

# Review of: "Influence of Motivation on Pre-service Primary Teachers' Performance in Mathematics"

Lois George<sup>1</sup>

<sup>1</sup> University of the West Indies

**Potential competing interests:** No potential competing interests to declare.

Internationally, many students struggle with learning mathematics, so investigating factors relating to student mathematics performance, such as motivation, is important. The article 'Influence of Motivation on Pre-service Primary Teachers' Performance in Mathematics' aims to fill an existing research gap by adding to the small number of studies that have explored the relationship between motivation and mathematics performance in pre-service teachers. The manuscript was generally satisfactorily structured. Notwithstanding the aforementioned, several aspects of the manuscript should be strengthened before publication. Please see details of these below.

## Abstract

Consider anonymising the name of the school.

Consider deleting 'Two research questions were raised in the study' since further details as to the content of these questions were not provided.

The reliability coefficient of 0.81 is not needed in the abstract.

## Introduction

'Motivation arises from within humans' – This statement seems to describe a specific type of motivation (intrinsic) and not motivation in general since this description does not apply to extrinsic motivation.

Several statements need to be supported with a related citation. For example, "The existence of good motivation in learning will yield good results, while low learning motivation can hinder learning achievement, especially in mathematics." And "Various attempts have been made to address the problem of failure in performance in mathematics among primary pre-service teachers".

Correct APA 7th edition referencing throughout. For example (Gbolliie and Keamu, 2017); (Gutiérrez and Tomás, 2018).

For the types of motivation, if you are referencing Ryan and Deci's (2008, 2020) work and their Self-Determination Theory (SDT), shouldn't demotivation be ~~amotivation~~ - the absence of motivation, whether from internal or external influences, because an activity has no perceived importance (Deci & Ryan, 2008)? The paper could be strengthened if a theoretical framework section focusing on the SDT is added.

Consider inserting a sub-heading 'Review of related literature' and reorganising this section as per the two research questions.

Some literature on the relationship between motivation and performance is based on samples in university and school settings such as primary and secondary schools. Considering that your sample is pre-service teachers, how relevant are the results of these studies to the current research? Consider discussing the inclusion and applicability of results from primary and secondary school students to pre-service teachers.

You stated, 'Much attention has not been placed on comparing motivation and achievement among primary pre-service teacher mathematics.' The literature review did not seem to discuss the limited studies and the related results involving pre-service teachers, or perhaps it was not made clear to the reader when pre-service teachers were the study's respondents.

The identified gap in the literature that the author aims to fill needs further delineation. For example, why is the focus on primary pre-service mathematics teachers important?

### **Research Questions**

Three types of motivation were identified in the introduction. Why do the questions focus on intrinsic and extrinsic motivation but not amotivation/demotivation?

Consider removing 'at the 0.05 level of significance'.

### **Methodology**

How many primary pre-service teacher mathematics make up the research population?

The purposive sampling used in the research needs to be described.

Additional details need to be provided regarding the questionnaire (development, validity, how many questions were in section B, how many items were used to measure intrinsic/extrinsic motivation).

Information related to the administration of the questionnaire c/should also be provided.

A copy of the questionnaire should be provided for inspection in the paper's appendix or supplementary information section.

A section on ethical considerations followed for the research should be included.

### **Results**

Generally satisfactory, however, were the results generalisable to the primary pre-service mathematics teachers population since a sample was selected from the population?

### **Discussion**

The result that the correlation between intrinsic motivation and performance and extrinsic motivation and performance was similar was interesting. This result could have been discussed more thoroughly, including proposing possible reasons.

Briefly discuss the limitations of the research.

## **Conclusion**

The conclusion seemed to be only a summary of the research results. While this is a good start, consider adding a few sentences suggesting future research and underscoring the significance of the study.

## **Recommendations**

Consider organising the recommendations within paragraphs instead of as a bulleted list. You could also demarcate as per practice and policy.

## **References**

Good use of a wide range of literature.

Doi numbers and/or URLs to the references should be included where available.