

# List of risk/succes factors

The following variables were found to influence student dropout

## **Qualifying education**

Students with a foreign qualifying education were found to be less likely to drop out than students from HTX and STX who were again less likely to drop out than students from HF and HHX. No difference was found between HTX and STX and nor between HF and HHX. The conclusion is based on

- Visual inspection of survival curves
- A log rank test
- The variable is significant in a cox' proportional hazards model both before and after correcting for remaining variables.
- The variable is significant in a logistic regression model after correcting for other variables
- After using the CART-algorithm and pruning the tree it is one of the two remaining variables to split on

Note however that some assumptions about non-informative censoring and proportional hazard seems to be violated in the cox model.

## **Quotient from qualifying education**

A high quotient was found to reduce the risk of dropping out. The findings were based on

- Visual inspection of survival curves
- A log-rank test
- Significant in cox' proportional hazard model both before and after correcting for other variables
- Significant in a logistic regression model
- After using the CART-algorithm and pruning the tree it is one of the two remaining variables to split on

Note however that some assumptions about non-informative censoring and proportional hazard seems to be violated in the cox model.

## **Level of math from qualifying education**

It was found that students with level A in mathematics are less likely to drop out than students with level B. The findings are based on

- Visual inspection of survival curves
- A log rank test
- The variable is significant in a cox' proportional hazard model both before and after correction for other variables
- The variable is significant in a logistic regression model

## **Grade in Math from qualifying education**

It was found that for students with level A in math a higher grade in math means they are less likely to drop out. For math on level B there was no particular effect of the grade. The findings are based on

- Visual inspection of survival curves
- Log-rank tests

- Math grade is in itself not significant in cox' proportional hazard model after correcting for quotient but an interaction term between math grade and level is. However different test do not agree and the significance is sensible to removing some data points
- The variable is significant in a logistic regression model

### **Gender**

Men were found to be less likely to drop out than women. The findings are based on

- The variable is significant in a cox' proportional hazard model however this conclusion is sensible to changes in few data points
- The difference between genders seems to be only for danish students.

### **Age at enrolment**

There are some indications that high age is protective to dropping out. The results are based on

- The variable is significant in some cox' proportional hazard model but it is sensitive to the removal of few observations

### **Time varying variables**

Information about how many ECTS a student has attempted and attained and performance in some activities were found to be significant in cox models with time varying covariates, but there are some issues concerning this:

- The coefficients indicate that it reduces the hazard to attempt many ECTS. However, there have been some changes in rules concerning how many ECTS a student must attempt each semester during the period of the gathered data and this might influence the results.
- Some coefficients are counterintuitive since they indicate that it increases hazard to miss ECTS or having high GPA in projects. The point about missing ECTS might actually be a result about people already having recieved qualifications for some courses earlier.

Fitting of certain logistic regression models indicate that the more variables we know from after enrolling the less important the variables gathered before the beginning of the education are.