abilities and performance over a specific period (academic year),¹⁰ especially when considering academic procrastination as a factor to influences students' performance and learning experience.¹¹ Last but not least, researches^{12,13} have shown that GPA is a strong predictor of various academic behaviors and outcomes, including academic self-efficacy, procrastination tendencies, and overall academic satisfaction. This ability to correlate with such aspects makes it a viable and valuable measurement in studies relating to the relationship between self-efficacy and academic behaviour.^{14,15}

Further, as a response to comment 3, we appreciate the insight that using a longitudinal research design will bring higher value to understanding the cause-and-effect relationships among academic self-efficacy, procrastination, performance, and



satisfaction. Indeed, across time, where changes in one variable can be correlated with changes in others, this approach could demonstrate a causal chain of events. That's part of our next ongoing study on the dynamic factors influencing academic satisfaction.

At last, we accept the proposition of integrating qualitative methods – for instance, interviews or direct observations – in future studies. These approaches are effective in collecting this voluminous, multi-dimensional information, which goes beyond the understanding of the students and self-efficacy and satisfaction at academic level that is only numerical.

All in all, thank you very much for the suggestions. We are willing to consider these considerations in our future study to expand the research on academic procrastination, academic performance, academic self-efficacy, and satisfaction.

Disclosure

The authors report no conflicts of interest in this communication.

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