THE LINK BETWEEN MATHEMATICS ENGAGEMENT AND PERSONALITY

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BACKGROUND
Prior educational research has often focused on how environmental factors impact student educational outcomes such as classroom engagement. However, it has yet to be considered in educational research, how the personality of the student and the student's perception of their teacher's personality may influence these outcomes.

AIMS
Using the dominant personality model (the Big-Five Model), the current study investigated whether student personality and student-rated teacher personality predicted students' course grades, motivation at university, and classroom engagement.

SAMPLE
Data were collected from 137 Australian university students from first year undergraduate mathematics courses. Of these, 80 were female and the mean age of the total sample was 19.85 ($SD = 4.27$).

METHOD
Students completed four assessments: Analogies Test to measure cognitive ability; Big-Five personality inventory (Saucier, 1994) to measure the personality of themselves and the same Big-Five personality inventory to assess the personality of their mathematics tutor; Student Evaluations of Educational Quality (Marsh, 1982) to assess aspects of student engagement in the mathematics class; and Motivation and Engagement (Martin, 2007) to assess student motivation and engagement in university in general. Their demographics and overall mathematics course grades were also collected.

RESULTS
Hierarchical regressions revealed that both student personality and student ratings of their mathematics tutor's personality predicted different domains of student engagement (beyond demographics and intelligence). Here, different domains of personality were important in predicting different aspects of student engagement. However, student ratings of their tutor's personality predicted more domains and a higher percentage of variance. Furthermore, course grade and motivation and engagement in university in general were not predicted by teacher personality but only student personality.

CONCLUSIONS
The current study highlights the importance of understanding both student and teacher personality as it can determine students' level of engagement in the classroom.

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