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Self-Efficacy, Metacognitive Awareness, Working Memory and Academic Performance in a Research Methods Course

Research is vital in Psychology, as well as the social sciences, as it is a tool for creating knowledge through the interpretation and manipulation of empirical data, and thus furthering understanding in a field (Barak, 1998; Bridges, Gillmore, Pershing, & Bates, 1998; VanderStoep & Shaughnessy, 1997). Self-efficacy, metacognitive awareness, and working memory are essential to explore in relation to academic performance in research methods courses such as RDA IIA, as these skills are needed in the different components of these types of courses and are likely to play a role in predicting academic performance (Alloway, 2006; Bandura, 1993; Payne & Israel, 2010; Zulkiply, Kabit, & Ghani, 2008). Self-efficacy, metacognitive awareness, and working memory are also all potentially susceptible to intervention, and therefore exploring and establishing relationships between these variables could improve ways to teach and help students achieve academically. Therefore, this study aimed to examine the relationships between academic self-efficacy, metacognitive awareness, working memory, and academic performance on the RDA IIA module overall and for different components.

The sample consisted of 95 students who had completed RDA IIA at the University of the Witwatersrand. The instrumentation used consisted of a brief demographic questionnaire, an adapted Academic Self-Efficacy Scale, the Metacognitive Awareness Inventory, and three working memory tasks assessing verbal, spatial, and numerical working memory. Academic self-efficacy related to and predicted performance in the research component of the course, and also predicted final RDA IIA mark. Metacognitive awareness did not relate to or predict any aspect of RDA IIA performance, except for a significant positive correlation between declarative knowledge and research mark. The working memory total and mental counters task related to and predicted all aspects of RDA IIA performance; the verbal task related to research mark but had no predictive role in RDA IIA performance; and lastly, the spatial task did not relate to or predict any aspects of RDA IIA performance. The results of the study contribute to a better understanding of the factors relating to and predicting RDA IIA performance; and these findings may lead to the development of more effective intervention programmes to assist students in improving their research methodology marks.