

0107

## **The effect of an intervention targeting personality and study strategies on academic achievement in final year secondary students.**

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### **Background**

The dominant view of personality is that it is fixed and stable, whereas the contextual theory suggests that personality changes both over time and in response to the environment. However, theorists and practitioners who subscribe to this theory have not previously explored the possibility of specifically targeted interventions to change aspects of personality. The secondary school setting is particularly conducive to this, as contextual theory suggests that personality is particularly malleable during adolescence.

### **Research Questions**

An initial study in 2008 with 655 participants identified a number of significant influences on student achievement. Two significant predictors were selected for inclusion in an intervention program conducted during the 2009 school year (February to November). The study hypothesises that a targeted intervention will increase student levels on these predictors, and that there will be a resulting increase in academic achievement. A further variable was selected as a control.

The first variable selected was use of critical thinking skills, the influence of which is supported by previous research (Hattie, 2009). The second variable selected was the personality variable openness to experience. Prior results for the influence of openness to experience on academic outcomes have varied (Blickle, 1996). The control variable selected was cooperative learning, which did not significantly predict academic achievement in the initial study.

### **Methods**

The intervention was conducted with 216 students at a large New Zealand secondary school. Firstly, students completed a pre-intervention questionnaire. This established students' current use of critical thinking and cooperative learning techniques, as well as measuring their openness to experience. Students were then divided into three groups, which were balanced on sex, intelligence, openness to experience, and use of critical thinking and cooperative learning techniques.

The three groups were assigned to either a study skill or openness to experience, and then received tuition designed to increase either their use of the relevant study skill or their openness to experience respectively. The intervention consisted of two workshops, weekly text messages/emails and a post-measure. The workshops involved activities designed to boost student use of the relevant study skill or to increase ratings on the scales of openness to experience. During the pre-measure session, students were asked to supply a contact cell phone number or email address. These were used to send the weekly text messages and emails, which reminded students of the skills and activities that had been introduced during the workshops.

Finally, students completed a post-intervention measure that consisted of the same scales as the pre-intervention measure for openness to experience, critical thinking and cooperative learning. The measure also included items measuring students' perspectives on the interest and usefulness of the workshops and text messages/emails.

### **Frame**

Student's post-measure use of study skills and openness to experience was compared to pre-intervention levels to identify any change.

Student feedback on the interest and usefulness of the intervention was compared across the three conditions.

### **Research findings**

None of the changes in student level of openness to experience or use of study skills were statistically significant; a finding that supports the view that personality is fixed and unchangeable. However, students in the openness to experience group increased from an average of 3.65 (out of five) on openness to experience to an average of 3.80. Neither of the other groups experienced an average increase in their use of their targeted study skill. This suggests that there may have been some influence from the intervention. Previous literature indicates that use of study strategies is more easily able to be influenced and so it was unexpected that student use of targeted study strategies was not increased by the intervention.

A statistically significant result was found for how useful students found the workshops, with the cooperative learning workshops being perceived as less useful than the other two variables. This shows that students have a level of awareness about the strategies that will influence their academic success, and that students did not view cooperative learning as an important influencer of their academic outcomes.

Student examination results will be available in January 2010. Results for the 2008 cohort of seniors have been obtained, as have the current participants' exam results for their junior year. These results will be used for the purpose of comparison for 2009 senior level results. An increase in results for the two groups assigned to the original significant predictors of achievement (critical thinking and openness to experience) will support the positive influence of the intervention, despite no increases being found in the post-intervention measure. However, an increase in results for the cooperative learning group suggests that it is the individual attention of the intervention itself influencing academic outcomes, rather than the specific nature of the intervention.