

# Affective-motivational Factors Predicting Freshmen's Study Time Investment

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## RESEARCH AIM

Students significantly differ in the amount of time devoted to studying. Female students have been shown to work harder (Brint & Cantwell, 2010), whereas students with higher scores on general cognitive ability and prior learning tests invest less study time (Plant, Ericsson, Hill, & Asberg, 2005). But what about variables with a strong affective-motivational component?

## METHOD

◇ **329 freshmen of business economics**  
Hasselt University, Belgium

- 185 boys, 144 girls

◇ **Self-regulated learning environment**

- Self-study tasks for each course are described in study itineraries  
- Classes: lectures, response sessions, and workshops

◇ **Key outcome variable:** students continuously recorded their **study time investment** in self-study tasks and class attendance during the entire term

◇ Study time per credit point was calculated

◇ **Course involved:** either Macro-Economics, Micro-Economics, Mathematics, or Financial Accounting

◇ **Control variables:** intelligence test score at university entry and gender

◇ **Affective-motivational variables**

- Measured at course-level (week 6/8)

- **Self-efficacy** (18 items,  $\alpha = .91$ )

e.g., During the past 8 weeks, I was certain that I could handle the workload of (*course x*)

- **Learning goal orientation** (7 items,  $\alpha = .70$ )

e.g., I study (*course x*) because it interests me.

- **Action-orientation** (Kuhl, 1994; Volet, 1997)

◇ **Disengaging vs. Being Preoccupied with Failure**  
10 items,  $\alpha = .81$ ; e.g., When I am concerned about my progress in (*course x*), I start with something else and don't think about it anymore/ it takes me a long time before I can concentrate on something else

◇ **Taking Initiative vs. Hesitating**  
7 items,  $\alpha = .72$ ; e.g., When I have to complete an important assignment, I easily start working/ I often think too long about where to start

◇ **Being Persistent vs. Being Easily Distracted**  
4 items,  $\alpha = .64$ ; e.g., When a part of (*course x*) is more difficult than expected, I keep studying until I have processed it/ I tend to engage in something else

## RESULTS

Table 1. Intercorrelations and Descriptive Statistics

	1	2	3	4	5	6	7	8
1. Intelligence Test	1.00							
2. Self-Efficacy	.15**	1.00						
3. Learning Goal Orientation	-.03	.30***	1.00					
4. Disengaging	.02	.25***	-.13*	1.00				
5. Taking Initiative	-.10	.35***	.34***	.18**	1.00			
6. Being Persistent	.02	.36***	.45***	.06	.47***	1.00		
7. Study Time	-.08	-.07	.13*	-.17**	.23***	.23***	1.00	
8. Course Grade	.35***	.39***	.16**	-.11	.22***	.27***	.14*	1.00
$M_{\text{boys}} (SD_{\text{boys}})$	36.75(8.26)	4.09(0.67)	2.76(0.42)	2.54(0.47)	2.56(0.45)	2.97(0.55)	22.41(7.19)	9.40(4.67)
$M_{\text{girls}} (SD_{\text{girls}})$	33.58(7.24)	4.09(0.62)	2.86(0.43)	2.42(0.50)	2.75(0.52)	3.11(0.55)	24.50(6.26)	9.56(4.22)
Independent samples <i>t</i> -test	3.64***	-0.05	-1.94	2.37*	-3.51***	-2.35*	-2.77**	-0.33
Theoretical range	0-72	1-6	1-4	1-4	1-4	1-4	0-[27]	0-20

Table 2. Study Time and Grades Regressed On Affective-Motivational Factors

	Study Time		Course Grade	
	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$
Step 1: Control variables		.03*		.13***
Intelligence Test	-.05		.37***	
Gender	.14*		.09	
Step 2: Adding Affective-Motivational Factors		.12***		.19***
Intelligence Test	-.02		.32***	
Gender	.06		.01	
Self-Efficacy	-.16**		.33***	
Learning Goal Orientation	-.01		-.07	
Disengaging	-.17**		-.24***	
Taking Initiative	.21**		.14*	
Being Persistent	.20**		.13*	

After adding the affective-motivational factors, gender is no longer a significant predictor of study time. Easily taking initiative to study and being persistent are associated with more time investment, whereas more disengagement from the course and a higher course-related self-efficacy are related to less time investment. When looking at self-study time and class attendance separately, the model only holds for self-study time. Only persistence predicts class attendance. The same affective-motivational factors play a role in the prediction of course grades. However, students with a higher course-related self-efficacy perform better.