

Abstract

Prior research has established independent links between diet, sleep, and academic performance, yet the mediating role of sleep quality in the diet-performance relationship remains underexplored, particularly across diverse cultural contexts. This study examines this mediation effect among university students in Greece and Indonesia, using a comparative cross-sectional design. Data were collected from 226 students (119 from Indonesia and 107 from Greece) through structured questionnaires assessing diet quality (via the Global Diet Quality Score (GDQS) and NOVA classification for ultra-processed food (UPF) intake), sleep quality (via the Pittsburgh Sleep Quality Index (PSQI)), and academic performance (self-reported GPA and concentration ability). Results revealed that Greek students exhibited better diet quality, while both groups reported similar UPF consumption and sleep quality. Poor sleep quality was significantly associated with lower GPA and reduced concentration; however, the mediation role was shown on the relationship between diet and GPA. Moderate UPF intake negatively impacted academic performance, but high UPF intake showed no significant effect which might be impacted by confounding. The study highlights the importance of sleep quality as a mediator in the diet-academic performance relationship and underscores cultural and lifestyle differences in influencing these outcomes.

Keywords: Academic performance, cross-cultural study, diet quality, sleep quality, university students