

Do Prospective and Retrospective Memory Concerns Predict STEM Students' Performance?

Arifi Waked

Prince Mohammad Bin Fahd University, Dhahran, Saudi Arabia

Renad Alshaykhahmed

Prince Mohammad Bin Fahd University, Dhahran, Saudi Arabia

Maryam BoJulaia

Prince Mohammad Bin Fahd University, Dhahran, Saudi Arabia

Omar J. El-Moussa

Prince Mohammad Bin Fahd University, Dhahran, Saudi Arabia

Maura Pilotti

Prince Mohammad Bin Fahd University, Dhahran, Saudi Arabia

Abstract

The present study aimed to examine the extent to which self-reported concerns about prospective and retrospective memory functioning, anxiety related to worrying, and academic self-efficacy can predict academic achievement (as measured by GPA) in undergraduate students during the first year of university studies. Purposive sampling was utilized to select participants from an understudied population of bilingual Saudi Arabian female STEM students. Participants were asked to report concerns about prospective and retrospective memory lapses, the extent to which they were confident in their ability to carry out academic tasks (i.e., academic self-efficacy), and the frequency and impact of anxiety-linked worrying. Responses illustrated greater prospective than retrospective memory concerns. Nevertheless, GPA increased as reports of retrospective memory lapses and distracting worries decreased. The relationship was modest though, suggesting that awareness of retrospective memory failures and distractions does not correspond to an inability to satisfy academic demands. Instead, it may result in compensatory strategies that minimize the impact of both memory failures and distractions. Students also exhibited a modest relationship between memory concerns and academic self-efficacy, which suggested that memory issues play a minor role in the confidence students possess in their academic abilities. Taken together, these findings illustrate that although prospective memory lapses may be more noticeable in students' everyday lives, the ability to retain and retrieve past information and skills is more likely to impact performance on tasks that contribute to students' GPAs. The implications for teaching and learning of STEM undergraduate students are examined.

Keywords

Prospective memory, retrospective memory, academic self-efficacy, anxiety, worrying, GPA.