

## Highlights

### **Social and dimensional comparisons of achievement in multifaceted task value formation among adolescents**

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- Social and dimensional comparisons of achievement shape students' task values.
- Higher achievement was positively associated with same-domain task values.
- Higher language achievement was related to lower math intrinsic value.
- Higher language achievement also related to higher math cost.
- Gendered task values develop only partially through social comparison.

# Social and dimensional comparisons of achievement in multifaceted task value formation among adolescents

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## Abstract

Students routinely compare their achievement across different subjects (dimensional comparison) and against that of their peers (social comparison). Yet, it is unclear how these comparison processes influence their task values (intrinsic, attainment, utility, cost) and the observed gender differences in these values. Utilizing structural equation models, we tested the associations between Grade 7 achievement (in Finnish and math) and Grade 8 task values among 1325 Finnish students (*Age* at Grade 7 = 12.8 years, 52% girls). We observed positive social comparison (within-domain) effects on all value facets, and partial negative dimensional comparison (cross-domain) effects: higher Finnish achievement was associated with lower intrinsic value and higher cost in math. Despite outperforming boys in Finnish and math, girls reported lower intrinsic value and higher cost in math—effects not explained by achievement comparisons. These results imply that task values development may rely on comparisons of other factors beyond individual achievement.

*Keywords:* Prior achievement, Academic performance, Subjective task value, Generalized internal/external frame of reference, Gender

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## 1. Introduction

Throughout schooling, students commonly compare their achievements to those of their peers and against their own grades in different subjects—yet we know relatively little about how such comparisons influence their task values, or their perceptions of enjoyment, importance, and usefulness of a task. Although studies guided by Situated Expectancy Value Theory (SEVT,

Eccles and Wigfield, 2020) have primarily demonstrated the importance of task values in shaping students' academic achievement (Gaspard et al., 2019; Trautwein et al., 2012), less is known about how these values develop in response to student achievement. Given the crucial role adolescents' task values play in influencing their educational and career choices (e.g., Bong, 2001; Durik et al., 2006; Musu-Gillette et al., 2015; see Wigfield and Eccles, 2020 for a summary), this study aims to investigate the development of students' value beliefs in relation to their academic achievement.

The current study aims to address the gaps that have yet to be addressed about the role of achievement comparisons in task value development, which includes the potential differential processes contributing to gender differences. We first tested both the social and the dimensional comparison effects of math and verbal achievement on the formation of multifaceted task values, as described in the GI/E model (see Fig. 1).

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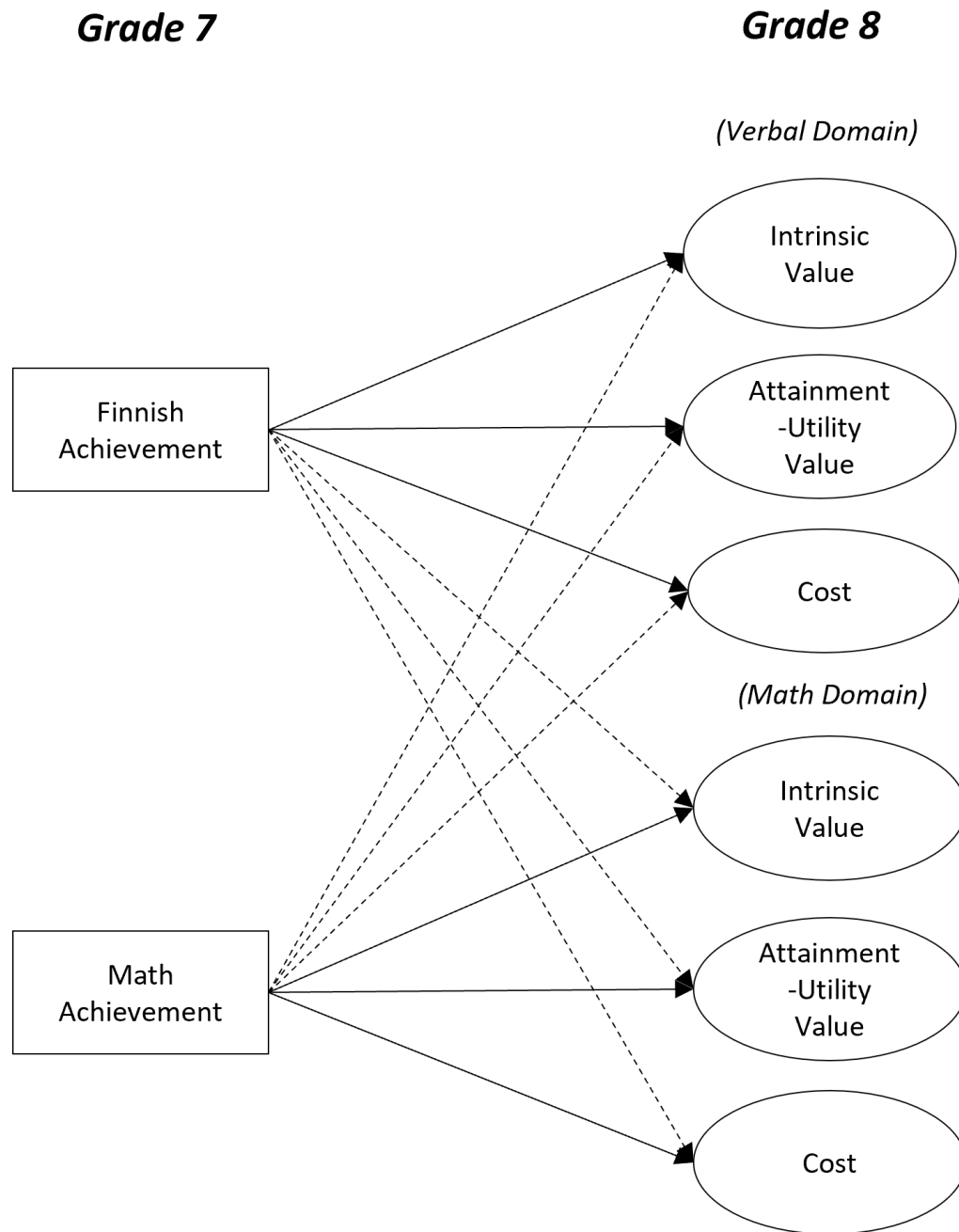


Figure 1: A conceptual model of the dimensional and social-comparison process.