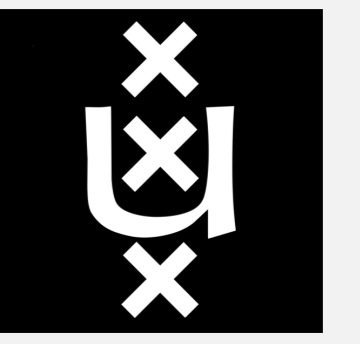


Improvement in learning? Strategies matter!

Preliminary results from the SMILE-study

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Introduction

Many new students struggle with the novelties of university life, though each student adapts in their own way. Some just thrive, or adjust their strategies in due time, others are plagued by unstable study rhythms and persistent failure of courses. To prevent losing talented students, we need to identify which students risk study delay, so help can be offered in time. The goal of the SMILE-study (*measuring Skills and Mindset for Improvement in LEarning*) was to investigate the possible predictors of study success, delay and dropout in the first year.

Material & Methods

Data from different cohorts of the Psychobiology (PB) bachelor were used to predict grade point averages and credits earned in the first year.

• Cohort '22/'23

Two months after starting the program, 85 first year students (84% female) filled out the MSLQ (learning strategies & motivation); BRIEF (executive functions); and Dweck mindset scale, as well as questions about their personal life/background, and an open question on their choice to study at university. Selection scores and study results of the first six courses were obtained in bins (1-5.5; 6-7.5; 8-10) from all 237 new students (81% female) and 173 repeating students (61% female) at the end of the study year. Outcome measures were mean writing score, academic attitude, exam score, course grade, and European credits (EC).

Qualitative coding was used to analyze intrinsic and extrinsic motivation. Preliminary results were analyzed using SPSS with Pearson/Spearman correlations, independent t-tests and ANOVA's. Prediction analysis on the full course data will later be run using CHAID.

• Cohorts '19/'20 to '21/'22

For past cohorts, selection- and study results of all courses were obtained. Predictors are selection results and mean high school grade. Bins and outcome measures used are the same as above. Differences between study performance in all years will be analyzed using a MANOVA.

Results

Below are the preliminary data from the most recent cohort.

• Cohort '22/'23

Repeating students showed a significantly lower high school grade (M=6.7) compared to first time PB students (M=6.9). Genetics (n=63) and Cell Biology (n=52) were most often repeated, with grades in Genetics being significantly higher and passed more often compared to first time students, though 65% of repeaters had not received any credits by June.

Of first time PB students, 48% were first-gen. Students working more than 15 hours a week performed significantly lower on writing skills. Almost all reported good physical health; 71% said the same for mental health. 25% had a psychological diagnosis, though correlation with mental health issues was low.

Sixty-eight percent of students earned 21/30 EC or more. Selection scores correlated significantly with mean grade (r=.42) and EC (r=.37). Mean grade correlated highly with EC (r=.85). There were no differences in grades or EC between extrinsically and intrinsically motivated students.

Students with the lowest third of EC had lower scores on the Learning strategies subscale of the MSLQ (i.e., Resource Management) and on the BRIEF (i.e., Task monitoring and Initiation, but not Working memory) and reported more mental health problems than the middle third (but not than the highest third). No differences were seen in mindset or MSLQ Motivation.

Conclusion

Based only on the preliminary analyses, it seems students at risk of study delay are those who lack a number of essential strategies to initiate- as well as persevere in their study work. Further analyses are necessary to identify whether mental health moderates this relationship or whether they are independent. Possible interventions include precautionary resource management training at the start of the programme.