

**Factors influencing student delay in higher education
A case study at Stenden University of Applied Sciences**

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Abstract

The goal of this research was to examine the relation between prior education and study success and to identify reasons for study delay. The research was longitudinal and found that students with a VWO background are more successful in timely graduation than students with a HAVO or MBO background. When analysing study success based on secondary education profiles, the main outcome was that the profiles do not predict study success for VWO, but there are significant differences for HAVO. For both, the students with the preferred profile Economics & Society do not return the shortest graduation times on average. To determine the reasons for study delay a questionnaire was sent by email to all students in the database in May 2012. In total 281 respondents completed (part of) the questionnaire. Results of the regression analyses show that lack of personal support from staff is one of the main factors influencing study delay as is balancing employment and study. However, results between the regression analysis and the qualitative analysis of factors on study delay are not always congruent as in an open question a majority of respondents indicated personal problems to be one of the main influences.

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List of abbreviations

BIO	Business Identifying Objects (student database)
HAVO	Higher general secondary education
HBO	University of Applied Science
HCM	HAVO-Culture & Society
HEM	HAVO-Economics & Society
HM	Hotel Management
HNG	HAVO-Nature & Health
HNT	HAVO-Nature & Technology
HOS	HAVO old school
IELTS	International English Language Testing System
MBO	Intermediate vocational education
OVR	Other prior education (including international students)
VCM	VWO-Culture & Society
VEM	VWO-Economics & Society
VNG	VWO-Nature & Health
VNT	VWO-Nature & Technology
VOS	VWO old school
VWO	Pre-university education

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1. Introduction

In this chapter the reason for this research is presented. This includes both the practical as the theoretical reason, which lead to the central research questions.

Graduation rates and retention of students have been subject to a lot of research. Despite different initiatives, the drop-out rates (i.e. students who have not been registered at university or higher education for at least a year) have remained consistent around 30% for the past twenty years.

In the Netherlands, higher education is divided into two different types of universities: academic universities and vocational universities (universities of applied sciences). Pre-university education is split into three main levels: intermediate vocational education (MBO), higher general secondary education (HAVO) and pre-university education (VWO). VWO is aimed at academic universities, whereas generally speaking MBO and HAVO are geared towards universities of applied sciences. The transfer from MBO to an university of applied sciences is quite difficult, so students with an MBO background often complete HAVO before entering higher education.

To put more pressure on the higher education institutes, the Dutch ministry of Education, Culture and Science published a policy plan 'Het hoogste goed' at the end of 2007 (Ministerie Onderwijs, 2008). This policy is aimed at improving study success rates. The efficiency of students who started the post-propaedeutic phase in 2001 was 77% in 2006. The aim that is set in this policy plan is to have a 6-year graduation rate of 90%. This means that from the students who started their post-propaedeutic phase in 2008, 90% should graduate in the academic year 2012/2013 (Ministerie Onderwijs, 2008).

Current figures for higher education in the Netherlands are well below the target of 90%. The 8-year graduation rate for students who started in 2001 is 68.8%. The result for 5-year graduation rate is 56.7% (students who started in 2004). Of the students who continued their studies after the first year, 75.6% of students graduate within 5 years (HBO-Raad, 2010). Relatively more MBO students than HAVO drop out in the first year (19.7% and 12.7% respectively). The five-year graduation rate is higher for MBO students than HAVO (56.8% versus 53%), whereas after eight years, the HAVO students have a better result (72.6% versus 67.5% MBO). Students with a VWO background achieve the best results, 81.9% has graduated after 8 years¹ (HBO-Raad, 2010).

In the short term, the dropout rate is strongly influenced by prior education. For HAVO students, the dropout rate after three years is 19.7%, whereas for MBO it is 29.3%. In the long term, there is a shift in influence on dropout rates.

Further pressure on achieving better graduation rates was set by the Dutch government in 2011, by proposing a new law penalising students who have major study delay. Previously students were awarded a government grant for the length of the proposed study, plus three years. Under the new law students studying for longer than 5.5 years for a four-year study will be required to pay an extra 3000.00 Euros in tuition fees per year. This law has been reversed in September 2012. However, a new proposal is to provide students a loan rather than a government grant. This will put an increasing financial burden on students who fail to graduate on time and as a result it becomes even more important to graduate on time to diminish incurring debt.

Poor graduation rates are also an issue for the institute, as graduation rates are important for governmental funding. In higher education in the Netherlands government funding is granted for each graduated student.

Every year, the Netherlands Association of Universities of Applied Sciences (HBO-raad) publishes a report on graduates and dropouts in Universities of Applied Sciences. In these reports differentiation is made based on prior education: MBO, HAVO and VWO. The report however focuses on figures and not on reasons for dropout or study success.

This research will focus on a specific type of education (Hotel Management), to see whether there are significant differences in student success based on prior education. Furthermore, research

¹ Unfortunately, the report does not state whether these differences are significant.

will be conducted on the predictive value of profiles that students choose in their secondary education. In the Netherlands, students at higher secondary education can choose between four profiles:

- Nature & Technology (N&T): Technology and exact studies;
- Nature & Health (N&H): Medical, biological, technology and scientific direction;
- Economics & Society (E&S): Economics, trade, management, communication, tourism;
- Culture & Society (C&S): Culture, education, art and social direction.

The profiles are geared towards tertiary education. Universities may require a specific profile as an entry requirement. Students have to choose at an early age which profile they will follow, and thus the direction they want to follow in tertiary education.

Hotel Management (HM) at Stenden University of Applied Sciences² does not require a specific profile as entry requirement; there is however a preference for the profile Economics & Society. The only entry requirements are that Dutch students with MBO, HAVO or VWO background must have completed English and have achieved a pass on a second foreign language (MVT2) at their secondary education. For English, no minimum grade is required. International students must have a minimum level of English of IELTS 6.0.

HM has a selection procedure for incoming students. This selection consists of a computer test, which includes an intelligence test (logic with languages, numbers, and diagrams), a part on intrinsic motivation, knowledge of accounting and economics, knowledge of the industry, and English. Another part of the selection is a group assignment to measure the ability to work in a team as well as three motivation interviews, one with a member of staff, one with a current student and one with an industry representative. The student has to pass all elements of the selection to be granted entry. One would expect that selection would contribute to achieving better graduation rates, as it measures the motivation and capabilities of prospective students. However, the dropout rates and graduation rates do not differ considerably from national averages.

When looking at retention, it is important to identify what is regarded as student dropout. According to Tinto (1993) institutions should define what they regard as student dropout. An undifferentiated use of the term student dropout does not take different reasons for leaving into account and assumes that for all types of reasons, institutional action can be taken. However, if students decide to depart because they feel that further participation in a specific institution does not serve their best interests, there is no amount of action an institution can take to retain these students. For the purpose of this research student dropout is defined as those students departing due to academic failure.

One of the main issues identified in student retention is integration within the institutional environment (Thomas, 2002; Tinto, 1993; Zepke & Leach, 2005). Zepke and Leach (2010) detail this even further in that institutional cultures should be welcoming to students of diverse backgrounds. The culture of an institute is influenced by many factors: the heterogeneity of the population (both students and staff) in age, gender, social background, nationality and the like. The more heterogeneous the institutional population, the more welcoming the institute is perceived. Furthermore, creating opportunities to enhance students to learn autonomously by offering sufficient choice in the programme, flexibility and support increases the chance of study success

Although as indicated, much research has been conducted into student drop out and certain patterns are apparent, the situational context is different than in most other higher education institutes. Hotel Management has adopted the concept of Real World Learning, which means that the entire curriculum is build on real life cases. The main didactic concept is Problem Based Learning (PBL), but as this is supported by lectures and workshops, it has developed into a PBL blended learning concept. However, what makes HM special is the practical part of the curriculum. Throughout the curriculum the students run a commercial 4-star hotel.

² For ease of reading, Stenden University of Applied Sciences will be abbreviated to Stenden University for the remainder of the text

To accommodate the diverse intake, HM offers around 10 different tracks geared towards matching the prior education to the curriculum.

The first part of this research focuses on the effect of prior education on graduation rates, based on prior education of MBO, HAVO or VWO. Within HAVO and VWO, an analysis will be done of the different profiles that students had on entry, to determine whether students with the preferred profile graduate more quickly than students with other profiles.

When it has been identified which groups of students are most successful in academic achievement based on prior education, further research will be conducted into the main reasons for study delay. It stands to reason that the factors that lead to student withdrawal also play a part in study progress, while the lack of study progress may lead to student withdrawal. In identifying reasons for student delay, as many factors as can be identified in literature will be taken into account. This involves issues such as the content and the build up of the curriculum, and support services. Support services can be divided in facilities, such as library or technological facilities, and 'soft' support such as coaching, accessibility of lecturers etc. Social factors such as feeling homesick or not belonging to the group are also taken into consideration in identifying reasons for delay.

The main research questions for this research can be specified as:

1. Does prior education predict academic achievement?

Based on national figures it is arguable that the efficacy of VWO is higher than that of HAVO or MBO students. This leads to the first hypothesis:

Hypothesis 1: Students with a VWO background are expected to graduate more timely than students with a HAVO or MBO background.

As indicated, for Dutch students, there is a preference for the profile Economics & Society, as HM has a strong economic focus. Students with other profiles may also pass the selection, however, as those profiles fit less with the prescribed curriculum, students with the profile Economics & Society are expected to be more successful. Therefore, the second hypothesis is as follows:

Hypothesis 2: Within VWO and HAVO, students with the profile Economics & Society are more likely to graduate on time.

The second main research question focuses on factors influencing study progress:

2. What are the main reasons for delay in graduation?

This research question will be answered by both qualitative and quantitative analysis.

2. Prior education, academic achievement and study delay

At the start of this research an extensive literature study was conducted. This chapter outlines the most important outcomes and starts with a broad outline of factors influencing study delay. In paragraph 2.1 common factors associated with student dropout are discussed in more detail.

Much research has been done on student dropout in higher education. Much less focus has been on factors that influence student success. Would the reasons found for dropout be the same as those which lead to delay in graduation or could the factors leading to delay eventually lead to withdrawal? As limited research has been done on factors leading to delay, for the purpose of this research, the factors leading to dropout are considered to be influencing student delay as well.

The reason for leaving is an important indicator of the type of action that is required to decrease student dropout (Prymachuk, Easton, & Littlewood, 2009; Tinto, 1993). It is in this respect also important to note that reasons for leaving are generally multi-factorial (Christie, Munro, & Fisher, 2004; Glogowska, Young, & Lockyer, 2007). However, students often find it difficult to name the precise reasons for leaving, and most are not willing to partake in exit interviews, leaving the institution largely at a guess of why students depart voluntarily.

The interaction model of Tinto (1993) is one of the most tested models in research on student dropout. This model is geared towards residential universities in the American higher education market. This model focuses on the interactions between individuals within the institution and the role these interactions play in student departure. It takes both formal and informal interactions into account as well as the social and intellectual environment.

Tinto's integration model aims at explaining the longitudinal process of student departure. He identified two main constructs that influence student withdrawal: social and academic integration. Students enter university with a number of characteristics, such as background and academic attainment and have intentions to achieve a degree at entry. Academic integration refers to the level that the students feel confident that they can achieve the degree, i.e. that they have chosen the right level, which is confirmed by academic achievement (academic congruence). Social integration refers to the extent that the students feel at home in the institute and feel part of a social network. Tinto refers to the student feeling at home and part of the social network as social congruence.

Although the model of Tinto has been widely accepted and adopted, Yorke (1999) criticises it on several grounds. The first is the fact that finance is not included in the model. This fits well with the system of higher education in the United States, however, the model can therefore not be generalised to countries where students often only during the studies experience the financial burden. In the United States students have to indicate before starting their studies whether they can and how they will fund it. In Europe, students often have to take out loans to fund their studies and the effects are not always clear to students beforehand.

Another issue is the strong focus on the contribution of the student, rather than also including institutional failures such as the lack informing prospective students on the nature of the programme or providing a sound learning environment. In the model of Tinto, there is no role for the institution apart from staff and student interaction. However, according to Tinto, goal commitment refers to having made the right choice. If the institute has not provided clear information on the nature of the programme, the student may feel the wrong choice was made. If the student then decides to dropout, it is not so much due to the characteristics of the student, but to the lack of good information provision of the institute. The same is valid for providing a sound learning environment. Yorke (1999) concludes that non-completion should be seen as a result of interactions mainly between student and institution rather than from a student centred focus alone.

2.1 Common factors associated with student dropout

Student experience

Yorke (1999) identified that the quality of the student experience is influenced by the quality of teaching, level of support from staff and organisation of the programme.

Lack of support can be divided into institutional support and social support. Social support refers to the already identified factor of inclusion. Institutional support can be both provision of physical facilities (such as library, computers and specialist equipment) and 'soft' facilities such as coaching, study advice and social facilities. This was first identified by Tinto (1993) who reiterates that a student should feel inclusive. This is strengthened by the research of Terenzini and Pascarella (1977) who found that the amount of contact between faculty members and students positively influenced student persistence. However, this was found to be related to the type of institution by Pascarella and Chapman (1983), as it was statistically significant for residential universities, but not for two or four year commuter institutions. The importance of inclusion was also found by Jenkins (2007) who stated that minority students are more successful at colleges who provide special support for minority students, and by Madgett and Bélanger (2008), who found that students often feel a number and that students considering dropping out usually have difficulty integrating.

Support should be given at an early stage, before serious problems arise (Lowis & Castley, 2008). A good introduction programme has been found to enhance the student experience. Early experiences are an important factor in the persistence of students (Grayson, 2003). Students often feel overwhelmed in the first weeks due to the large amount of information (Glogowska et al., 2007). Offering support for emotional, academic and social adjustment is perceived to be successful by students (Lubben, Davidowitz, Buffler, Allie, & Scott, 2010).

Programme choice

Difficulty coping can be related to different factors. It may be related to a wrong choice of programme or unhappiness with the social environment or the demands of the programme. A poor choice of course or university is identified as one of the main factors influencing the decision of students to discontinue (Christie et al., 2004; Lassibille & Navarro Gómez, 2009; Van Onzenoort, 2009; Yorke, 1999). A poor choice relates to wrong choice of study, but also to a gap between expectations and actual programme or to a lack of commitment. In the Netherlands, more than one in five students with a HAVO background change their studies to another institute or other education (22.4%). For MBO, this percentage is only 8% (HBO-Raad, 2011).

Research has identified that there is a gap between student expectations and actual experience in higher education. Tinto (1993) refers to this mismatch between the needs and expectations of the individual and the institution as incongruence, which can be both social and academic. Academic incongruence can be either because the academic demands are too high or not high enough, leaving the individual either too challenged or unchallenged. When they are too high, it will lead to involuntary departure. When the individuals are unchallenged, it may lead to voluntary departure. Social incongruence refers to the extent to which the student expectations are met. This has been found to influence student persistence (Braxton, Vesper, & Hossler, 1995; Tinto, 1993). It is essential to provide accurate and comprehensive information to prospective students to assist them in making the right choices (Braxton et al., 1995; McInnis, Hartley, Polesel, & Teese, 2000; Yorke, 1999). According to Madgett and Bélanger (2008) a sense of belonging is essential. When students feel they have made the right choice, they no longer feel insecure about their future. This also fits with the institutional commitment as identified by Tinto (1993).

Lubben, Davidowitz, Buffler, Allie and Scott (2010) related the choice of course to the level of career focus. Students with a strong career focus make their decision based on what they want to do after completing their studies. A strong career focus is geared towards the nature of the work, rather than the outcome of the work (working for people, improving the environment) or with the related benefits such as a good income. Students with a programme focus are more engaged with the chosen discipline rather than the associated careers. They found six criteria used by students in making their choice for a course: interest in the subject, achievement in the subject at school level, extra-curricular experience in the subject, influence of role models, interest in programme outline and pressure and

stimulus from family. Those students who made a choice of course not closely related to the career aspirations were often discouraged to continue.

There are other influencing factors, such as self-efficacy, determination and commitment and intention to succeed and handle failure (Glogowska et al., 2007). Self-efficacy is an important factor in student success as it relates to their belief of being able to achieve their objectives. This may relate to determination, i.e. the strength with which the student wants to persist, even when things are tough. Students with a strong determination are committed to completing the education and are more prepared to deal with failure. As stated, Tinto (1993) also identified commitment and intention as main factors for student departure at the individual level. Lack of commitment and lack of preparation were identified in the HEFCE report (1997) as factors leading to non-completion, especially for the traditional student aged 18-21 on entry as well. Lack of commitment is regarded in this report to be due to parental or peer group pressure for entering higher education rather than the individual need to obtain a degree. On the other hand, Lubben et al. (2010) found in their case study that parental or peer pressure was hardly mentioned as a reason for choosing a particular course. Pryjmachuk et al. (2009) did research at a large English university into student dropout in nursing education. They identified that a higher age on entry leads to higher completion rates. Students with a higher age at entry were found to be more committed than younger students, which is consistent with the findings of the HEFCE report (1997).

Social environment

As stated, research has indicated that engagement and inclusion is an important factor to retain students (Thomas, 2002; Tinto, 1993; Zepke & Leach, 2010). Zepke and Leach (2010) detail integration into the institutional environment even further in that institutional cultures should be welcoming to students of diverse backgrounds. The culture of an institute is influenced by many factors: the heterogeneity of the population (both students and staff) as well as autonomy given to students on their learning process. The more heterogeneous the institutional community, the more welcoming the institute is perceived. Creating opportunities to enhance students to learn autonomously and with others, thereby developing their sense of being competent to achieve the objectives increases the chance of study success.

Isolation is another aspect of social incongruence, which may also happen to individuals who are not very different from the other members of the faculty (Tinto, 1993). The amount of contact with the faculty can play a role in this. Isolation often leads to departure in the first semester. To counteract isolation, individuals must find either academic and/or social groups to make contact with (Zepke & Leach, 2010). These are often referred to as subcultures. The importance of friendship, social networks and mutual support was also identified by Thomas (2002) as one of key aspects in student persistence. Van Onzenoort (2009) also found a positive relation between the expectation of students of feeling at home at the institute. Yorke (1999) refers to this incongruence as unhappiness in the social environment, which includes factors such as homesickness, difficulty in making friends, dislike of the location of the university or accommodation problems. Glogowska et al. (2007) found that informal support (from family, friends and student group) was an important factor in the student's decision to persist or to withdraw, as was formal support (i.e. the support from staff and the institution).

Demands of the programme

The inability to cope with demands of the programme (stress related to programme, difficulty and work load) is another important factor and may lead to both voluntary or involuntary departure (Tinto, 1993; Yorke, 1999). If the academic demands cannot be met, it may lead to involuntary departure. On the other hand, the student may also decide to leave voluntary if the academic level is perceived too high. In his study of 2234 students in a higher education institute in the Netherlands, Van Onzenoort (2009) found that 33.8% of students found their academic achievements disappointing. Main reasons identified were lack of motivation, lack of self-study and the connection between secondary and higher education.

Students sometimes have difficulty seeing whether they are meeting the academic demands. Lewis and Castley (2008) found in their study that students need to be affirmed through tutor feedback that they are achieving the academic level. Madgett and Bélanger (2008) found that study habits play a

major role in both academic performance and academic integration. Tinto (1993) refers to this as adjustment to the academic context, i.e. starting to study requires adjustment from the individual. There are two distinct sources of difficulty in adjustment: the different social and intellectual demands college study requires and the first-time separation from home. Grayson (2003) found that adjustment is not a problem for the majority of students. Factors that influence adjustment are discipline, analytical skills and institutional and student support. He indicates that support in analytical skills may be of value of overcoming adjustment difficulties related to this aspect. Factors related to high school marks, educational level of parents and involvement in university activities were found of little or no consequence for adjustment. Even though the outcomes of his research do not denote a large influence of early adjustment on graduation rates, Grayson does state it is a legitimate aim in itself to create positive feelings of adjustment for students.

Financial considerations

One of the often-indicated reasons for withdrawal is financial burden. Yorke (1999) identified matters relating to financial need as one of six main factors leading to student withdrawal. This may include financial problems, needs of dependants and difficulty in balancing employment and study. The latter was also found by Peng and Ling (2010), who found that an increase in tuition fees lead to an increase in hours worked, even though it may have been more efficient to borrow additional funds, which students could repay after graduation. This indicates that students may prefer not to build up debts. On the other hand, they concluded that many students worked during summer when there were no study activities and that for those students, it did not seem to affect university persistence. Christie, Munro & Fisher (2004) contradict an adversity to debt. They found in their research of 800 students of two Scottish universities that an adversity to debt is more likely to influence a student's decision to start in higher education rather than while attending university as they found an increase in debt and debt tolerance in the progression through university. It would seem that when a student has started, the resistance against debt decreases. Financial strain was also one of the push factors identified by Glogowska, Young and Lockyer (2007).

Institutional factors

As stated, institutional support can be both provision of physical facilities (such as library, computers and specialist equipment) and 'soft' facilities such as coaching, study advice and social facilities.

As identified by Tinto (1993) social integration is influenced by the informal contacts between faculty staff and students. Braxton and Hirsch (2004) build on this fact that it is important how students perceive their interaction with the institute. Having clear policies and procedures that are communicated to students helps towards a positive perception of students. Students need to feel respected and feel comfortable in seeking interaction with faculty staff. Hence the institutional commitment to the welfare of students is an important factor in enhancing social integration. Institutional integrity refers to the extent that the staff and students interactions align with the values and mission of the institute. If these are incongruent, students may feel betrayed and trust in the institution may be damaged, potentially leading to less participation.

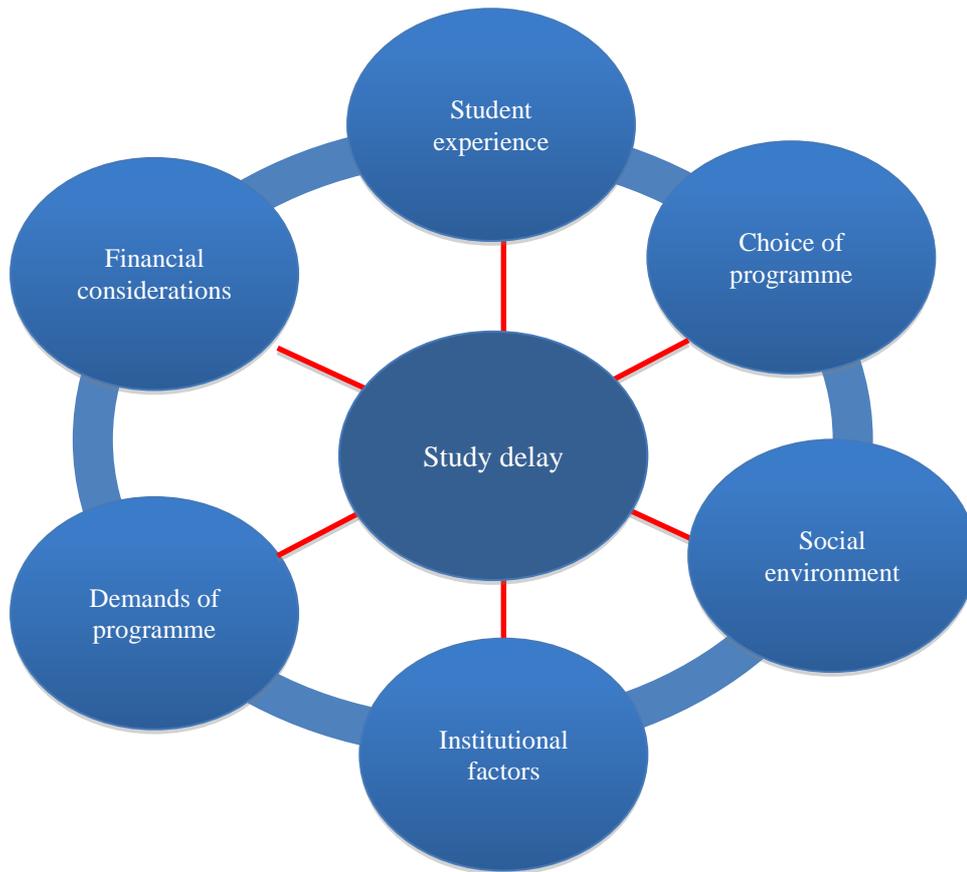


Figure 1 *Concept map of factors influencing study delay*

As stated, reasons for leaving are generally multi-factorial (Christie et al., 2004; Glogowska et al., 2007), as represented in the figure 1. The figure does not include arrows, as these factors are often interrelated and no direct causality has been proven. For example programme choice include the gap between expectations and actual experience of students. In providing students with information on the programme and on studying at the institute, expectations are created on which the students (partly) base their programme choice. In the interaction between student and institute, gaps between expectations and actual experience can lead to both academic and/or social incongruence. Social incongruence can be counteracted by support from staff, which is an aspect within student experience. Hence, social environment and student experience are also interrelated. Academic incongruence on the other hand is also an aspect of demands of the programme.

Another example of interrelation is the one between social environment, student experience and financial considerations. The extent, to which the student feels welcome and part of the community at the institute, can be negatively influenced when pressure is put on students to graduate more timely by penalising them financially. This may have an effect on the time students have to achieve a feeling of inclusion or it may limit them in developing personal competencies by means of extracurricular activities such as being part of the management team of a student union.

A third example is the level of motivation and commitment of students. Lack of motivation can be an issue within demands of the programme (either too high or too low), but motivation is also an aspect of programme choice. When students feel they have made the right choice, it becomes easier to overcome problems with regard to demands of the programme. Affirmation of staff is an important aspect, which relates to support from staff as discussed in student experience.

3. Research design

The research is a mixed design, including both quantitative and qualitative analyses. Different research methods were used, including statistical analysis, a literature review and a questionnaire.

3.1 Role of prior education in predicting graduation rates

Respondents

The research is descriptive case study research as the main aim is to identify which types of students are successful in returning graduation rates of the HM target figure of 54 months or less. This case study focuses initially on determining the success rates of the different types of students that are enrolled in the programme of Hotel Management at Stenden University.

To test the hypotheses, the research was conducted longitudinal and included all students enrolled in Hotel Management at Stenden University in the cohorts 2002-2006. The total amount of students in this cohort is 3120, of which 1737 are female and 1383 are male (table 1). In table 2, a division of number of students per profile per cohort is shown.

Table 1 Intake cohorts 2002-2006 divided by gender

Cohort	Male	Female	Total
2002	255	271	526
2003	247	322	569
2004	242	329	571
2005	275	354	629
2006	364	461	825
Total	1383	1737	3120

Table 2 Intake cohort 2002-2006 divided by profile

Cohort	HBO	HCM	HEM	HNG	HNT	HOS	MBO	OVR	VCM	VEM	VNG	VNT	VOS	Total
2002	5	48	63	8	2	56	71	181	20	39	5	0	28	526
2003	16	68	115	9	5	54	65	167	22	23	4	2	19	569
2004	12	82	98	12	9	39	87	144	17	37	6	3	25	571
2005	13	104	104	12	7	15	133	152	20	53	9	2	5	629
2006	25	118	133	15	9	15	218	198	33	39	14	1	7	825

Procedure

The data for this part of the research are derived from the student database (BIO) of Stenden University for Hotel Management. These data are all anonymous. Students with an international background were filtered out of the dataset, selecting only the students with a secondary education from the Dutch educational system. The selection comprised all students with a VWO, HAVO or MBO background. A differentiation was made between the different profiles at entry.

The choice was made for cohorts 2002-2006. Students from 2002 are long overdue graduation, and students from 2006 should have graduated in 2010 if they would have graduated on time. Thus, the dataset also gave an overview of non-completion.

Data analysis

To test the first hypothesis whether students with a VWO background graduate more timely than students with a HAVO or MBO background, the Anova F-test was chosen, as there is one independent variable (graduation time) with more than one group (MBO, HAVO and VWO). When the H_0 hypothesis was rejected, a multiple comparison was conducted (Bonferroni method), to determine differences in graduation times between the three groups.

For the second hypothesis whether within VWO and HAVO, students with the profile Economy & Society are more likely to graduate on time, the explanatory variables are the different profiles for

HAVO: Economy and Society (HEM), Culture & Society (HCM), Nature & Technology (HNT), and Nature & Health (HNG) and for VWO: Economy and Society (VEM), Culture & Society (VCM), Nature & Technology (VNT), and Nature & Health (VNG). For this hypothesis, calculations were done separately for HAVO students and VWO students. A Levene's test was conducted to test for large differences in variances. As both for VWO and HAVO profiles the Levene statistic was significant, the Welch test was performed. When the H_0 hypotheses were rejected, a multiple comparison was conducted (Games-Howell method), to determine differences in graduation times between the population means.

3.2 Influences on study delay

Respondents

The respondents for the questionnaire on study delay included all students registered at HM in May 2012 (n=2212). The total amount of respondents is 281 (a response rate of 12%). Of these respondents, 57 respondents indicated to have a study delay of at least one module period.

Procedure

The respondents were sent a questionnaire, consisting of 20 questions, by email to the students' accounts. The email contained a text to inform the students of the goal of this research. Due to the organisation of the programme, students are often approached to complete questionnaires and are becoming reluctant to do so. To ensure a high response rate, students could opt to leave their email address to be entered in a draw to win 75 euros. The email address was only used for the draw, all data were analysed anonymously. The questionnaire was available for 5 weeks, after 3 weeks a reminder was sent, resulting in approximately 100 additional respondents. An example of the questionnaire can be found in appendix 1.

Instrument

The questionnaire was divided into two main sections and contained both quantitative and qualitative questions. The first part was set up to identify the background of students: cohort, age, month of entry, how long they were currently studying, and track. Furthermore, students were asked to state whether their choice for HM in Leeuwarden was their first choice and whether they felt they had made an informed choice. Students were also asked to state whether their expectations before starting matched with the actual situation. These questions had a three-point scales: 'not at all'; 'to some extent' and 'very much'. Students were also asked to explain their answers in an open question.

The second part was only for students with an actual study delay of a minimum of one module. Students were asked to rate, on a four-point scale, the extent to which the 31 supplied possible influences, categorised in 6 main factors, contributed to their study delay. The main factors and corresponding influences were derived from the literature review. The labels for the scale points were 'no influence'; 'little influence'; 'moderate influence'; and 'considerable influence'. The 6 main factors were: student experience, choice of programme, social environment, demands of the programme, financial considerations and institutional factors. In table 3 some examples of influences related to the categories are given. Furthermore, students were asked to list a top three of the influences supplied in an open question.

Table 3 *Question categories and related influences*

Main factor	Example of influences	Cronbach's alpha
Student experience	Programme organisation Lack of personal support from staff	0.78
Choice of programme	Programme not what I expected Chose wrong field of study	0.74
Social environment	Personal health problems Difficulty in making friends	0.79
Demands of the programme	Difficulty of programme Lack of study skills	0.86
Financial considerations	Financial problems Demands of employment whilst studying	0.85
Institutional factors	Library provision Provision of computer facilities	0.89

Data analysis

Excel was used to analyse obtained data. The influencing factors were sorted in perceived importance based on mean score. Cronbach's alpha was performed to test the reliability of scale for each main category (table 3).

To determine which factors significantly contribute to study delay, a hierarchical multiple regression analysis of the main factors student experience, programme choice, demands of the programme, social environment, financial considerations and institutional factors was performed. The correlation matrix of these main factors showed no multicollinearity on average scores. The standard for multicollinearity was set at 0.8.

In the regression analysis, length of study delay was selected as the dependent variable. To allow calculations, some data had to be transformed from text to an absolute number. When students indicated to have a delay of one year, this was regarded as a delay of 4 modules. A delay of 2 years would then be 8 modules and so on.

The regression analysis was performed in steps. First, regression analyses on main factors were performed to determine which main factors significantly influence study delay. The calculations were done with the average overall scores of the underlying influences, whereby 'no influence' was scored 1, 'little influence' was scored 2, 'moderate influence' was scored 3 and 'considerable influence' was scored 4. After each analysis, the factor with the highest non-significant P-value was removed from the dataset. This resulted in three main factors, which significantly contribute to study delay. Within these three main factors, another multiple regression analysis was performed to determine which of the underlying influences contributes significantly to study delay. As both for student experience and for financial considerations only one influence was significant, a correlation test was performed.

The qualitative analysis of the main influences on delay as perceived by the respondents was also performed in Excel. The answers were categorised into the main factors indicated in the questionnaire and a comparison between these factors and scores on the influences as provided in the questionnaire was executed.

On the choice of study, the students' expectations and relation to delay a qualitative analysis was made. For 74% (n=186) of the respondents, Leeuwarden was a first choice for studying Hotel Management. Out of these 186 respondents, 43 had study delay (23%). To analyse the data on informed choice, first the answers were sorted into the extent to which students felt they made an informed choice. Within each category common denominators were identified, such as location and information provision. For the analysis whether expectations were met, again first the answers were sorted in the extent to which students experienced their expectations being met, and then common denominators were found, such as being under challenged; promotion; balance theory and practice; content and quality; and organisation.

4. Results

In the first part of this chapter, the hypotheses are tested. The second part contains the outcomes of the questionnaire, including a regression analysis and the qualitative analysis of the questionnaire.

4.1 Does prior education predict academic achievement?

The data were drawn from the student database of Stenden for the cohorts 2002-2006 ($n=3098$). As shown in table 4, on average, the 5-year graduation rate for HM students is 50.4%, the 8-year graduation rate is 54.7%. In total, 1075 students dropped out (34.7%) and 230 students (7.4%) are still in the system, i.e. have not graduated nor dropped out. Compared to the national figures, HM is falling behind in graduation figures, as for example, the 5-year graduation rate for cohort 2004 for HM is 44.5% against 52.1% across higher education nationally.

Table 4 Graduation rates

	5 year graduation rate		8 year graduation rate	
	Cohort 2002-2006		Cohort 1999-2003	
Cohort 2002-2006	HM	National	HM	National
Total	50.4%	56.2%	54.7%	69.5%
VWO	69.8%	69.8%	67.0%	82.3%
HAVO	44.5%	52.1%	56.9%	71.9%
MBO	58.4%	56.5%	66.7%	67.2%

HBO raad (2012)

For MBO, the average 5-year graduation rate is 58.4% and the 8-year graduation rate is 66.7%. For HAVO, the average 5-year graduation rate is 44.5% and the 8-year graduation rate is 56.9%. For VWO, the average 5-year graduation rate is 69.8% and the 8-year graduation rate is 67.0%. These figures do not equal the national figures. Overall, the MBO students perform better than the HAVO students, both in the 5- and 8-year graduation rates. The graduation rates for VWO students are consistent with national figures, in that those students achieve higher graduation rates, however, HM do fall behind the national figures (8-year graduation rate 82.3% nationally).

Hypothesis 1: Students with VWO are expected to graduate more timely than students with HAVO or MBO.

H_0 : there is no difference in average graduation time of VWO, HAVO and MBO students

H_a : there is a difference in average graduation time of VWO, HAVO and MBO students

The data for this analysis were drawn from the student database of Stenden for the cohorts of 2002-2006. Out of 3098 students in these cohorts, 1290 have graduated. Students dropping out, not graduated yet and foreign students who have a non-Dutch prior education account for the difference. The database did not allow differentiating the students in different tracks. Hotel Management offers different tracks for students with different backgrounds, allowing students to pass through the Bachelor Degree more quickly.

As a result, all education types show quite a few outliers at the lower end. However, for all three types of education quite a few outliers were identified at the higher end as well. Even though the outliers may influence the outcomes, it was decided not to remove them, as they are a true representation of the graduation time of students. Table 5 details the average graduation time in months per type of prior education.

Table 5 Average graduation times in months per prior education

	VWO (n=306)		HAVO (n=628)		MBO (n=356)	
	time	sd	time	sd	time	sd
Average graduation time in months including propaedeutic phase	50.29	9.84	52.22	11.71	42.91	10.9
Average graduation time in months excluding propaedeutic phase	39.47	8.39	41.29	10.2	42.91	10.9

Due to the fact that tracks were not correctly registered in the database, no definite conclusions can be drawn from these figures. When the propaedeutic phase is included in the analysis, it appears that the average graduation time for MBO deviates from VWO and HAVO, as most MBO students follow a track of 2.5 years. For hotel related MBO there is a track of 2.5 years. It is assumed that most MBO students follow the 2.5 years track; hence the apparently briefest average graduation time. All averages fall within the target figure of 54 months.

However, if the propaedeutic phase of 12 months is deducted for VWO and HAVO for purpose of comparison, the averages are much closer to those of the MBO students, indicating that MBO students do seem to take longer to graduate, with an average graduation time of nearly 3.5 years. This is however an assumption, as the dataset did not allow to differentiate between tracks.

Before the Anova test was conducted, Levene's test of homogeneity of variances was performed. For the dataset including the propaedeutic phase, Levene's test was not significant ($F(2,1287)=2.829$, $p=.059$), indicating homogeneity of variances. For the data set excluding the propaedeutic phase, Levene's test was significant ($F(2,1287)=6.733$, $p=.001$), indicating that the assumption of homogeneity of variance for this dataset is not met. Hence, the one-way Anova was conducted on the data set including the propaedeutic phase to test hypothesis 1. The outcomes for the data including the propaedeutic phase are shown in table 6.

Table 6 ANOVA Graduation time in months including propaedeutic phase

	Sum of squares	df	Mean Square	F	Sig.
Between groups	20161.501	2	10080.750	82.330	.000
Within groups	157584.031	1287	122.443		
Total	177745.532	1289			

The outcomes show that the 0-hypothesis is rejected; there is an observed difference in the average graduation time ($F(2, 1287)=82.330$, $p<0.000$). To determine which groups differ significantly, a Bonferroni test was performed (table 7). This shows that all groups differ significantly from one another.

Table 7 Post hoc multiple comparisons Bonferroni including propaedeutic phase

(I) education at entry	(J) education at entry	Mean Difference (I-J)	Std. Error	Sig.
HAVO	VWO	1.92957*	.77144	.037
	MBO	9.30671*	.73411	.000
VWO	HAVO	-1.92957*	.77144	.037
	MBO	7.37714*	.86260	.000
MBO	HAVO	-9.30671*	.73411	.000
	VWO	-7.37714*	.86260	.000

*. The mean difference is significant at the 0.05 level.

Hypothesis 2: Within VWO and HAVO, students with the profile Economics & Society are more likely to graduate on time.

H₀: there is no difference in graduation time in months for VWO/HAVO-EM and VWO/HAVO-NG, NT, CM and VOS/HOS

H_a: there is a difference in graduation time in months for VWO/HAVO-EM and VWO/HAVO-NG, NT, CM and VOS/HOS

For the 5 cohorts the total intake of VWO students was 433 students and for HAVO 1190 students. A division per profile is displayed in table 8.

Table 8 Intake per profile HAVO and VWO per cohort

Cohort	HNG	HNT	HEM	HCM	HOS	VNG	VNT	VEM	VCM	VOS
2002	8	2	63	48	52	5	0	39	20	28
2003	9	5	114	67	51	4	2	23	22	19
2004	12	9	99	82	38	6	3	37	17	25
2005	12	7	104	104	15	9	2	53	20	5
2006	15	9	132	118	15	14	1	39	33	7
Total	56	32	512	419	171	38	8	191	112	84

The preferred profile for intake is Economics & Society (EM), followed by Culture & Society (CM). For HAVO, additional Economics or Management and Organisation is required with CM. For the profile EM, a second modern language is a requirement for both HAVO and VWO. For both types of secondary education, the majority of students did have this profile (HAVO: 78.2% and VWO: 69.9%).

For VWO, the descriptive statistics in table 9 show that there large differences in standard deviations. Levene's statistic ($F(4, 301)=14.093, p=.000$) is significant. For HAVO the same applies (table 11), and Levene's statistic is ($F(4, 623)=8.251, p=.000$)

Table 9 Descriptive statistics for VWO profiles

	N	Mean	Std. Deviation	Std. Error
vwo_vng	29	49.659	5.1850	.9628
vwo_vnt	4	53.450	13.1521	6.5760
vwo_vem	139	51.266	8.2392	.6988
vwo_vcm	81	48.878	6.5842	.7316
vwo_vos	53	50.047	17.2826	2.3739
Total	306	50.299	9.9158	.5668

Table 10 Welch test output for VWO profiles

	Statistic ^a	df1	df2	Sig.
Welch	1.377	4	21.135	.276

a. Asymptotically F distributed

Table 10 shows that for VWO students, there are no significant differences between graduation times based on their profile on intake (*Welch's* $F(4, 21.14) = 1.38, p = .276, est. \omega^2 = .0049$). Therefore, the null-hypothesis is not rejected. However, students with the profiles Culture & Society do have the briefest average graduation time, followed by Nature & Health, and Old school. Students with the profile Economics & Society and Nature & Technology have longer average graduation times.

Table 11 Descriptive statistics for HAVO profiles

	N	Mean	Std. Deviation	Std. Error
havo_hng	29	51.414	10.7491	1.9961
havo_hnt	14	57.171	9.4732	2.5318
havo_hem	249	54.298	11.7375	.7438
havo_hcm	235	52.470	9.0916	.5931
havo_hos	101	45.940	15.3169	1.5241
Total	628	52.200	11.7664	.4695

Table 12 Welch test output for HAVO profiles

	Statistic ^a	df1	df2	Sig.
Welch	6.791	4	68.709	.000

As shown in table 12, for HAVO students there is a significant difference between groups (*Welch's* $F(4, 68.71) = 6.791, p = .000, est. \omega^2 = .036$). For HAVO, the null hypothesis is rejected. To determine which groups differ, a Games-Howell test was completed (table 13).

Students with HAVO old style have the lowest average graduation time, which is significant compared to the graduation time of students with the profiles Economics & Society, Health & Technology, and Culture & Society. The difference with students with the profile Nature & Health is however not significant. It is noteworthy to see that for HAVO, students with the preferred profile Economics & Society have longer average graduation times than those of HAVO old style, Culture & Society and Nature & Health. Again, Economics & Society and Nature & Technology return the longest average graduation times.

Table 13 *Post hoc multiple comparisons Games-Howell HAVO profiles*

(I) havo_profile	(J) havo_profile	Mean Difference (I-J)	Std. Error	Sig.
havo_hng	havo_hnt	-5.7576	3.2240	.401
	havo_hem	-2.8838	2.1302	.660
	havo_hcm	-1.0560	2.0823	.986
	havo_hos	5.4742	2.5114	.201
havo_hnt	havo_hng	5.7576	3.2240	.401
	havo_hem	2.8738	2.6388	.809
	havo_hcm	4.7016	2.6004	.406
	havo_hos	11.2318*	2.9552	.007
havo_hem	havo_hng	2.8838	2.1302	.660
	havo_hnt	-2.8738	2.6388	.809
	havo_hcm	1.8278	.9513	.307
	havo_hos	8.3580*	1.6959	.000
havo_hcm	havo_hng	1.0560	2.0823	.986
	havo_hnt	-4.7016	2.6004	.406
	havo_hem	-1.8278	.9513	.307
	havo_hos	6.5302*	1.6354	.001
havo_hos	havo_hng	-5.4742	2.5114	.201
	havo_hnt	-11.2318*	2.9552	.007
	havo_hem	-8.3580*	1.6959	.000
	havo_hcm	-6.5302*	1.6354	.001

*The mean difference is significant at the 0.05 level.

4.2 What are the main reasons for delay in graduation?

The questionnaire was sent to all 2212 students in the Stenden HM database in May 2012. In total, 325 students opened the link to the questionnaire, 281 students started the questionnaire and 243 students completed the questionnaire in full. As 28 students quit the questionnaire after the preliminary questions on cohort and track, these records were removed from the dataset. Out of the remaining 253 students, 57 students indicated to have study delay.

A division of students with a study delay per track is shown in table 14. The majority of students with a study delay follow the bachelor degree full-time (n=32) followed by MHS fast track (n=13) and MHS short track (n=7). The majority of students with a delay are in the second, third or fourth year of their studies. The age range of these respondents is from 20-28, with the majority of students being in their early twenties. More background information on the respondents can be found in appendix 2.

Table 14 *Division of students with a study delay per track*

Years studying at HM	Bachelor Full time	Short track	Track			Pro HHO	Other (MTRO)	Total
			Short track MHS	Fast track MHS				
1	2	1	0	0	0	0	0	3
2	3	0	2	6	1	0	0	12
3	5	0	2	4	1	1	0	12
4	14	0	2	3	0	0	0	20
5	4	0	1	0	0	0	0	5
6 or more	4	0	0	0	1	0	0	5
Total	32	1	7	13	3	1	0	57
Percentage	56.1	1.8	12.3	22.8	5.3	1.8	0	100
Average delay in modules	3.3	1	3	2.9	2	2	0	3.1

The list of influences on study delay based on mean score is headed by factors, which relate mainly to the student experience. The lack of personal support from staff is top of the list as shown in table 15, followed by programme organisation and quality of staff. Personal or financial reasons are perceived to be of less influence. The frequencies of the questionnaire can be found in appendix 3.

Table 15 Percentage indicating moderate or considerable influence

Main factors	Influences	Mean	Standard deviation	Percentage indicating moderate or considerable influence
Student experience	Lack of personal support from staff	2.32	1.04	49.18%
Student experience	Programme organisation	2.39	1.09	45.90%
Student experience	Quality of staff	2.21	1.10	40.98%
Choice programme	Lack of commitment to programme	2.21	0.97	40.98%
Demands programme	Difficulty of programme	2.13	1.02	36.07%
Demands programme	Lack of study skills	2.13	1.07	34.43%
Student experience	Do not like PBL concept	2.05	1.18	32.79%
Choice programme	Programme not what I expected	2.04	1.11	31.15%
Social environment	Emotional difficulty with others	1.86	1.07	29.51%
Demands programme	Workload too heavy	1.96	0.92	29.51%
Social environment	Personal health problems	1.80	1.15	26.23%
Demands programme	Stress related to the programme	1.91	0.90	26.23%
Demands programme	Scheduling did not suit	1.95	.095	24.59%
Financial	Demands of employment whilst studying	1.82	1.11	24.59%
Financial	Financial problems	1.69	1.07	21.31%
Institutional factors	Provision of computer facilities	1.65	0.89	18.03%
Social environment	Bereavement of someone close	1.54	0.99	16.39%
Institutional factors	Institute not what I expected	1.62	0.83	16.39%
Institutional factors	Provision of practice facilities	1.53	0.85	14.75%
Choice programme	Chose wrong field of study	1.52	0.87	13.11%
Institutional factors	Provision of social facilities	1.40	0.74	13.11%
Financial	Lack of financial support from family	1.44	0.90	11.48%
Social environment	Lack of personal support from family	1.36	0.77	9.84%
Social environment	Dislike of Leeuwarden	1.43	0.87	9.84%
Institutional factors	Library provision	1.40	0.68	9.84%
Social environment	Lack of personal support from students	1.45	0.71	8.20%
Social environment	Problems with alcohol/drugs	1.23	0.66	8.20%
Social environment	Homesickness	1.23	0.63	6.56%
Social environment	Membership of student union	1.36	0.77	6.56%
Social environment	Accommodation problems	1.30	0.63	4.92%
Social environment	Difficulty in making friends	1.20	0.48	3.28%

To determine which influences significantly contribute to study delay, a regression analysis of the main factors as described in table 15 was performed. The correlation matrix of the main factors student experience, programme choice, demands of the programme, social environment, financial aspects and institutional factors showed no multicollinearity on overall average scores (table in appendix 4). The standard for multicollinearity was set at 0.8.

In the regression analysis, length of study delay was selected as the dependent variable. The regression analysis was performed in steps. First, regression analyses on main factors were performed to determine which main factors significantly influence study delay, based on average scores of all underlying influences. After each analysis, the factor with the highest non-significant P-value was taken out (tables in appendix 4). This resulted in three main factors, which significantly contribute to study delay: student experience, financial consideration and institutional factors.

The final analysis on main factors is showing the following results. Of the factors contributing to study delay, 29.6% can be explained by the remaining significant variables. In table 16 the output is shown.

Table 16 Regression analysis main factors

Regression analysis					
R					0.544805187
R-square					0.296812692
Adjusted R-square					0.251928396
Standard error of the estimate					2.363635919
N					51

v	df	Sum of squares	Mean square	F	Prob> F
Regression	3	110.8333511	36.94445037	6.612840498	0.00080707
Error	47	262.5784136	5.586774757		
Total	50	373.4117647			

	Coefficients	Standard error	T- statistics	P-value
Intercept	0.735187205	1.022524283	0.718992416	0.4757053
Total_stud_exp	1.192244437	0.519066231	2.296902332	0.026125877
Total_finan.	1.174539937	0.466170486	2.51955019	0.015208449
Tot. Inst_fact	-1.428919013	0.608252228	-2.349221174	0.023067103

As shown, student experience and financial considerations have a value of 1.19 and 1.17 respectively. This means that when the influence on study delay is scored one point higher it would lead to an increase of on average 1.19 module and 1.17 module study delay respectively, all other factors remaining equal. For institutional factors, the outcome is positive, which would suggest that for each point scored higher on the questionnaire, study delay would decrease by 1.42 module. This is a conflicting outcome, possibly due to multicollinearity of some of the underlying influences.

As the three main factors are specified in sub variables, a second multivariate regression analysis was performed in order to analyse the specific influences of these related components.

In this multivariate regression the study delay was used as dependent variable. During the regression process of student experience, three of the four factors were removed due to low significance: dislike of PBL, programme organisation and quality of staff, leaving only personal support from staff as a significant contributor to study delay. As the regression analysis returned only one significant influence, a correlation analysis was performed. Lack of personal support from staff positively correlates to length of study delay ($r=0.383$, $p=0.005$) and accounts for 14.7% of the variability in length of study delay.

In the regression process of financial aspects, again two factors were removed due to low significance: financial problems and lack of financial support from family, leaving one significant

influence: demands of employment whilst studying. A correlation analysis also revealed a positive correlation between demands of employment whilst studying and length of study delay ($r=0.434$, $p=0.001$) and accounts for 18.8% of variability in length of study delay.

The underlying influences of the main factor institutional factors showed multicollinearity at 0.8, indicating that the underlying influences do not differentiate sufficiently as the main factor significantly contributes to study delay, however, the regression analyses of the individual influences returned no significant influences.

The outcomes of the regression analyses should be read with careful consideration, due to the small number of respondents. However, results of the National Student Survey 2010 also show a slightly lower score on involvement of lecturers with students and on quality of coaching (both 3.3 versus 3.4 nationally, on a 5-point scale) (Studiekeuze 123, 2010).

4.3 Study choice, expectations and delay

On the choice of study, the students' expectations and relation to delay a qualitative analysis was made. For 74% ($n=186$) of the respondents, Leeuwarden was a first choice for studying Hotel Management. Out of these 186 respondents, 43 had study delay (23%). HM Leeuwarden was not a first choice for 67 of the respondents. Out of these 67, 16 students indicated to have study delay (24%). This percentage equals that of the delayed students for whom it was a first choice. This suggests that there is no direct link between choice of study, expectations and study delay. However, due to the small sample the evidence is not sufficient to draw conclusions.

Thirteen students (6%) indicated not to have made an informed choice at all.

I did not know about the Problem based learning that was given in Stenden. The first months I was lost. Did not know how to handle everything. And my hosts did not quite answer any of my questions clearly.

I did not check out any other Hotel schools... Actually, I did not even check out Stenden. I based my decision on the fact that other Hotel schools have on-campus rooms for the first year.

As HM has cooperation contracts with some MHS studies, allowing students to be exempted from the first year, some MHS students following a fast track feel not to have made an informed choice at all:

I came from MHS Leeuwarden, easiest way was HM on Stenden, because of the fast track. I needed a year extra.

MHS was also in Leeuwarden and I also lived there at the time, so it was logical for me to go Stenden for HM.

Chosen due to relationship with the MHS, no impressions of school at front. I wanted to study further after my MHS in Almelo. I knew that Almelo was working together with Stenden and therefore I chose to go to Leeuwarden.

Students who felt they made an informed choice to some extent indicated mostly location and prior education as reasons to choose for Leeuwarden.

There were no other possibilities for me, and since the other schools are too far, this was the choice.

I lived already in Friesland before I started with studying... so my choice for Leeuwarden was kind of obvious to stay in Friesland. Also because I was just 16 years old!!

I made my choice seeing that the school was linked to my previous education. I didn't have much information about the school, but nonetheless I choose it over going to any other place to continue my studies.

I looked at what Stenden had to offer but did not look closely enough to other schools that offer the same. This is because my previous study was promoting Stenden.

I did not particularly look at HM in Leeuwarden but at Maastricht, but it was basically the same.

With regard to the balance between expectations and actual experience, five main themes were identified: level; balance between theory and practice; promotion; content and quality; and organisation. The level refers to academic demands; they can either be too high or too low. Balance between theory and practice involves the division of practical education, working in the 4-star commercial hotel of Stenden and the theoretical modules. Promotion includes all promotion of the university, on the website, in brochures, during fairs and open days. Content and quality refers to the perceived content and quality of the programme. Organisation refers to the planning and flexibility of the programme.

Out of 252 respondents, 8 indicated that the expectations were not met at all, 167 indicated that they matched to some extent and 77 indicated that expectations were met very well. Comments with regard to level mainly referred to students feeling under-challenged. On promotion, 28 students who felt that their expectations were met to some extent stated that the promotion is geared towards selling the education and therefore portrays a more positive picture than reality. However, the students who felt expectations were met were very positive on the aspect of promotion. Some students would have liked to receive more information on the subjects of the programme and 13 students are not happy with the actual organisation in Stenden and within the programme. They experience problems with scheduling, contacting staff and communication.

4.4 Qualitative analysis of influences on study delay

A qualitative analysis of influences on study delay as indicated by students is elaborated below. Due to the low number of respondents, this cannot be regarded as a representation for the whole student body.

Student experience

This element contains the main components programme organisation, lack of personal support from staff, quality of staff and dislike of Problem Based Learning (PBL) concept.

Despite an extensive introduction programme, 12 students experienced lack of support from staff as a major concern. Both from the comments listed below and from the regression analysis, it can be concluded that HM could improve in this aspect.

Personally I feel that during the module I failed I got no feedback on our project, whilst during the final presentation we got burned down to the ground by our tutor, and did not pass the module. Could have been prevented by getting proper feedback during the module.

First I failed for F&B, my tutor in the first module was not helpful at all. Staff could have told me that a resit wasn't necessary.

Lack of support of teachers and coach.

Lack of expertise of staff, lack of interest of staff. It is hard to get in touch with the right persons when you need something from school, and if you get in touch with them it takes ages to get a response.

For 14 students, it was the organisation of the programme.

Planning of modules (specific minors/modules not offered every module)

Programme structure. I had to wait 1 module before I could start with Strategic in year three.

Want to do the wine minor in South-Africa (only available in august)

One student however indicated that it gave him an experience of a lifetime:

Well, it is actually quite easy. My minor Event Man. 2 was cancelled in Thailand, while the school was flooded. School offered me the choice to stay one more module on Bali, or to fly to Africa, or to the Netherlands. I made the choice to travel through South-east-Asia, by skipping one module! An experience I never forget, after I have seen Indonesia, Singapore, Malaysia, Thailand, & Cambodia.

One issue that was identified by 8 students was delay due to the internship, which is the final year of the programme and has a duration of 10 months. The problems related to starting with the internship and wrong choice of internship, as well as the demands of writing a report during the internship.

I wasn't able to start my internship on time, because of the seasonality of the hotel where I did my internship.

I procrastinated on finishing my business improvement project.

Very heavy internship where no time was granted to work on thesis, therefore I had to finish it after my internship ended. Resulting in 2 more modules delay.

Couldn't find appropriate/applicable/desirable internship

Wrong choice of internship. Had to redo the three months of internship, which I already did at my previous internship company

Programme choice

The elements in programme choice were: programme not what I expected, chose wrong field of study, lack of commitment to programme.

A minority of students indicated lack of motivation to be the main reason for delay. One of those students contributed it specifically to having a problem with signing in to wrong program.

Another student identified a preference for working in the industry:

My commitment to the program. Never been much of a student. I'd rather work in the field of hospitality itself. Balancing work and being a devoted student is not achievable for everybody, at least not for me.

Social environment

The social environment dealt with questions related to support from family or fellow students, bereavement, and emotional difficulty with others. Other factors included were accommodation problems or homesickness, personal problems regarding health, alcohol or drugs and dislike of the city.

More than half of the respondents with delay indicated personal problems as one of the main reasons for their delay, both relating to health and other circumstances. Often, these circumstances were not clarified. Some students indicated having problems with the new environment and not being

comfortable in the city. This seems to contradict the scores of the questionnaire slightly, as personal problems scored 26,33% on moderate to considerable influence as well as the regression analysis as the main factor social environment did not show to have a significant effect on study delay.

Three students indicated study delay as result of being a board member of the student union, but again one perceived this as a positive experience:

I completed a board year at my student association, which caused a delay of 2 modules, something which I will never regret for it was one of the best learning experiences I had as a student.

Demands of the programme

This entailed questions regarding difficulty and workload of the programme, scheduling, stress related to programme and lack of study skills.

In this research, around a quarter of students indicate a lack of study skills, combined with difficulty of the programme as main reason for study delay. This is again incongruent with the regression analysis, as demands of the programme was not found to be significant.

Problems with my educational skills. Too few skills in Economics and Spanish to participate in the program of Stenden.

Dropped Spanish module after 4 weeks since the advanced level was too difficult for me.

Financial considerations

One of the often-indicated reasons for withdrawal in literature is financial burden. Some 10 students identified the need to work to finance their studies as a reason for delay:

Work- I need the money now because of the delay and also because of the job opportunities

Financial issues (no support from family). Need to work besides study, does not suit schedules always.

Financial ability to be full-time student and work to pay for the costs of living, education etc.

Institutional factors

This section comprised questions regarding provision of the facilities such as library, practice, computer and social and a question whether the institute was as expected.

Few comments were made regarding these factors. One student indicated problems due to lack of computer facilities:

Facilities- lack of space is forcing me to study at home and that's not working for me.

Two students indicated a lack of social facilities:

Provision of social facilities.

Never wanted to live in Leeuwarden, but I guess I have to. There is nothing here outside of Leeuwarden which frustrates me.

From the qualitative analysis, it can be concluded that it is very much the perception of the student that affects the outcomes. Comparing the outcomes of the qualitative analysis with the outcomes of the regression analyses show some interesting differences. The factor that significantly influences study delay is lack of personal support from staff. This factor also scored highest in the questionnaire. However, in the qualitative analysis a majority of students indicated personal problems as one of the main reasons for study delay.

5. Discussion

Considerable caution has to be taken with the outcomes of this research. The internal validity of this research could be an issue. As indicated in research (Glogowska et al., 2007; Thomas, 2002) student withdrawal or success can rarely be attributed to one factor alone; often it is a combination of factors that leads to the student's decision to persist or withdraw. As such, it is a limitation that the focus is on prior education only. Furthermore, it only encompasses the student population of one particular course, and, for some groups of students the sample may be too small to be able to derive valid statistical analyses. This means that the outcomes cannot be generalised to other settings.

The outcomes with regard to level of prior education are difficult to interpret, due to the different tracks that are offered. As these were not registered correctly into the student database for these cohorts, no evidence-based conclusions can be drawn from these data. Fortunately, the tracks are registered correctly into the database since 2008, allowing more detailed research in future.

Consistent with findings of the HBO raad (2010, 2011) students with a VWO background do seem to graduate more timely than students with a HAVO or MBO background. Students with an MBO background do seem to take longer, which is consistent with the findings of Lassibille and Navarro Gomez (2009), who question whether the vocational education sufficiently prepares students for higher education. Based on prior education, the target figure of graduating within 54 months is met for VWO, HAVO and MBO overall.

For VWO, the data do not provide evidence that there is a significant difference in graduation time based on profile, and all profiles fall within the target of 54 months. For HAVO, it does appear to make a difference. However, the differences are significant for HAVO old school, and the current students at intake do not have this profile. Between the current profiles of HAVO, differences are not significant, although the profiles Nature & Technology and Economics & Society exceed the target figure of 54 months.

As stated in the literature review, it is often a combination of factors that lead to study delay or drop out. It is therefore difficult to attribute the outcomes of this study to profile at intake alone. Furthermore, it is impossible to identify the students who switch from a short track programme to the full-length programme when they do not meet the requirements after the first year of entry. The outcome for HAVO that students with the profile of Economics & Society take significantly longer to graduate than old school students or students with the profile Nature & Health is a little alarming. A possible explanation could be that students with this profile feel at an advantage and therefore feel less need to work hard than students with the profile Nature & Health. Another reason could be that the profile Economics & Society provides prospective students with a lot of possibilities for entering tertiary education, and therefore may be chosen by students who are not sure what to choose for tertiary education, considering they have to choose at such an early age. Further research would be required to substantiate these claims.

In this respect it is interesting to find that not all students feel they have made an informed choice on choosing HM in Leeuwarden for their studies. As stated by Tinto (1993), it is important that institutes provide clear information on the nature of the programme. However, if students do not seek information, the influence of the institute on recruiting motivated students diminishes. With regard to meeting expectations, promotion is perceived very different between students who feel they made an informed choice to some extent and students who felt very informed. The latter category in general was very satisfied with the information provided, whereas the other group at times felt misled. However, students do not perceive lack of information beforehand an influence on study delay.

With regard to factors influencing study delay, the hierarchical regression analyses revealed three main factors to have a significant influence on study delay: student experience, financial considerations and institutional factors. Three of the influences within student experience (lack of personal support from staff, organisation of programme and quality of staff) achieved the highest mean scores in the questionnaire, whilst financial considerations and institutional factors scored much lower. This outcome corresponds with the research of Yorke (1999), who also identified these three factors of student experience to be of importance in drop out. Even though HM has an extensive coaching programme for new students, there appears to be a gap between the actual support given

through this programme and the perception of student on personal support from staff. A possible explanation is that the support programme is partially executed by students in their second or third years of study. Another reason for this gap could be the claim that it is hard to get in touch with the right persons when needing something from school, and that it takes ages to get a response as one of the respondents stated in the questionnaire. This indicates a gap between formal and informal support. Students may experience this as a lack of respect or feel uncomfortable in seeking interaction as a result, whereas these are important factors in enhancing social integration within the institute (Braxton & Hirsch, 2004).

One major omission in this part of the research is that students were not asked to state their prior education and profile, but only their track in the questionnaire. Hence, it was not possible to create a link between the first and the second part of this research. Furthermore, because the number of respondents per track showed large differences, no analysis could be made to determine whether there are significant differences between tracks in perceived influences on study delay. However, the respondents in this research following the MHS fast track and a short track do seem to have a rather large delay of on average 3 modules. As both tracks are exempted from the first year, further research is suggested to find out whether this is consistent for a majority of students in these tracks and if so, to research what the bottlenecks for these students are.

Another drawback was that students who did not have a delay were not asked to complete the relevance of factors influencing study delay. As a result, no comparison could be made between the students with and without a study delay. It is strongly recommended to include both prior education and profile and students with and without delay in future research.

Implications

This research confirms earlier findings that dropout of students often cannot be contributed to one factor alone (Christie et al., 2004; Glogowska et al., 2007). The factors that lead to dropout are perceived by the respondents to contribute to study delay. If support can be provided to combat these factors, this may result in less study delay and as a consequence, less dropout.

Although research is done on prior education and graduation rates, profiles are not included. As this research found that the profiles do not have a predictive value for study success, as Old school VWO and HAVO are most successful in returning graduation rates, it would be interesting to research whether the same applies for other educations. If similar findings were returned it would require research on how to improve the link between secondary and tertiary education.

The present study may have some implications at applied level. For HM it is rather disconcerting to find that students with the preferred profile are not the students who may graduate in the shortest term. A suggested strategy is to investigate the selection procedure and the connection between secondary education and HM. Furthermore, HM should consider whether to allow HAVO students with the profile Nature & Technology to enter the education as they return the longest average graduation times. Alternatively, a support programme should be investigated, to support those students. Furthermore it is suggested to focus on the choice for HM with this profile during the motivation interviews in the selection procedure.

To combat the lack of personal support from staff as experienced by students further research should be instigated into how the coaching programme is perceived as well as to ensure clear communication lines. Input from students on how to improve this aspect is essential. Important elements are the incorporation of feedback into the formal assessment structure and diminishing the gap between formal and informal support from staff.

With regard to perceived quality of staff, HM should continue to invest in providing lecturers gaining a master degree and continue support to improve on the level of English of lecturers and study materials. Furthermore, it is suggested to provide refresher training on didactics.

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7. Do you feel you made an informed choice on selecting Leeuwarden for HM?

- Not at all
- To some extent
- Very informed

8. Please explain your answer:

9. Did your expectations based on the information received before starting your study, match with the actual situation when you started?

- Not at all
- To some extent
- Very informed

10. Please explain your answer:

Study progress

11. Do you have study delay? No Yes (jump to question 20)

12. What is the length of your study delay?

- One module
- Two modules
- More than one semester (2 modules), please specify

Reasons for study delay

Please indicate for all of the statements below to what extent they contribute to your study delay.

13. Student experience:

	No influence	Little influence	Moderate influence	Considerable influence
Programme organisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of personal support from staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not like PBL concept	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Choice of programme

	No influence	Little influence	Moderate influence	Considerable influence
Programme not what I expected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chose wrong field of study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of commitment to programme	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. Social environment

	No influence	Little influence	Moderate influence	Considerable influence
Emotional difficulty with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of personal support from family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Bereavement of someone close	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of personal support from students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty in making friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accommodation problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dislike of Leeuwarden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Homesickness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems with alcohol/drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal health problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Membership of student union	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>16. Demands of the programme</i>	No influence	Little influence	Moderate influence	Considerable influence
Difficulty of programme	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling did not suit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of study skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Workload too heavy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stress related to the programme	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>17. Financial considerations</i>	No influence	Little influence	Moderate influence	Considerable influence
Financial problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of financial support from family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Demands of employment whilst studying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>18. Institutional factors</i>	No influence	Little influence	Moderate influence	Considerable influence
Institute not what I expected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Library provision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provision of practice facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provision of computer facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provision of social facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Please indicate below the three main factors causing your study delay (in order from 1 to 3).

20. If you would like to be included in the draw for winning 75 euros, please enter your e-mail address below.

Appendix 2: Background information of respondents

Division of student by cohort

Cohort	Respondents for analysis
2002	2
2005	1
2006	5
2007	9
2008	42
2009	49
2010	56
2011	89
Total	253

Track

Regular Bachelor Degree full time	186
Fast track VWO	9
Short track	11
Short track MHS	16
Fast track MHS	16
Associate degree full time	3
Bachelor degree part time	1
Pro HHO	7
Other	4

Other tracks specified were MTRO (n=2), very short track (n=1) and one student who switched from 1.5 years full time to Associate Degree part time and now follows the Bachelor degree part time.

Age	No. of respondents
16	1
17	1
18	22
19	26
20	37
21	51
22	36
23	32
24	15
25	11
26	6
27	5
28	3
29	3
30	1
32	1
37	2

Appendix 3: Frequencies questionnaire

	No influence	Little influence	Moderate influence	Considerable influence	Mean	Standard deviation
Student experience (n=56)						
Programme organisation	16	12	18	10	2.39	1.09
Lack of personal support from staff	18	8	24	6	2.32	1.04
Quality of staff	21	10	17	8	2.21	1.10
Do not like PBL concept	27	9	10	10	2.05	1.18
Programme choice (n=56)						
Programme not what I expected	25	12	11	8	2.04	1.11
Chose wrong field of study	38	10	5	3	1.52	0.87
Lack of commitment to programme	17	14	21	4	2.21	0.97
Social environment (n=56)						
Emotional difficulty with others	31	7	13	5	1.86	1.07
Lack of personal support from family	44	6	4	2	1.36	0.77
Bereavement of someone close	41	5	5	5	1.54	0.99
Lack of personal support from students	37	14	4	1	1.45	0.71
Difficulty in making friends	47	7	2	0	1.20	0.48
Accommodation problems	43	10	2	1	1.30	0.63
Dislike of Leeuwarden	42	8	2	4	1.43	0.87
Homesickness	48	4	3	1	1.23	0.63
Problems with alcohol/drugs	49	2	4	1	1.23	0.66
Personal health problems	35	5	8	8	1.80	1.15
Membership of student union	43	9	1	3	1.36	0.77
Demands of the programme (n=55)						
Difficulty of programme	20	13	17	5	2.13	1.02
Scheduling did not suit	22	18	11	4	1.95	.095
Lack of study skills	21	13	14	7	2.13	1.07
Workload too heavy	22	15	16	2	1.96	0.92
Stress related to the programme	25	14	12	4	1.91	0.90
Financial considerations (n=55)						
Financial problems	36	6	7	6	1.69	1.07
Lack of financial support from family	42	6	3	4	1.44	0.90
Demands of employment whilst studying	32	8	8	7	1.82	1.11
Institutional factors (n=55)						
Institute not what I expected	32	13	9	1	1.62	0.83
Library provision	39	10	6	0	1.40	0.68
Provision of practice facilities	37	9	7	2	1.53	0.85
Provision of computer facilities	32	12	9	2	1.65	0.89
Provision of social facilities	41	6	8	0	1.40	0.74

Appendix 4: Regression analysis main factors

Correlation matrix main factors

	<i>total_ stud_exp</i>	<i>total_ prog_choice</i>	<i>Total_ soc_env.</i>	<i>Total_dem_ prog</i>	<i>Total_ finan.</i>	<i>Tot. Inst_fact</i>
total_stud_exp	1					
total_prog_choice	0,497614885	1				
Total_soc_env.	0,304081414	0,520700747	1			
Total_dem_pro	0,542020812	0,507133688	0,404430485	1		
Total_finan.	0,567230523	0,5253286	0,490211207	0,580446232	1	
Tot. Inst_fact	0,542740555	0,549472829	0,601407788	0,542911112	0,487890371	1

Tables first regression

Regression analysis

R	0,568086815
R-square	0,322722629
Adjusted R-square	0,230366624
Standard error of the estimate	2,397457641
N	51

	<i>Coefficients</i>	<i>Standard Error</i>	<i>T- statistics</i>	<i>P-value</i>
Intercept	0,741293283	1,342096166	0,552339915	0,583510536
total_stud_exp	1,41946545	0,555402309	2,555742794	0,01412712
total_prog_choice	-0,385762282	0,573837789	-0,672249701	0,504939738
Total_soc_env.	0,699776809	0,981282962	0,713124385	0,479534089
Total_dem_pro	-0,511391206	0,59037163	-0,866219141	0,391069026
Total_finan.	1,294924316	0,53110269	2,438180677	0,018868429
Tot. Inst_fact	-1,382866319	0,739513078	-1,869968714	0,068150643

Tables second regression

Regression analysis

R	0,561930939
R-square	0,31576638
Adjusted R-square	0,239740422
Standard error of the estimate	2,38281292
N	51

	<i>Coefficients</i>	<i>Standard error</i>	<i>T- statistics</i>	<i>P-value</i>
Intercept	0,661159322	1,328626285	0,497626255	0,621170562
total_stud_exp	1,354371806	0,543555798	2,491688638	0,01646629
Total_soc_env.	0,541903408	0,946947016	0,572263705	0,569991418
Total_dem_pro	-0,567012534	0,580974383	-0,975968219	0,334297835
Total_finan.	1,245239477	0,522722363	2,382219634	0,021495456
Tot. Inst_fact	-1,455101908	0,727195441	-2,000977764	0,051448354

Tables third regression

<i>Regression analysis</i>	
R	0,557482642
R-square	0,310786897
Adjusted R-square	0,250855322
Standard error of the estimate	2,365330573
N	51

	<i>Coefficients</i>	<i>Standard error</i>	<i>T- statistics</i>	<i>P-value</i>
Intercept	1,091210444	1,087638513	1,003284116	0,320972431
total_stud_exp	1,300289287	0,531349752	2,447143868	0,018277926
Total_dem_pro	-0,556692352	0,576433951	-0,965752192	0,339218288
Total_finan.	1,334737993	0,495118682	2,695794042	0,009775806
Tot. Inst_fact	-1,256483265	0,634335745	-1,980785846	0,053612926