Implicit Theories of Intelligence Versus Willpower: Which Best Predicts Students’ Academic Behaviors?

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Abstract

The study demonstrated that implicit theories of willpower predicted more different measures of academic behavior than did implicit theories of intelligence. Students viewing willpower as limited showed more surface learning, less deep learning, less use of active learning techniques, more test anxiety, and more self-handicapping.

Introduction

Students with an incremental theory of intelligence, that is students who see intelligence as malleable rather than static, respond to academic challenges with effort (e.g., Hong, Chiu, Dweck, Lin, & Wan, 1999). In addition, implicit theories of willpower affect sustained learning such that people who see willpower as non-limited rather than limited show continued effort and learning over time (Miller, Walton, Dweck, Job, Trzesniewski, & McClure, 2012).

Both types of implicit theories are thus associated with academic performance, at least when students face academic challenges. The purpose of the current study was to compare implicit theories of intelligence versus willpower in terms of their relationship to academic behaviors: deep learning, surface learning, use of active learning techniques, test anxiety, and self-handicapping.

Because not all students encounter academic challenges that could lead to failure in all courses, implicit theories of intelligence may not predict academic behaviors for all students. In contrast, all college courses require ongoing studying and hard work, so implicit theories about willpower are likely to be better predictors of academic behaviors than implicit theories of intelligence.

Method

205 students at a small Midwestern college completed an online survey

Age: $M = 19.9$ (SD = 1.76)

Implicit Theories of Intelligence: 4-item measure from Dweck (2000). Higher scores indicate more entity beliefs.

Implicit Theories of Willpower: 4-item measure adapted from Miller et al. (2012). Higher scores indicate more limited beliefs about willpower.

Deep and Surfaces Approaches to Learning: 20-item Revised Two Factor Study Process Questionnaire (Biggs, Kember, & Leung, 2001).

Use of Active Learning Techniques: 7-items adapted from Stanger-Hall (2012).

Test Anxiety: 10-item Westside Test Anxiety Scale (Driscoll, 2004).

Self-Handicapping: 10-item short form of the Self Handicapping Scale (Strube, 1986)

Implicit theories of intelligence and willpower were unrelated, $r = .049, p = .485$.

Results

<table>
<thead>
<tr>
<th></th>
<th>Implicit Beliefs about Intelligence</th>
<th>Implicit Beliefs about Willpower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Learning</td>
<td>-.013</td>
<td>-.287</td>
</tr>
<tr>
<td>Surface Learning</td>
<td>.212</td>
<td>.140</td>
</tr>
<tr>
<td>Use of Active Learning</td>
<td>-.032</td>
<td>-.200</td>
</tr>
<tr>
<td>Test Anxiety</td>
<td>.013</td>
<td>.196</td>
</tr>
<tr>
<td>Self Handicapping</td>
<td>.209</td>
<td>.321</td>
</tr>
</tbody>
</table>

Note: Colored boxes indicate statistically significant correlations

Conclusion

Implicit theories of intelligence predicted only surface learning and self-handicapping. In contrast, beliefs that willpower is limited predicted greater surface learning, less deep learning, less use of active learning techniques, more test anxiety, and more self-handicapping. Thus, it appears that implicit theories of willpower are better predictors of students’ academic behaviors than implicit theories of intelligence.

References